APPENDIX: DETAILED INFORMATION ON VOLUNTARY PROGRAMS OF INTEREST TO THE SPECIALTY-BATCH CHEMICAL SECTOR

Appendix: Detailed Information on Voluntary Programs of Interest to the Specialty-Batch Chemical Sector

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BEST WORKPLACES FOR COMMUTERS℠

BEST
WORKPLACES
for COMMUTERS℠

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United States Environmental Protection Agency

U.S. Department of Transportation

Best Workplaces for Commuters

About the Program

Offering innovative solutions to commuting challenges faced by employers and employees, Best Workplaces for Commuters^{SM} is a new public-private sector voluntary program advocating employee commuter benefits.

Established by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT), this program publicly recognizes employers whose commuter benefits reach a *National Standard of Excellence*. Providing commuter benefits helps employers address limited or expensive parking, reduce traffic congestion, improve employee recruiting and retention, and minimize the environmental impacts associated with drive-alone commuting. Participating companies earn the designation "Best Workplaces for Commuters^{SM}"—a mark of excellence for environmentally and employee-friendly organizations.

The program builds on the efforts of many top employers to help get employees to work safely, on time, and free of commute-related stress. It provides the tools, guidance, and promotion necessary to help U.S. employers of any size incorporate commuter benefits into their standard benefits plan, reap financial benefits, and gain national recognition.

Through Best Workplaces for Commuters Districts, EPA and DOT recognize entities other than employers, such as business parks, downtown districts, or shopping malls, which provide and administer to each of the district's employees a commuter benefits program that meets the *National Standard of Excellence*.

> "You never know if [commuter benefits] are the one benefit that will bring the best new employees to Calvert Group."
> —Judy Shober, Human Resources Manager, Calvert Group

EPA United States Environmental Protection Agency

U.S. Department of Transportation

Best Workplaces for Commuters

For Employers

PDF files must be downloaded and viewed with the free Adobe Acrobat Reader 5.0.

Do I Qualify for Best Workplaces for Commuters℠ ?

You may already qualify for Best Workplaces for Commuters℠. Use this checklist to see if your company meets the *National Standard of Excellence*. You must check all of the boxes to qualify. If you qualify, you can join the program by simply completing the online Enrollment Form. You can also request more information if you would like to know more before joining.

Preview the Online Enrollment Form

What if I am an employer with multiple work sites?

Click on " More About " for a more detailed description of each part of the criteria. This information is also available in PDF Format (4 pages, 189KB).

☐ **We offer at least one of the following primary benefits to our employees:**

- A monthly transit/vanpool pass subsidy of at least $30 or the full cost of the pass if it is less than $30 *(This does not refer to pre-tax. Pre-tax is considered a supporting benefit).* More About
- Parking cash out equivalent to at least 75 percent of the total parking costs or a minimum $30 per month. More About
- A significant telecommuting program that reduces 6 percent of commute trips on a monthly basis. More About
- An equivalent benefit that delivers similar value to commuters, reduces traffic and air pollution, and is agreed to by the Federal Team. More About

☐ **We offer at least three of the following supporting benefits. *(Organizations with fewer than 20 employees need only one supporting benefit.)* The possibilities are endless, but some examples include:**

- Membership in a Transportation Management Association (TMA), or participation in a voluntary regional air quality program (e.g., Spare the Air) or another employer-based commuter program
- Membership in a local ozone awareness program, in which you agree to notify employees of expected poor air quality and suggest ways that they might minimize polluting behaviors
- Ridesharing or carpool matching, either in-house or through a local or regional agency
- Pre-tax transit or vanpool benefits
- Parking cash out less than $30 per month or less than 75 percent of the actual parking benefit
- Shuttles from transit stations, either employer-provided or through a local TMA or similar service provider
- Provision of intelligent (i.e., real-time) commuting information

- Preferred parking for carpools and vanpools
- Reduced parking costs for carpools and vanpools
- Employer-run vanpools or subscription bus programs
- Employer-assisted vanpools
- Employer-provided membership in a carsharing program (visit www.carsharing.net to learn more)
- Secure bicycle parking, showers, and lockers
- Electric bicycle recharging stations
- Employee commuting awards programs
- Compressed work schedules
- Telecommuting (less than 6 percent of commute trips on a monthly basis)
- Lunchtime shuttle
- Proximate commute (where employees work at locations closer to their homes)
- Incentives to encourage employees to live closer to work
- Incentives to encourage employees to use alternative transportation (e.g., additional vacation time)
- On-site amenities (e.g., convenience mart, dry cleaning, etc.)
- Concierge services
- Other options that you may propose: Ask About an Option

☐ **We have a central point of contact in charge of commuter benefits.** More About

☐ **We keep information on commuter benefits centralized in one location.** More About

☐ **We actively promote our commuter benefits to employees.** More About

☐ **Our employees have access to an Emergency Ride Home (ERH) program.** More About

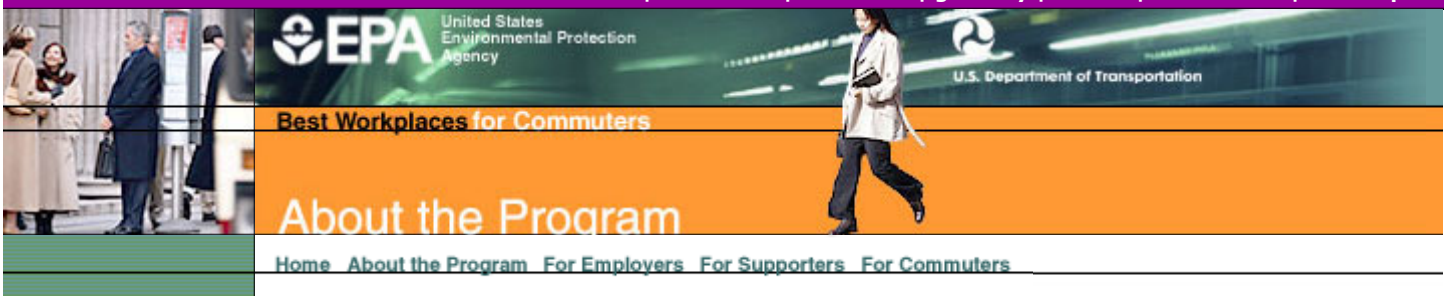
☐ **We commit to ensuring that on average at least 14 percent of our employees are not driving alone to work and will meet this criterion within 18 months of joining.** (Fourteen percent is the average drive alone rate for all the non-metropolitan areas in the United States, a modest goal that is considered attainable by virtually any company that strives to do so.) More About

☐ **We agree to report program progress and success to EPA on an annual basis.** More About

Yes! I want to see if I qualify!

I'd like more information!

Last updated : December 3, 2003
URL: http://www.ergweb.com/projects/ccli/enroll/doiqualify.htm



Frequently Asked Questions (FAQs) About the Program

Q: What is Best Workplaces for Commuters℠?
A: Best Workplaces for Commuters℠ is a public-private partnership that is dramatically changing the way Americans get to and from work. By joining, employers can improve their bottom line while bettering the quality of life for commuters and the communities in which they live.

Q: How does an organization benefit from participating?
A: Studies show employers that offer commuter benefits improve employee recruiting and retention, increase employee job satisfaction, and save money on parking and federal taxes. A participating employer also earns the "Best Workplaces for Commuters℠" designation – a mark of excellence for commuter and environmental friendliness. Through the Best Workplaces for Commuters list, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT) provide national recognition for participating employers. In addition, EPA and DOT provide these employers with technical assistance on implementing commuter benefits, forums for exchanging ideas, and access to information about emerging trends and opportunities in commuter benefits.

Q: Why are EPA and DOT promoting commuter benefits?
A: Commuting to and from work is a primary cause of increased traffic congestion and air quality problems in many areas across the United States. Reducing the number of cars commuting during rush hour can reduce traffic and improve air quality. In fact, if half of all employees worked for Best Workplaces for Commuters, 15 million cars would be removed from the road daily.

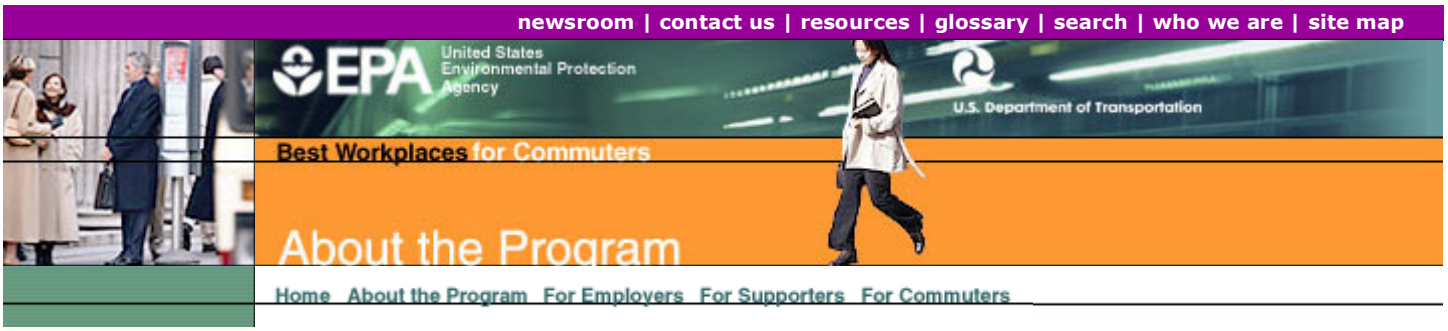
Q: Is Best Workplaces for Commuters a voluntary program?
A: Yes. Employers elect to participate and can leave the program at any time.

Q: How does an employer qualify for Best Workplaces for Commuters?
A: Because the commuting experience varies geographically, the program offers a wide array of options to meet the particular commuting needs of individual employers. To qualify, an employer must offer one primary benefit, such as employer-paid tax-free transit, or vanpool passes, telecommuting, or parking cash-out (enabling workers to trade free parking for its cash equivalent). Most employers must also offer three secondary benefits, choosing from options such as shuttles to and from transit stations (provided directly by the employer or contracted through a service), ridesharing or carpool matching, preferred or reduced-cost parking for carpools and vanpools, and compressed work schedules. Finally, Best Workplaces for Commuters offer an Emergency Ride Home, which provides participants with a ride at no charge if they need emergency transport home due to special circumstances.

Q: How does an employer sign up?
A: EPA and DOT have made it simple to sign up – you can join online!.

Q: Who's participating?
A: View a list of participating employers.

Contact Us for more information.



Best Workplaces for Commuters℠ Success Stories

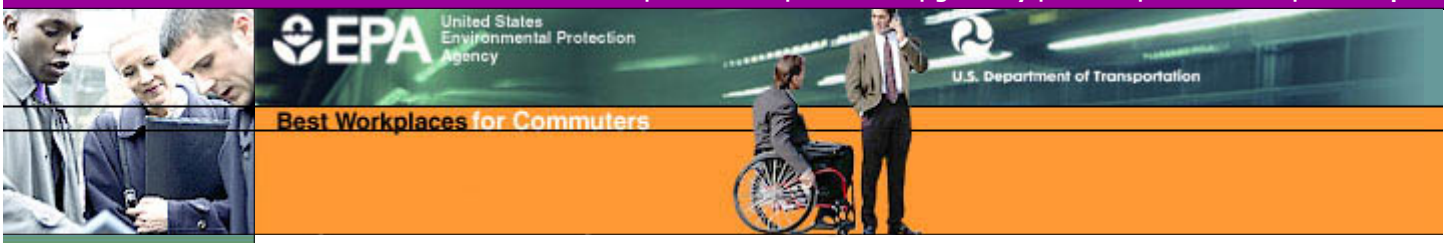
More and more employers are distinguishing themselves from the competition by adopting outstanding commuter benefits. Review these success stories to learn what makes each of their programs unique.

- **Aetna US Healthcare, San Ramon, California.** More than 220 Aetna employees participated in the rideshare program at Aetna's West Region headquarters in San Ramon, California in 2000. Most of the participating employees carpooled five days a week and earned extra paid time off as a result. The highlight of Aetna's San Ramon rideshare program is the opportunity for employees to earn up to 5 days of paid time off each year by using a commute alternative. Aetna's rideshare benefits also include free bus passes, a Guaranteed Ride Home, free shuttle rides, preferred parking, bicycle parking, showers, and lockers. The program is successful because it is actively promoted and employees value the incentives.

- **Program for Appropriate Technology in Health (PATH), Seattle, Washington.** The Program for Appropriate Technology in Health (PATH) employs more than 160 employees at its Seattle headquarters, and more than 35 percent use alternate modes of transportation to commute to work. PATH's transportation benefit program is an important incentive to rideshare in Seattle, where traffic is the second-worst in the nation. All permanent Seattle employees are eligible for transportation benefits, including transit and vanpool subsidies, carpool and bicycle parking, Guaranteed Ride Home options, ridematching services, flexible schedules, and showers. In early 2001, PATH received a Rideshare Subsidy Grant from the Washington State Department of Transportation to expand its transit subsidy program to include FlexPasses: annual transit passes provided free to all permanent employees. As a result, PATH provided transit subsidies to 127 additional employees and reduced transit subsidy costs by 38 percent.

- **Wyeth BioPharma, Andover, Massachusetts.** Wyeth BioPharma has one of the largest biopharmaceutical development and manufacturing capacities in the world. It currently employs over 2,400 people and offers one of the most generous commuter benefits in the state. In order to reduce air and global warming pollution, reduce traffic congestion, and save employees money, Wyeth provides:

  • free commuter rail and MBTA passes;
  • free door-to-door shuttle service from employee homes to work for four neighboring towns;
  • a subsidized express bus that runs four round trips daily from New Hampshire park-and-rides to Wyeth. This new service is the first ever cross-state collaboration between New Hampshire and Massachusetts for transportation direct to an employer campus;
  • progressive carpool program including preferred parking;
  • on site facilities to accommodate bicycle and walking commuters (e.g. showers, cafeteria, dry cleaning);
  • strong participation and leadership in local commuter, traffic and environmental initiatives; and
  • free emergency ride home for all commuters, to ensure they are not stranded at work if they have a family emergency or if weather conditions make it unsafe to walk/ride their bike home.



For Employers

A growing number of employers—both large and small—are participating as Best Workplaces for Commuters[SM]. These organizations are helping to make commuter benefit programs as popular as 401(k) plans. In fact, 8 out of 10 workers in the United States believe commuter assistance is a valuable benefit.

Participating organizations earn the designation "Best Workplaces for Commuters[SM]"—a mark of excellence for environmentally and employee-friendly companies. Learn how your organization can join the ranks of these industry leaders and distinguish itself from the competition by providing a unique and highly sought-after benefits program.

> "...people love this program, and it enables us to attract and retain the best employees."
> —Brian Pietsch, Director of Government Relations, Public Policy Affairs, American Express

> "Participation has increased, and it's been a great benefit for employees, the company, and the environment."
> —Catherine Martin, Program Administrator, SmithKline Beecham

For Supporters

Whether you work for a business association, human resource organization, local or regional government, air quality/public health advocate, or another commuter-oriented group, we encourage you to support Best Workplaces for Commuters[SM]. You'll join a growing, broad-based coalition of organizations from around the country committed to transforming the marketplace for commuter benefits.

By lending your support, you'll earn the high praise and recognition you deserve from EPA, DOT, and other national and local partners. In addition, the agreement that participating employers sign represents a *National Standard of Excellence* that is often a step above what employers are expected to achieve by local and regional programs. As part of your involvement, you might identify new employers in your area and grow your local program.

If you would like to get involved, choose from a wide range of opportunities, including joining or even spearheading a Best Workplaces for Commuters campaign in your region. Other opportunities include hosting local workshops or events or partnering on targeted promotional campaigns. Some organizations have even incorporated the *National Standard of Excellence* into their program requirements or structure. Working together, we can reach a larger audience more effectively and achieve our common goals.

Yes! I'd like to get involved!

Last updated : January 23, 2004

CLIMATE LEADERS

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Overview

Climate Leaders is a voluntary EPA industry-government partnership that encourages companies to develop long-term comprehensive climate change strategies. Many corporations are already making great strides in reducing their greenhouse gas (GHG) emissions through participation in EPA programs like ENERGY STAR®, WasteWise, and the Green Power Partnership. Climate Leaders gives these companies and others the opportunity to take their climate commitment one step further. Partners set a corporate-wide GHG reduction goal and inventory their emissions to measure progress. By reporting inventory data to EPA, Partners create a lasting record of their accomplishments. Partners also identify themselves as corporate environmental leaders and strategically position themselves as climate change policy continues to unfold.

By becoming a Climate Leader, your company will:

- Create a record of accomplishments through EPA-approved GHG inventory guidance
- Receive technical assistance with inventories
- Be identified as an environmental leader
- Better manage GHG emissions

"Climate Leaders is a win-win partnership where EPA and concerned, knowledgeable companies work together to design greenhouse gas reduction efforts that will benefit the environment and sustain the economy. This is the kind of solution SC Johnson wants to be a part of."

Scott Johnson, Director
Global Environmental & Safety Actions
SC Johnson & Son, Inc.

The Basics

Partners commit to:

- Set an aggressive corporate-wide GHG emissions reduction goal. Each company will determine its GHG inventory by using the Climate Leaders GHG Emissions Inventory Guidance based on the World Resources Institute/World Business Council for Sustainable Development's GHG Protocol.
- Perform a corporate-wide inventory of the six major greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous dioxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).
- Annually report inventory data and document progress toward their reduction goal.
- Publicize their participation, reduction pledge, and accomplishments achieved through the program.

In return, EPA provides:

- Opportunities for high-level public recognition, such as press events, media briefings, articles in business and trade publications, and speaking engagements at industry conferences.
- Technical assistance to conduct a greenhouse gas inventory and develop an inventory management plan.
- A credible, transparent GHG reporting mechanism that will develop with the science.
- Guidance for Partners interested in third-party verification.

A Customized Approach

Every corporation has a unique mix of GHG emissions and potential reduction opportunities. Therefore, each corporation takes a slightly different approach to mitigating their climate footprint. Climate Leaders offers companies flexibility in meeting their reduction goal. All Partners report their direct emissions from onsite fuel consumption and waste disposal, process-related emissions, and indirect emissions from electricity use. In addition, Climate Leaders Partners can broaden their management scope to include any of the following optional activities, which count toward their reduction goal:

- Offset investments (including sequestration, energy efficiency, and renewable energy)
- Waste disposal off-site
- Product transports
- Employee commuting
- Business travel
- International operations

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This page was generated on Wednesday, December 10, 2003

View the graphical version of this page
at: http://www.epa.gov/climateleaders/overview.html

Frequently Asked Questions

What is Climate Leaders?

Climate Leaders is a voluntary EPA industry-government partnership that encourages companies to develop long-term comprehensive climate change strategies. Climate Leaders:

- Develop a corporate-wide greenhouse gas (GHG) emissions inventory
- Work with EPA to set an aggressive corporate-wide GHG emissions reduction goal
- Report progress towards goal annually

How do companies benefit from Climate Leaders?

Partners benefit by identifying themselves as environmental leaders, receiving technical assistance in the development of their GHG emissions inventory, improving their understanding of their GHG emissions, and creating a lasting record of their accomplishments.

How does Climate Leaders fit into the President's Climate Plan?

In February 2002, the President announced a new plan to address global climate change. The President's Global Climate Change Policy lays out a number of initiatives designed to reduce the GHG intensity of the U.S. economy by 18 percent in the next 10 years. Climate Leaders is a key initiative under the plan.

How does a company join Climate Leaders?

Companies interested in partnering with Climate Leaders simply complete the Climate Leaders Partnership Agreement (327 KB PDF). Under the agreement, Climate Leaders Partners agree to work with EPA to develop a GHG inventory of at least all domestic facilities, work with EPA to develop a GHG reduction goal, and track progress toward their goal.

How do companies develop a GHG emissions inventory?

Climate Leaders Partners develop their GHG emissions inventory using the Climate Leaders GHG Emissions Inventory Guidance. Companies are required to include emissions of the six major GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, SF_6) from the following activities:

- Onsite energy use
- Industrial processes
- Onsite waste disposal
- Onsite air conditioning/refrigeration
- Purchased electricity
- Mobile sources

Partners may include emissions and reductions from a number of other activities if they choose, including investments in offset projects.

How do companies set a GHG emissions reduction goal?

Climate Leaders offers flexibility in goal setting because every company has a unique set of GHG emissions sources and reduction opportunities. EPA works with Climate Leaders Partners to develop customized corporate-wide GHG emissions reduction goals based on a Partner's operational history and projected growth. Companies' 5- to 10-year goals may be in absolute CO_2 equivalent emissions or normalized for production. Every Climate Leader goal must be markedly better than business-as-usual performance for the Partner's sector.

What companies are members of Climate Leaders?

There are a rapidly growing number of Partners representing a wide variety of sectors.

Have any of the Climate Leaders Partners set reduction goals?

Eighteen Climate Leaders Partners have set reduction goals. View the list of Partners that have set reduction goals and their goals

How does Climate Leaders relate to the World Resources Institute (WRI) & World Business Council for Sustainable Development's (WBCSD) GHG Protocol Initiative?

The Climate Leaders Guidance is based on an existing protocol developed by the World Resources Institute and the World Business Council for Sustainable Development (WRI/WBCSD). The WRI/WBCSD GHG Protocol was developed through a collaborative process involving representatives from industry, government, and non-governmental organizations (NGOs). The WRI/WBCSD work was modified to fit more precisely what is needed for Climate Leaders.

How does Climate Leaders fit in with EPA's other voluntary climate programs?

Climate Leaders is an umbrella program. In other words, Climate Leaders can serve as a coordinating umbrella for companies to comprehensively manage their voluntary climate change activities. For instance, Climate Leaders may already work with ENERGY STAR® to improve the energy efficiency of their operations. The GHG reductions achieved through these activities will be reflected in a Climate Leaders' GHG inventory and count towards the Partner's GHG reduction goal.

How can I get a copy of the Climate Leaders inventory methodology?

The Climate Leaders Guidance is based on an existing protocol developed by the World Resources Institute and the World Business Council for Sustainable Development (WRI/WBCSD). However, the WRI/WBCSD work is being modified to fit more precisely what is needed for Climate Leaders. Many of the modules are available in draft form for your viewing.

Note: Portable Document Format (PDF) file information appears next to documents that must be downloaded and viewed with the Adobe Acrobat Reader. For more information about the Acrobat Reader, click here. EXIT disclaimer

COMBINED HEAT AND POWER PARTNERSHIP

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CHP
EPA COMBINED HEAT AND POWER PARTNERSHIP

EPA's Combined Heat and Power Partnership

Combined heat and power (CHP), or cogeneration, involves recovering waste heat from power production and using it for local heating and cooling needs. Because CHP is highly efficient—generating electricity and thermal energy from the same fuel source—it reduces the amount of fuel that is burned, which lowers air pollution. The U.S. Environmental Protection Agency (EPA) established the Combined Heat and Power Partnership to promote and expand the use of CHP in the industrial, institutional, and commercial sectors.

Why Promote CHP?

The average fossil fuel power plant in the United States is only 33 percent[1] efficient—two-thirds of the energy used to generate power is vented as waste heat. CHP can more than double that efficiency, thereby reducing the amount of fuel burned, and pollution created, per unit of energy. CHP also saves dollars, improves the reliability of the electric grid, and reduces power transmission losses. For these reasons, businesses and governments have installed more than 50,000 megawatts (MW) of CHP capacity in the U.S.—making CHP a proven pollution reduction technology. However, significant opportunities remain.

What Is the EPA's CHP Partnership?

The CHP Partnership is a voluntary EPA-industry effort designed to foster cost-effective CHP projects. The goal of the partnership is to build a cooperative relationship among EPA, the CHP industry, state and local governments, and other stakeholders to expand the use of CHP. Industry Partners include energy users in the industrial, commercial, district energy, and institutional sectors, as well as project developers and equipment suppliers. State and Local Partners include state and local energy, environmental, natural resources, and economic development agencies.

What Are the Benefits of Joining the Partnership?

A variety of benefits are available depending on the organization.

Energy Users. Potential CHP users include industrial plants, commercial or institutional buildings, internet and telecom data centers, district energy systems, and light industrial power parks. These users can use CHP to generate clean, reliable power, as well as for heating and/or cooling. The Partnership provides energy users with hands-on technical assistance in evaluating the efficiency and emissions performance of a variety of CHP project designs. The Partnership also offers permitting assistance to help guide the project through a variety of local, state, and federal requirements. Finally, the Partnership offers public recognition to those companies that demonstrate environmental leadership by installing clean, efficient CHP systems.

CHP Project Developers and Equipment Suppliers. By supporting potential CHP energy users and government regulators, EPA will help to expand the market for developers and equipment

[1] "Transforming Electricity," Thomas R. Casten and Sean T. Casten.

suppliers. In addition, CHP partners will benefit from the partnership's other market development tools, permitting guidance, networking, and project recognition.

Distribution Utilities. In areas of electric grid congestion, or areas where electricity demand exceeds the supply, distribution utilities can benefit from working with EPA to identify energy users that can implement CHP systems in strategic locations. These projects help eliminate load pockets where the grid is congested and offer grid support at times of heavy demand.

Power Generators. Power generators can use the CHP Partnership to network with customers with large thermal demands that might be partners for future CHP projects. Thermal hosts produce a steady revenue stream and can be the source of low-cost byproduct or waste fuels to supply new CHP applications. CHP projects are common in many industries, including petroleum refining, pulp and paper, and chemicals.

State and Local Governments. Using CHP to improve the efficiency of the energy sector helps state and local governments meet energy and air-quality goals. In addition, in city centers, CHP can provide low-cost energy to support economic development objectives. EPA's CHP Partnership helps to bring the full range of industry partners to State and Local Partners, and also offers assistance in siting CHP facilities at brownfields sites.

How the Partnership Works

Partners work with EPA to promote the economic, environmental, and energy infrastructure benefits of CHP and support the development of new CHP capacity. In return, EPA provides tools and services that support Partners as they investigate and develop new CHP capacity. Specific Partner responsibilities include:

Industry Partners. Industry Partners agree to work with EPA to assess the potential for additional CHP development at their facilities. Partners also agree to work with EPA to publicize the energy, environmental, and economic benefits of their projects, and to provide EPA with minimal operational data to allow EPA to evaluate the partnership's success at reducing emissions through higher efficiency.

State and Local Partners. State and Local Partners agree to host a CHP workshop to promote the benefits of CHP and support development of new projects within their state. Partners also agree to review EPA-produced state data and analysis, including a document that outlines state and local regulations that may affect CHP project development. State and Local Partners serve as key EPA liaisons as we provide project-specific assistance.

What Tools and Services Does EPA Offer?

EPA is developing tools and services for all Partners. These services fall into five categories:

Market Development

- Profiling CHP potential in targeted states
- Facilitating networking between energy users, project developers and regulators

Public Recognition

- Project recognition through our ENERGY STAR® CHP awards and certificates
- Press releases, project ribbon-cutting ceremonies, and public awareness campaigns

Outreach and Education

- Printed and web-based materials
- National and state workshops

Technical Assistance

- Hands-on project-specific assistance
- Catalogue of CHP technologies, including efficiency and emissions characteristics
- Project-specific feasibility analyses
- Emissions analyses

Regulatory and Permitting Support

- Recognition of CHP's environmental benefits in regulations
- Project-specific permitting assistance
- Permitting guide book

For More Information

For more information about the EPA's CHP Partnership, including how to join, contact:

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Web Site: **www.epa.gov/chp**

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Washington, DC 20460

About CHP

What Is CHP?
CHP Technologies
Benefits of CHP
Where Can CHP Be Used?
Why Does EPA Support CHP?

What Is CHP?

Combined heat and power, (CHP) also known as cogeneration, is an efficient, clean, and reliable approach to generating power and thermal energy from a single fuel source. That is, CHP uses heat that is otherwise discarded from conventional power generation to produce thermal energy. This energy is used to provide cooling or heating for industrial facilities, district energy systems, and commercial buildings. By recycling this waste heat, CHP systems achieve typical effective electric efficiencies of 50% to 70% — a dramatic improvement over the average 33% efficiency of conventional fossil-fueled power plants. Higher efficiencies reduce air emissions of nitrous oxides, sulfur dioxide, mercury, particulate matter, and carbon dioxide, the leading greenhouse gas associated with climate change.

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CHP Technologies

CHP technologies are conventional power generation systems with the means to make use of the energy remaining in exhaust gases, cooling systems, or other energy waste stream. Typical CHP prime movers include:

- Combustion turbines
- Reciprocating engines
- Boilers with steam turbines
- Microturbines
- Fuel cells

For information on the operational characteristics, performance, and environmental impacts of these technologies, please review the overview of technologies.

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Benefits of CHP

CHP offers energy, environmental, and economic benefits, including:

- **Saving money**

  By improving efficiency, CHP systems can reduce fuel costs associated with providing heat and electricity to a facility.
- **Improving power reliability**

  CHP systems are located at the point of energy use. They provide high-quality and reliable power and heat locally to the energy user, and they also help reduce congestion on the electric grid by removing or reducing load. In this way, CHP systems effectively assist or support the electric grid, providing enhanced reliability in electricity transmission and distribution.
- **Reducing environmental impact**

  Because of its improved efficiency in fuel conversion, CHP reduces the amount of fuel burned for a given energy output and reduces the corresponding emissions of pollutants and greenhouse gases.
- **Conserving limited resources of fossil fuels**

  Because CHP requires less fuel for a given energy output, the use of CHP reduces the demand on our limited natural resources—including coal, natural gas, and oil—and improves our nation's energy security.

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Where Can CHP Be Used?

CHP installations are most likely to be economically viable at locations where the following characteristics exist:

- **Coincident demand for electricity and thermal energy** (i.e., steam, heating, or cooling) during most of the year.
- **Access to fuels**, including natural gas, biomass, and/or by-product fuels.

The following are typical markets for CHP:

- **Energy-intensive industries,** including the chemical, refining, forest products, food, and pharmaceutical sectors.
- **District energy systems** that distribute heat or chilled water to a network of buildings. Such systems show the greatest promise in downtown areas, industrial parks, college campuses, military bases, and other large institutional facilities.
- **High power reliability/quality** applications, such as Internet or telecommunications data centers requiring high-quality, reliable power and substantial cooling capacity.
- **Institutional markets**, including hospitals, hotels, and convention centers where large year-round demands exist for electricity, heating, and cooling.
- **Abandoned industrial sites, or brownfields**, where CHP-based systems can provide the energy infrastructure for "power parks," facilitating economic redevelopment of underutilized properties.
- **Commercial buildings**—as building-scale CHP technologies become better integrated and increasingly cost-effective, this market offers large potential for new applications.

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Why Does EPA Support CHP?

The average efficiency of the fossil-fueled power plants in the U.S. is 33% and has remained virtually unchanged for 40 years. This means that two-thirds of the energy in the fuel is lost as heat. CHP systems recycle this waste heat and convert it to useful energy and achieve effective electrical efficiencies of 50% to 70%. This improvement reduces emissions of sulfur dioxide, nitrous oxide, mercury, particulate matter, and carbon dioxide, the leading greenhouse gas associated with climate change. In addition to reducing air pollution, CHP conserves our limited fossil fuel resources, thereby increasing our nation's energy self-sufficiency.

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View the graphical version of this page
at: http://www.epa.gov/chp/about_chp.htm

ENERGY STAR® CHP Awards

What Is the ENERGY STAR® CHP Award?

Winners of ENERGY STAR® CHP Awards and Certificates

What Is the ENERGY STAR® CHP Award?

Every year since 2000, the U.S. Environmental Protection Agency (EPA) and the US Department of Energy (DOE) award the ENERGY STAR® Combined Heat and Power (CHP) Award to leaders who increase the nation's electric generation efficiency through development of highly efficient CHP projects. The Agencies are confident that CHP technologies can dramatically increase the efficiency of electric generation and has set a goal of doubling national CHP capacity by 2010.

The ENERGY STAR® CHP award recognizes projects that use at least 5% less fuel than state-of-the-art separate power-and-heat generation. By significantly improving efficiency, award-winning projects not only save money, but also reduce greenhouse gases (i.e., carbon dioxide) and other air pollutants, including nitrous oxides, sulfur dioxide, carbon monoxide, and particulate matter.

EPA and DOE also award Certificates to projects that demonstrate leadership in environmental performance without achieving the strict criteria of the ENERGY STAR® Award criteria.

Click on the following links to download the ENERGY STAR® CHP Award package and application (in .pdf or .xls format):

- ENERGY STAR® Award Package *(pdf 146K, 5 pages)*
- Application in Excel *(xls, 254K)*

Applications are accepted on a continous basis and are presented at specific workshops, conferences, and other events. For more information, please contact Christian Fellner at 202-564-2664 or by E-mail at fellner.christian@epa.gov.

ENERGY STAR

Contact

Name: ENERGY STAR Hotline
Phone: (888) STAR-YES
Internet: http://www.energystar.gov
Mail: U.S. EPA
ENERGY STAR: Climate Protection
Partnerships Division
U.S. EPA
1200 Pennsylvania Ave NW (6202J)
Washington, DC 20460

What is ENERGY STAR?

ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.

Results are already adding up. Last year alone, Americans, with the help of ENERGY STAR, saved enough energy to power 15 million homes and avoid greenhouse gas emissions equivalent to those from 14 million cars - all while saving $7 billion.

For the home
Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. ENERGY STAR helps you make the energy efficient choice.

- If looking for new household products, look for ones that have earned the ENERGY STAR. They meet strict energy efficiency guidelines set by the EPA and US Department of Energy.
- If looking for a new home, look for one that has earned the ENERGY STAR.
- If looking to make larger improvements to your home, EPA offers tools and resources to help you plan and undertake projects to reduce your energy bills and improve home comfort.

For Business
Because a strategic approach to energy management can produce twice the savings - for the bottom line and the environment - as typical approaches, EPA's ENERGY STAR partnership offers a proven energy management strategy that helps in measuring current energy performance, setting goals, tracking savings, and rewarding improvements.

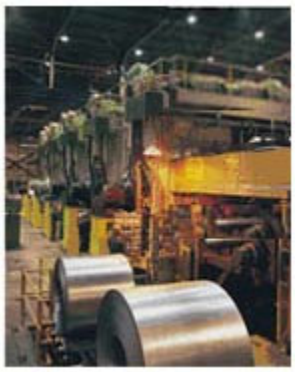
Did You Know?
The energy we use in our homes causes more greenhouse gas emissions than driving our cars

ENERGY STAR -- The Power to Protect the Environment through Energy Efficiency
16 pages, 272 KB

2002 Annual Report
1.38 MB, 50 pages

ENERGY STAR for Industry

Partner with ENERGY STAR. Improve your corporate bottom line while you become an environmental leader.



ENERGY STAR offers a strategic approach to energy management that helps you develop and refine your corporate energy management program. Find out how you can manage energy with the same expertise used to manage other parts of your business.

Be Strategic about Energy Management

- Guidelines for Energy Management
- Elevate Energy Management to Senior Managers

Use the ENERGY STAR Partnership

- See How ENERGY STAR Works with Manufacturers (Power Point) (1.69MB)
- Forums for Peer Interaction
- Ask an Expert
- What Partners Are Saying
- Join ENERGY STAR

Find More Energy Management Resources

- Energy Management Materials
- Industrial Energy Efficiency Library
- Tools, Software, and Calculators

Earn Recognition for Your Achievements

- ENERGY STAR Awards
- ENERGY STAR Award Recipients
- Communications Kit

ENERGY STAR Industry Partners

News

ENERGY STAR welcomes these new industrial partners!

Baldor Electric Company

Frito-Lay, Inc.

Jabil Circuit, Inc.

Lexmark International

National Starch and Chemical Company

Penford Corporation

Sanmina-SCI's Plant 432

Subaru of Indiana Automotive, Inc.

Swarovski North America Limited

Toyota Motor Manufacturing North America, Inc.

Join ENERGY STAR

Improve Your Energy Efficiency

ENERGY STAR is a voluntary EPA program that gives businesses and institutions the power to reduce the pollution that causes global warming while enhancing their financial value. By partnering with ENERGY STAR, your organization demonstrates environmental leadership, improves its energy efficiency, and saves money. You can get the recognition you deserve, with many opportunities to highlight achievements within the organization and to the public.

To partner with ENERGY STAR, your CEO, CFO, or top administrator must sign the partnership letter, committing your organization to continuous improvement of your energy efficiency. As part of this commitment, you agree to:

- Measure, track, and benchmark your energy performance;
- Develop and implement a plan to improve your energy performance, adopting the ENERGY STAR strategy; and
- Educate your staff and the public about your partnership and achievements with ENERGY STAR

JOIN NOW

Learn more about the Guidelines for Energy Management

Many organizations still view energy as an uncontrollable cost. Consequently, the value of strategic energy management is frequently overlooked. However, leading companies are demonstrating that smart energy management has a direct positive impact on the bottom line and the environment.

ENERGY STAR helps you and your organization take control of energy use by providing the best information, tools, and resources for improving energy and environmental performance.

Through ENERGY STAR, you gain the opportunity to:

- Reduce environmental impacts;
- Cut energy costs;
- Create value through energy efficiency;
- Strengthen organizational energy management practices;
- Benchmark energy performance to similar businesses;
- Share experiences and best practices with peers in a "no-sell" environment;
- Keep up with the latest industry developments;
- Demonstrate improved energy and environmental performance through external validation; and
- Earn public recognition for superior performance.

Organizations that manufacture, market, and sell qualifying products should consider joining ENERGY STAR today.

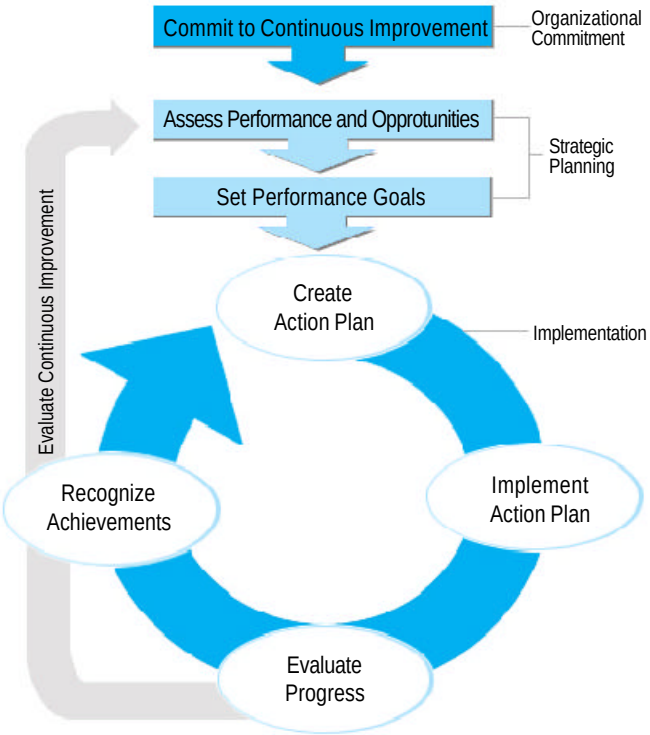
GUIDELINES FOR ENERGY MANAGEMENT

EPA offers a proven strategy for superior energy management with tools and resources to help each step of the way. Adopting the ENERGY STAR Guidelines For Energy Management distinguishes your organization as an environmental leader while improving your energy and financial performance.

BACKGROUND

Based on the successful practices of ENERGY STAR partners, the U.S. EPA has developed guidelines for establishing and running an effective energy management program. The Guidelines are available on-line at **www.energystar.gov**

EPA has seen that organizations that adopt a comprehensive approach to manage energy achieve significantly greater results than those without formal energy management programs. Organizations that improve energy performance outperform their competitors by as much as 10 percent.



GUIDELINE CONTENTS

Designed to help energy managers achieve superior energy performance, the Guidelines are structured on seven fundamental management elements (shown in the graphic above). Within each element, the Guidelines outline key actions and steps that leading organizations have taken to improve their energy performance along with examples, success stories, tips, and links to relevant ENERGY STAR tools and resources. The Guidelines address a wide range of management topics, including policy development, baselining, benchmarking, and communications, within a framework of continuous improvement. An integral part of the voluntary partnership, the Guidelines For Energy Management provide an excellent road map to top performance.

WWW.ENERGYSTAR.GOV

ENERGY STAR HOTLINE
1-888-STAR-YES (1 888 782 7937)

Frequently Asked Questions

General Information:

Who can participate in ENERGY STAR for small business?
Any public or private organization can partner with EPA to improve its facilities by committing to continuous improvement of its energy efficiency. Get the Partner Agreement or call toll-free 1-888-STAR-YES and ask for "technical support" to start saving money.

How much can I save?
Depending on your facility's operating hours, condition, equipment and energy costs, savings of 25% or higher are typical. We can help you decide on a strategy that optimizes savings and upgrade costs, and help design an upgrade that quickly pays for itself, and then yields monthly cost reductions.

Does ENERGY STAR supply upgrade funding?
No, but try these resources: Our Financial Resource Directory; the Energy Crossroads utility programs EXIT ; the U.S. Department of Energy's Energy Efficiency and Renewable Energy Web site EXIT ; Rebuild America's Web site EXIT ; the Small Business Administration EXIT .

Does ENERGY STAR require me to submit reports or undergo inspections?
No. However, you can choose to voluntarily share information for a Success Story and be eligible for our Annual National Awards Program. If your upgrade constitutes an outstanding Success Story, it may be written up to be published in hard copy, distributed to the media.

Are there other businesses like mine that have done this?
Yes, for information on businesses similar to yours, visit the Success Stories or partner list located on this Web site, or contact us at 1-888-STAR-YES or via E-mail.

Aren't energy efficiency upgrades costly and difficult to implement?
No. Done properly, energy efficiency upgrades can provide a positive cash flow right from the beginning. For specific low-cost and no-cost upgrade options, check out our Sure Energy Savers and Tenant Tech Sheet located online.

Doesn't energy-efficient lighting mean lower quality light?
No. If done properly, your lighting quality will actually improve as you save money. For more information on energy-efficient lighting check out pages 33 to 46 of the "Putting Energy Into Profits: ENERGY STAR for small business Guide."

Getting Started:

How do I get started?
You can get started by joining ENERGY STAR for small business.

Who can help me perform energy efficiency upgrades?
To get information on who can help you perform your energy efficiency upgrades, visit our Directory of energy Service and Product Providers and Success Stories located on this Web site.

How do I get my business facility surveyed to determine potential savings and the cost to upgrade equipment?
For information on getting your business assessed visit our list of surveyor firms and Success Stories. In addition, contact your local utility about performing a assessment.

How do I find/buy energy efficiency services and products?
To get more information on energy efficiency services and products, please see our Directory which contains links to the Directory of finance, and services and products or contact us by phone at 1-888-STAR-YES or by E-mail. Information about energy efficiency products can also be found at the U.S. Department of Energy EXIT and Save Energy Web sites.

We are constructing a new building. How do we make it energy-efficient?
For information on energy-efficient construction, please view our ENERGY STAR New Construction Tech Sheet (Word), the ENERGY STAR for Homes Web page, and the ENERGY STAR's New Building Design Guidance Web page.

Doesn't energy-efficient lighting mean lower quality light?
No. If done properly, your lighting quality will actually improve as you save money. For more information on energy-efficient lighting check out pages 33 to 46 of the "Putting Energy Into Profits: ENERGY STAR for small business Guide."

Can I talk with a "real person" about cutting energy costs in my specific facility?
Yes, just call us toll-free at 1-888 STAR YES (that's 1-888-782-7937) between 9:00 a.m. and 5:00 p.m. Eastern Time, choose the "small business/congregations" menu item, then ask the operator for technical support at Aspen Systems. Aspen Systems is a contractor to EPA, so the cost of their technical support is paid by EPA, and is of no-cost to the individual small businesses.

You can also send us an E-mail at this Web site, or fax your questions to 301-977-8474 (include your phone number), and we'll call you back. Our energy experts can do calculations on energy costs and savings, tell you about specific technologies, and help you determine the efficiency upgrade strategy that is best for your situation.

To help determine a strategy, we will need to know your facility's approximate square footage, type of equipment used and monthly energy costs. However, that information is not necessary to ask us questions, or for us to start working together. We look forward to helping you save money on your energy bills, so give us a call!

GREEN POWER PARTNERSHIP

Contact
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Washington, DC 20460

What Is Green Power?

• Benefits of Green Power • Green Power Options • Certification and Accreditation

"Draft Guide to Buying and Benefiting from Green Power"

Green power is electricity that is generated from resources such as solar, wind, geothermal, biomass, and low-impact hydro facilities. Conventional electricity generation, based on the combustion of fossil fuels, is the nation's single largest industrial source of air pollution. The increasing availability of green power enables electricity customers to accelerate installation of renewable energy technologies. As more green power sources are developed — displacing conventional generation — the overall environmental impacts associated with electricity generation will be significantly reduced.

Benefits of Green Power

Choosing green power offers a number of benefits to businesses and institutions, including:

- **Environmental stewardship** - Many innovative organizations are establishing environmental commitments to make their operations and practices sustainable. Choosing green power is a simple step towards creating a more sustainable organization.
- **Public image** - Green power can help improve an organization's public image by demonstrating environmental stewardship.
- **Customer loyalty** - Demonstrating environmental stewardship through green power may help increase an organization's customer and investor loyalty.

Photo courtesy of NREL

- **Employee pride** - Employees prefer to work for companies that give back to their communities and to the environment.

- **Power portfolio management** - Because some green power sources have no fuel costs, green power can help protect your power portfolio from volatile prices of fossil-fuel-generated electricity.

- **Power reliability** - On-site renewable generation can be a more reliable source of power than power distributed through the electric grid.

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Green Power Options

Green power is available in four basic forms, the availability of which partially depends upon the status of electric utility restructuring in the state where the purchase is being made.

- Blended products
- Block products
- Green tags or renewable energy certificates
- On-site renewable generation

Blended products

Also known as "percentage products," blended products allow customers, primarily in states with competitive electricity markets, to switch to electricity that contains a percentage of renewable energy. The renewable energy content of blended products can vary from 2 percent to 100 percent according to the renewable resources available to utilities or marketers.

More information regarding blended products can be found at the Green Power Network. EXIT disclaimer

Block products

Block products allow customers served by monopoly utilities to choose green power from the electric grid in standard units of energy at a fixed price, which is converted to a premium and added to their regular electric bill. Customers decide how many blocks they want to purchase each month.

More information about block products can be found at the Green Power Network. EXIT disclaimer

Green tags or renewable energy certificates

Green tags allow customers to purchase the renewable attributes of a specific quantity of renewable energy. Green tags are sold separately from electricity and can be purchased for a location anywhere in the U.S. In this way, a customer can choose green power even if the local utility or marketer does not offer a green power product. One green tag typically represents the renewable attributes associated with one megawatt hour of green power.

Several organizations in the United States are marketing green tags. Additional information about green tags is available from the Center for Resource Solutions. EXIT disclaimer

On-site renewable generation

Customers can install their own renewable energy generating equipment at their facility. On-site renewable generation can increase power reliability, provide stable electricity costs, and help

manage waste streams. Furthermore, in many states, excess green power generated on-site can be returned to the electric grid, in effect allowing customers to obtain credit from their utility. (This is also known as "net-metering.")

For more information about on-site generation technologies, visit the Department of Energy's Distributed Energy Resources EXIT disclaimer Web site.

Certification and Accreditation

Green power certification and accreditation programs help ensure that customers get what they pay for when they choose green power.

- **Green-e** EXIT disclaimer is a voluntary certification and verification program for green power products developed by the non-profit Center for Resource Solutions.
- **The Green Pricing Accreditation Initiative** EXIT disclaimer, developed by the Center for Resource Solutions, accredits green pricing programs operated by regulated electric utilities.
- **Renew 2000** EXIT disclaimer is a certification program for green power products generated and marketed in the Pacific Northwest.

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This page was generated on Monday, December 15, 2003

View the graphical version of this page
at: http://www.epa.gov/greenpower/whatis.htm

Join the Partnership

• What Is the Partnership? • Becoming a Partner • Partnership Factsheet

What Is the Partnership?

Partnership Objective

The Green Power Partnership aims to expand awareness of renewable energy by providing objective information and public recognition for those making it their choice for energy supply. Also, by stimulating a network among green power providers and potential purchasers, the Partnership will help lower transaction costs for companies, state and local governments, and other organizations interested in switching to green power.

Eligible Renewable Resources

Eligible renewables include:

- Solar electric
- Wind
- Eligible biomass
- Geothermal
- Small or low-impact hydro facilities

Partners pledge to replace a portion of their electricity consumption with green power within a year of joining the Partnership.

Partnership Services

Green Power Partners enjoy the following benefits and services:

Technical Information and Support: EPA will provide Partners with access to technical information on buying green power, including case studies and a purchasing toolkit. Partners will also have access to current market information, sample RFPs, and guidance on product comparison.

Network: EPA will provide Partners with access to a network of green power providers, green power purchasers, and related local and national environmental organizations.

Photo courtesy of NREL

Public Recognition: Partners will receive national recognition through awards and press announcements. EPA also works with each Partner to tailor an individual communications plan. A Partner's plan might include press events, advertisements, and internal company communications.

Use of Partnership Logo: Partners will gain access to a Green Power Partnership logo that can be used in corporate outreach and media materials.

EPA's Commitment

Upon signing a Partnership agreement with an eligible organization or institution, EPA will:

- Assign a Green Power Partnership Program Manager to work directly with the Partner
- Assist the Partner in analyzing green power options
- Estimate the emissions reductions associated with the Partner's green power options
- Work with the Partner to develop tailored public recognition activities

Partner Commitment

Partners commit to procure an amount of renewable energy that is proportional to their annual electricity use. A Partner's commitment may be met through a number of options, as outlined below.

Commitments may be made on a facility, operating unit, corporate, state-wide, or national basis. Baseline annual electricity use may be revised to reflect energy-efficient measures taken simultaneously without changing the participant's commitment level.

EPA asks Partners to do the following:

- Within one year of signing a Letter of Intent (171 KB PDF), meet or exceed the minimum renewable energy goal as outlined by the program.
- Share information about purchase experience.
- Report information on an annual basis, including participating facilities, energy provider, the amount (kWh) and renewable energy mix of the green power purchase.

Commitment Levels

Partners can meet their green power commitment with any of the following:

- Green power products (blended or block)
- Green tags or renewable energy certificates
- On-site renewable energy generation
- Any combination of the above

The Green Power Partnership counts only electricity generated from renewable energy toward the Partnership commitment. Often, green power is sold as a blended product, which can contain varying amounts of electricity generated from renewable energy as well as from other sources. When using a blended product, Partners must acquire enough to ensure that the total amount of electricity generated from renewable energy meets the Partner commitment level.

The Partnership commitment levels* are as follows:

Annual Electricity Usage (kWh)	Green Power Partnership Commitment
> 100,000,000	2%
< 100,000,000	3%
< 10,000,000	6%
< 1,000,000	10%
< 100,000	15%

5% of the commitment must be from new renewable energy resources (i.e., installed capacity post January 1, 1997).

*EPA reserves the right to revise commitment standards periodically to reflect changes in the green power market.

Note: If an organization decides to join with just one of its facilities, the Partnership benefits, including recognition, will extend only to that facility.

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Becoming a Partner

EPA invites you to join the Partnership. Your organization can help set the standard for innovative business practices and a sustainable energy future.

Joining the Partnership means:

- Signing a one-page Letter of Intent (171 KB PDF). The Letter of Intent can be completed online before printing. It then needs to signed and mailed or faxed.
- Reviewing your electricity use
- Analyzing your green power options
- Choosing a green power supplier

For more information, contact the Green Power Partnership.

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Partnership Factsheet

This factsheet provides information about the Green Power Partnership Program, the benefits of becoming a Partner, and how to join the Partnership. Click here (1,070K PDF) to print or download the factsheet.

Get Acrobat Reader Adobe Some of the documents provided by EPA are Adobe Acrobat PDF (Portable Document Format) files. They can be viewed, and printed, with the use of an Adobe Acrobat Reader. The Adobe Acrobat's Reader is available, free, for Unix, Macintosh, IBM DOS, and IBM Windows operating systems. The readers are available directly from Adobe. EXIT disclaimer

LANDFILL METHANE OUTREACH PROGRAM

Contact

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EPA's Landfill Methane Outreach Program (LMOP)

LMOP Promotes Landfill Gas as an Important Local Energy Resource

The Landfill Methane Outreach Program (LMOP), created as part of the United States' commitment to reduce greenhouse gas emissions under the United Nations Framework Convention on Climate Change, is a voluntary program designed to encourage and facilitate the development of environmentally and economically sound LFG projects. LMOP does this by educating local government and communities about the benefits of LFG recovery and building partnerships among state agencies, industry, energy service providers, local communities, and other stakeholders interested in developing this valuable resource in their community. Accomplishments since program launch in 1994 include the following:

- As of December 2003, LMOP has more than 365 Partners and Endorsers that have signed voluntary agreements to work with EPA to develop cost-effective LFG projects, including every major LFG project development company.
- LMOP has developed detailed profiles for over 1,300 candidate landfills in 31 states, and has data for more landfills in all states.
- There are more than 350 operational LFG projects in the United States. In addition, about 200 projects are currently under construction or are exploring development options and opportunities. To date, LMOP has assisted in the development of over 230 LFG utilization projects – including all 22 projects that went on-line in 2002. Together, these 230 projects are responsible for significant reductions in the emission of methane, a potent greenhouse gas. They also are preventing the emission of carbon dioxide, since using LFG for energy offsets the need to use other, more polluting fuels. In the year 2002, all operational LFG energy projects in the U.S. prevented the release of 17.3 million metric tons of carbon equivalent (MMTCE, the basic unit of measure of greenhouse gases) into the atmosphere. This reduction is the carbon equivalent of removing the emissions from 13.9 million cars on the road for one year.

LMOP Brings Interested Parties Together on LFG Project Development

Through its Endorser and Partner programs, LMOP works with energy organizations, non-profits, states, tribes, and local government, and the LFG industry and trade associations to promote the recovery and use of LFG. The LMOP Endorser and Partner programs help communities and landfill owner/operators learn more about landfill gas use. LMOP educates communities about the benefits of using LFG as an alternative energy source and helps them develop or participate in LFG projects that are considered technically and economically feasible. LMOP provides—free of charge—information, software tools, and marketing assistance, and access to technical experts to facilitate development of LFG projects. The program then promotes the success of LFG projects and participants.

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Join LMOP

Get Connected to the Network

Partners and Endorsers join the Landfill Methane Outreach Program (LMOP) voluntarily to gain a greater understanding of landfill gas (LFG) efforts and to build connections with other interested parties.

LMOP consists of an Endorser program and four partnership programs—Industry Partner Program, Energy Partner Program, State Partner Program, and Community Partner Program—involving energy service providers, landfill gas industry organizations, state agencies, communities and landfill owner/operators, and other stakeholders. By joining LMOP, your state agency, organization, company, landfill, or community gains access to a vast network of industry experts and practitioners, as well as to various technical and marketing resources that can help with LFG project development.

State Partners include state air and solid waste departments, energy and economic development offices, universities, and NGOs. These groups work to encourage coordination among permitting and regulatory offices to lower barriers and increase opportunities for LFG recovery.

Energy Partners include power providers, marketers, and energy end users. Power providers and marketers make LFG an attractive part of their green/renewable energy portfolio. Energy end users provide information about the economic, environmental, and social benefits of using LFG.

Industry Partners include landfill owners, developers, consultants, and equipment suppliers. These partners promote economically and technically sound projects and educate others about the benefits of using LFG as an energy resource.

Community Partners include local, county and regional governments, and nonprofit organizations who develop and publicize LFG use projects. Community Partners work to promote their projects and their participation in LMOP through the development of case studies and community outreach activities.

Endorsers include local, state, regional, and national non-profit organizations with influence over land-use, waste management, or energy use decisions. Examples of current Endorsers are the American Public Power Association, State Chapters and National Office of the Solid Waste Association of North America, the South Carolina Chamber of Commerce, and the South Carolina Association of Counties. Endorsers publicize and promote the use of LFG among their members and constituents, and receive recognition for engaging in at least one joint venture with EPA, such as a journal or newsletter article or a conference presentation.

U.S. Environmental Protection Agency's
Landfill Methane Outreach Program

Memorandum of Understanding in Brief for Energy Partners

Energy Partners include power providers, marketers, and energy end users. By signing the Landfill Methane Outreach Program (LMOP) Energy Partner Memorandum of Understanding (MOU), you are entering into a voluntary partnership with the Environmental Protection Agency (EPA) with the goal of developing cost-effective and environmentally beneficial landfill gas (LFG) energy projects. This sheet briefly summarizes the responsibilities of each partner—EPA and the Energy Partner.

EPA LMOP Responsibilities

- Assist in finding landfills with available landfill gas (LFG) (i.e., potential project locations) and assist projects by providing relevant information, project feasibility evaluations, and technical assistance, where appropriate, and, if warranted, assist in the resolution of project issues or problems.
- Provide program support, including prototype customer marketing and communication materials and workshop/seminar organization.
- Help facilitate green power/green pricing marketing programs. Supply information on green power, utility restructuring, and how LFG can fit into these initiatives.
- Evaluate existing and planned policies and programs with an impact on the LFG industry and work with other government agencies at the federal, state, and local levels, as appropriate, to remove barriers and to encourage the development of effective policies and programs to promote LFG energy recovery.
- Provide technical support for the demonstration of innovative energy recovery options, where appropriate.
- Publicly recognize the Partner's participation in LFG projects.
- Designate an EPA LMOP liaison and notify Partner of any change in the designated liaison.

Energy Partner Responsibilities

- Complete a corporate energy profile that includes: current LFG project information, renewables purchasing policies and procedures, and corporate environment goals, and update this information annually.
- Appoint a representative as LMOP Coordinator and notify EPA of any relevant changes.
- Consider incorporating LFG energy recovery into your business objectives and/or promoting LFG energy recovery to your customers. Submit a statement of the options being considered upon joining the program and update this statement on an annual basis describing the activities undertaken during the previous year. These activities might include:
  - Direct purchase of LFG energy.
  - Consider development of a LFG green marketing initiative.
  - Cooperation with key customers like municipal governments or potential end-users on mutually beneficial project development.
  - Participation in an emerging technology demonstration project, such as fuel cells or microturbine applications.
  - Development of an educational effort aimed at the general public or at targeted groups, such as schools, to publicize the benefits of LFG energy and the Energy Partner's involvement in these types of projects.

LMOP Endorsers

Endorsers are non-profit organizations that demonstrate environmental stewardship by encouraging their members or constituents to advance LMOP's goal of developing landfill gas as a commercially viable, environmentally beneficial energy source. Endorsers agree to work with EPA on at least one event or outreach activity per year, such as publishing of a journal article, issuing a press release on a project opening, or collaborating on a LMOP event or presentation. In turn, Endorsers receive a variety of resources, including promotional and technical materials, LFG publications, and recognition from EPA for their collaborative efforts.

Use the links below to view a table displaying current LMOP Endorsers or find out how to join LMOP.

- Current LMOP Endorsers
- Join LMOP

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This page was generated on Friday, January 9, 2004

View the graphical version of this page at: http://www.epa.gov/lmop/partner/endorser.htm

NATIONAL WASTE MINIMIZATION PARTNERSHIP PROGRAM

Contact

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Internet:	http://www.epa.gov/epaoswer/hazwaste/minimize/
Mail:	Waste Minimization Partnership U.S. EPA Waste Minimization Branch 1200 Pennsylvania Avenue, NW (5302W) Washington, D.C. 20460

Enroll Now In EPA's

National Waste Minimization Partnership Program

WHAT CAN YOU SAVE TODAY?
S M T W T F S
RESOURCE CONSERVATION CHALLENGE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Recycled/Recyclable—Printed on paper containing at least 30 percent postconsumer recycled content.

What Is the National Waste Minimization Partnership Program?

The National Waste Minimization Partnership Program is a new voluntary program that fosters partnerships between EPA and industry to reduce hazardous waste, especially waste containing highly toxic chemicals. The partnership is a cornerstone of the Resource Conservation Challenge. Initiated in December 2002, the challenge encourages new, innovative thinking in the conservation of our resources, including better ways to reduce, reuse, or recycle waste.

EPA created the National Waste Minimization Partnership Program (one of EPA's family of voluntary partnership programs) to focus efforts on reducing 30 highly-toxic, priority chemicals found in our nation's hazardous waste. Available scientific data indicate that these chemicals can cause serious harm to humans, wildlife and ecosystems if released to the environment. The National Waste Minimization Partnership Program focuses on finding solutions that prevent the formation of wastes containing these chemicals at the source of production, and by recovering/recycling these chemicals where they can not easily be eliminated or reduced at the source.

EPA's goal is to work with industry and the public to reduce the presence of these priority chemicals in hazardous waste by 50 percent by the year 2005, compared to amounts generated in 1991. EPA invites organizations that generate hazardous waste—particularly waste containing any of the 30 waste minimization priority chemicals—to join the National Waste Minimization Partnership Program. Make your contribution to the nation's strategic environmental goals.

What Are the Benefits If I Join?

- Public recognition for achieving voluntary reductions in priority chemicals.
- Your success stories posted on EPA's national program Web site.
- Use of EPA's National Waste Minimization Partnership Program logo to identify your organization as a program member.[1]
- The opportunity to display your National Waste Minimization Partnership Program membership plaques and accomplishment awards to customers, suppliers, employees, and stockholders.
- Access to Web-based information such as information on other EPA voluntary programs and the opportunity to see what other partners are doing.
- Links to technical and training assistance offices located in state and local government agencies, non-governmental organizations, and university technical services throughout the country.

How Do I Get Started?

Step 1: Identify one or more chemicals you would like to reduce at the source and/or recycle.

Choose one or more hazardous wastes generated by your facility that contain one or more waste minimization priority chemicals (WMPCs)[2]. You may propose projects that reduce wastes that do not contain WMPCs but that will, nevertheless, result in a significant environmental improvement. EPA encourages organizations to undertake waste minimization projects that benefit the environment; however, the purpose of the National Waste Minimization Partnership Program is to reduce the generation of WMPCs in wastes because WMPCs can cause the most serious problems if released to the environment. Thus, EPA prefers that you develop goals that contribute to EPA's National Waste Minimization Goal for reducing the generation of wastes that contain WMPCs.

Step 2: Develop a source reduction and/or recycling goal and project time line for each of the chemicals you are targeting.

For each waste you identify, establish a waste minimization goal and timeline for achieving that goal. You may achieve your goal through source reduction, recycling, or both. For example, you might choose to explore less toxic substitutes for lead in your production process to reduce the amount of lead generated in hazardous waste from a 2002 baseline of 500 pounds per year to a 2004 goal of 50 pounds per year. The total reduction might be expressed as a percent reduction per year, pounds of lead reduced during the project period, and/or a reduction in pounds of lead generated per unit of product produced. In addition to source reduction, or as an alternative, your goal might be to increase recycling of lead waste by 25 percent over the same time period.

United States Environmental Protection Agency
Office of Solid Waste
(5302W)
Washington, DC 20460

EPA530-K-03-004
August 2003
www.epa.gov/wastemin

[1] *Please note that EPA cannot endorse the purchase of a particular company's products or services.*

[2] *Listed with the enrollment form instructions.*

Step 3: Sign up!.

Enroll online at <www.epa.gov/wastemin> or complete and submit the attached enrollment form. You can also download a PDF copy of the enrollment form from the Web site. The enrollment form asks for a primary contact in your organization and a summary of the goals you have selected for each hazardous waste and chemical targeted. If you need to adjust your goals during the project, just let us know.

What Happens After I Submit My Enrollment Form?

EPA reviews applicants' voluntary goals to ensure that they result in a meaningful improvement in environmental performance and that they are described in clear and positive ways. Once EPA accepts your enrollment application, we will provide you with a membership plaque, post your organization's name and voluntary goals on the Web site, and, upon request, alert your local media of your enrollment and voluntary goals.

How Can I Receive EPA Recognition for My Accomplishments?

If you have achieved one of the goals identified in your enrollment agreement, you are eligible for an Achievement Award. To receive this award, describe your achievement using the Success Story outline provided in this packet. Your completed Success Story serves as your application for an Achievement Award. If you are not ready to apply for an Achievement Award at this time, but you have made important progress toward your goal(s) and you would like to share information about your progress, you may submit a Success Story to post on the Waste Minimization Web site. You may submit your Success Story electronically via the Web site at <www.epa.gov/wastemin>, or

via mail:
Waste Minimization Partnership Coordinator
U.S. Environmental Protection Agency (5302W)
Washington, DC 20460

via delivery service:
Waste Minimization Partnership Coordinator
U.S. Environmental Protection Agency
Waste Minimization Branch, 6th Floor
2800 Crystal Drive
Arlington, VA 22202

Questions?

Call one of EPA's voluntary partnership program contacts to discuss your ideas, ask questions about getting started, and obtain leads for locating technical assistance resources.

EPA Region 1: CT, MA, ME, NH, RI, VT
Linda Darveau 617 918-1718
darveau.linda@epa.gov

EPA Region 2: NJ, NY, PR, VI
Joseph Malki 212 637-4101
malki.joseph@epa.gov

EPA Region 3: DE, DC, MD, PA, VA, WV
Tad Radzinski 215 814-2394
radzinski.tad@epa.gov

EPA Region 4: AL, FL, GA, KY, MS, NC, SC, TN
David Langston 404 562-8478
langston.david@epa.gov

EPA Region 5: IL, IN, MI, MN, OH, WI
Janet Haff 312 353-7923
haff.janet@epa.gov

EPA Region 6: AR, LA, NM, OK, TX
Melissa Galyon 214 665-8423
galyon.melissa@epa.gov

EPA Region 7: IA, KS, MO, NE
Gary Bertram 913 551-7533
bertram.gary@epa.gov

EPA Region 8: CO, MT, ND, SD, UT, WY
Benjamin Bents 303 312-6435
bents.benjamin@epa.gov

EPA Region 9: AZ, CA, HI, NV
Heidi Hall 415 972-3386
hall.heidi@epa.gov

EPA Region 10: AK, ID, OR, WA
Domenic Calabro 206 553-6640
calabro.domenic@epa.gov

EPA Headquarters
Newman Smith 703 308-8757
smith.newman@epa.gov

ENROLLMENT FORM INSTRUCTIONS

Ready to enroll? Options for enrolling.

- Fill out an online enrollment form at: <www.epa.gov/wastemin>. Click on "Voluntary Partnerships" to link to the form.
- Download an enrollment form from the Web site and submit to us via mail or delivery service.
- Fill out the enrollment form enclosed in this package and submit to us via mail or delivery service.

General Information

This section of the enrollment form asks for basic information about the enrolling organization. We ask for the name of the organization joining, as well as the name of the individual facility or facilities joining. Identify a principal contact and the person authorizing participation in the program. Be sure to include your facility's RCRA ID number to help us identify you.

Goals Development

In this section, identify the chemical(s) you have selected for reduction by name and by CASR number anddescribe how you plan to reduce and/or recycle this chemical.* If conducting source reduction activities, complete the first two questions by estimating how much waste you currently generate containing this chemical and how much you believe you can reduce through source reduction activities. Next, identify the type of source reduction activity you plan to implement.

If you are conducting recycling activities, complete the next two questions by first estimating the baseline amount of the waste containing the chemical and then estimating the anticipated reductions through recycling activities. Next, identify the type of recycling activity you anticipate conducting.

You may, but are not required to, develop additional goals for additional chemicals. Please use supplemental sheets to set goals for additional chemicals.

* If conducting recycling activities only, skip to Question 3.

Submission

Please submit your form electronically at or mail completed forms to EPA at:

via mail:
Waste Minimization Partnership Coordinator
U.S. Environmental Protection Agency (5302W)
Washington, DC 20460

via delivery service:
Waste Minimization Partnership Coordinator
U.S. Environmental Protection Agency
Waste Minimization Branch, 6th Floor
2800 Crystal Drive
Arlington, VA 22202

Waste Minimization Priority Chemicals

Organic Chemicals and Chemical Compounds

CASRN	Name
120-82-1	1,2,4-Trichlorobenzene
95-94-3	1,2,4,5-Tetrachlorobenzene
95-95-4	2,4,5-Trichlorophenol
101-55-3	4-Bromophenyl phenyl ether
83-32-9	Acenaphthene
208-96-8	Acenaphthylene
120-12-7	Anthracene
191-24-2	Benzo(g,h,i)perylene
132-64-9	Dibenzofuran
	Dioxins/Furans
33213-65-9	Endosulfan, beta
959-98-8	Endosulfan, alpha
86-73-7	Fluorene
76-44-8	Heptachlor
1024-57-3	Heptachlor epoxide
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
58-89-9	Lindane (Hexachlorocyclohexane, gamma-)
67-72-1	Hexachloroethane
72-43-5	Methoxychlor
91-20-3	Naphthalene
	PAH Group (as defined in TRI)
40487-42-1	Pendimethalin
608-93-5	Pentachlorobenzene
82-68-8	Quintozene (Pentachloronitrobenzene)
87-86-5	Pentachlorophenol
85-01-8	Phenanthrene
129-00-0	Pyrene
1582-09-8	Trifluralin

Metal and Metal Compounds

CASRN	Name
7440-43-9	Cadmium
7439-92-1	Lead
7439-97-6	Mercury

WASTEWISE

Contact

Name: WasteWise Helpline
Phone: (800) EPA-WISE
Internet: http://www.epa.gov/wastewise
Mail: WasteWise Program
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW (5306W)
Washington, DC 20460

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Joining the WasteWise Program

WasteWise is a free, voluntary, EPA program through which organizations eliminate costly municipal solid waste, benefiting their bottom line and the environment. WasteWise is a flexible program that allows partners to design their own solid waste reduction programs tailored to their needs.

All organizations within the United States may join the program. Large and small businesses from any industry sector are welcome to participate. Institutions, such as hospitals and universities, non-profits, and other organizations, as well as state, local, and tribal governments, are also eligible to participate in WasteWise.

Waste reduction makes good business sense because it can save your organization money through reduced purchasing and waste disposal costs. WasteWise provides free technical assistance to help you develop, implement, and measure your waste reduction activities. WasteWise offers publicity to organizations that are successful in reducing waste through EPA publications, case studies, and national and regional events. These events also provide networking opportunities for organizations to share waste reduction ideas and success stories.

There is no fee for membership in WasteWise. EPA designed WasteWise to be a free, voluntary, flexible program. The amount of time and money you invest is up to you! You are free to set goals that are the most feasible and cost-effective for your organization. In the long run, waste reduction can save your organization money.

The corporate headquarters and/or facilities of a parent company or holding company can join WasteWise regardless of whether its subsidiaries join. Any of the subsidiaries may choose to join at a later date either on their own or as a part of the parent company's membership.

Complete the registration form, which you may fill out online, download, or obtain by calling the WasteWise Helpline at 800 EPA-WISE.

Setting Up a WasteWise Program

The WasteWise program targets the reduction of municipal solid waste; waste that would otherwise end up in an organization's (or its customers') trash, such as corrugated containers, office paper, yard trimmings, packaging, and wood pallets. Participants, ranging from small local governments and nonprofit organizations to large, multinational corporations, sign on to the program for a 3-year period. Key aspects of successful WasteWise programs include:

Management support

After you have obtained management support and involvement and have joined the WasteWise program, we suggest that you establish a waste reduction team and select a team leader. Garnering the support of a group of individuals will facilitate the design and implementation of your program and ensure the success of achieving your goals.

Waste assessments

To help identify measures you can take to reduce the amount of waste you generate, we encourage you to conduct a waste assessment prior to establishing goals. An assessment can help you identify waste reduction opportunities and establish a

baseline for measuring progress. Your Goals Identification Form is due 6 months after you receive your New Partner Packet, which will contain the form and information to assist you in completing it. If you need additional information or technical assistance to complete the form, feel free to contact your WasteWise representative or call the Helpline. You must establish goals in the areas of Waste Prevention, Recycling, and Buying or Manufacturing Recycled Products.

Employee education

Once EPA approves your goals, you will receive the WasteWise logo for internal and external use, with some restrictions. In addition, WasteWise has developed a sample press release and newsletter to assist you in announcing your commitment to WasteWise.

Measurement and reporting

Track your progress and report your results to WasteWise.

Program maintenance

Keep up the momentum by continuously looking for ways to enhance your waste reduction program. Encourage management to make your waste reduction program a priority and maintain employee involvement.

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View the graphical version of this page at: http://www.epa.gov/wastewise/about/overview.htm

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WasteWise Helpline

EPA established a toll-free helpline to communicate with WasteWise partners and others interested in the program. Staffed by WasteWise information specialists, the WasteWise Helpline can answer both general program questions and specific technical questions on solid waste reduction. Helpline staff have access to an extensive library as well as a compendium containing current information about waste reduction resources nationwide.

WasteWise Representatives

Upon joining the program, new WasteWise partners are assigned a WasteWise representative. WasteWise representatives are available to provide individual assistance to partners. WasteWise representatives can help partners establish their goals, assist them in completing their Annual Reporting Forms, and provide technical assistance in waste reduction issues.

Public Recognition

Generating public awareness of the benefits of partners' waste reduction activities is a major function of the WasteWise program. EPA draws attention to the WasteWise program and individual partner accomplishments through a variety of activities, some of which are listed below.

WasteWise Awards Program

Each year, EPA recognizes outstanding achievements of our partners by presenting "Partner of the Year" awards in several categories, including business, government, and educational sectors. To qualify, partners must submit complete annual reporting forms that detail tonnage of waste reduced, associated cost savings, and promotion of the WasteWise program to employees, customers, and suppliers.

EPA also offers "Challenge Partner of the Year" awards to commend exemplary performance in meeting the WasteWise Challenge and "Endorser of the Year" awards to recognize outstanding endorser efforts in promoting WasteWise to other organizations.

Regional Forums

In addition to the national forum, EPA sponsors regional forums to recognize the waste reduction efforts of existing partners and to welcome new partners. The meetings are held in cities across the country to help prospective partners learn about program requirements and the benefits of membership. These forums also provide partners an opportunity to network with others in their local area.

Case Studies

EPA recognizes the efforts of individual WasteWise partners by featuring their waste reduction successes, in the form of case studies, in a number of WasteWise venues. Past features ranged from speaking engagements at program workshops and features in publications, such as annual reports, program champion booklets, the WasteWise Update, and other EPA case studies.

Journal Articles and Advertisements

EPA publicizes the WasteWise program to help the public understand the significance of an organization's participation in WasteWise. Working with a wide range of business and trade publications, EPA provides information about WasteWise activities and major program events, benefits of membership, program accomplishments, and where to go for more information. CNN, National Public Radio, and The Wall Street Journal recently have featured WasteWise partner achievements. EPA has encouraged further public recognition of the program by placing public service announcements in such well-known journals as Fortune, U.S. News and World Report, and BusinessWeek.

The WasteWise Logo Outreach

WasteWise partners are encouraged to highlight their participation in WasteWise by using the WasteWise logo. The logo is often incorporated into employee education tools such as posters, newsletters, and progress reports. EPA's goal is that the WasteWise logo will be recognized as a symbol of environmental leadership.

Partner Networks

At regional forums held across the country, WasteWise sponsors Partner Network meetings. These meetings provide an opportunity for partners to interact with colleagues, discuss waste reduction issues, and share successful strategies with peers in their geographic area.

EPA has established seven partner networks across the country, including: the Chicago area, Dallas area, Northern California/San Francisco area, Southern California/Los Angeles area, New England area, New York/Tristate area, and Washington DC/Mid-Atlantic area.

Onsite Visit Program

The WasteWise Onsite Visit Program enables partners to meet with WasteWise representatives and receive assistance in developing and implementing quantifiable waste reduction programs. Onsite visits enhance the quality of our service by reinforcing our commitment to active partners. Likewise, the Onsite Visit Program enables WasteWise to build stronger relationships with partners that have significant waste reduction potential, but have encountered barriers to enhancing their waste reduction programs.

Common components of a WasteWise onsite visit include informal roundtable discussions and facility tours, which enable WasteWise representatives to provide tailored, personal recommendations for partners. To date, WasteWise representatives have conducted onsite visits for Colonial Pipeline Company, Canon USA, Inc., BGF Industries, Inc., Siemens Automotive Corporation, Commonwealth of Massachusetts, and Fresh Fields Whole Foods Market.

Waste Reduction Publications

The WasteWise program has produced dozens of publications for distribution to partners and other interested parties. Partners have access to a variety of waste reduction publications, including tip sheets, WasteWise Updates and Bulletins, waste reduction guides, directories, and other WasteWise publications.

Electronic Communications

Through electronic reporting, EPA makes it easy for partners to share and receive recognition for their achievements. Partners submit their annual reports using an online form on the WasteWise Member Services Web site. Electronic reporting saves WasteWise partners paper, postage, and time. Approximately half of WasteWise reporters submit their annual reports through the Web.

Most of the WasteWise publications are available, for viewing or downloading, on the WasteWise Web site. Instead of receiving mailings, program members that join the WasteWise E-Club receive e-mail notification when WasteWise publications are posted to the Web site, and then view the materials online, saving paper.

In addition, the WasteWise List Server, a bi-weekly e-mail notice sent to WasteWise partners and endorsers, provides up-to-date program news and a forum for partner-to-partner discussion of waste reduction issues.

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Doing What it Takes to be WasteWise

From reducing product packaging to buying manufacturing supplies in bulk, the chemical and pharmaceutical industry has a wealth of waste reduction opportunities. Below is a sampling of the commitments and achievements of WasteWise partners in this industry. These types of activities also can help your company reduce waste and cut costs. For more information or to enroll your company in WasteWise, call **800 EPAWISE (372-9473)** or visit our home page at **[www.epa.gov/wastewise].**

Waste Prevention

The cornerstone of WasteWise, waste prevention means using less material to do the same job, cutting waste before recycling. Regardless of industry sector, everyone can take advantage of general waste prevention goals, such as double-sided copying, packaging reduction, or switching to reusable supplies. Some WasteWise partners in the chemical and pharmaceutical industry have gone beyond the basics and implemented activities that target industry-specific waste materials. The following is a sampling of these goals:

- Implement an in-plant labeling system that eliminates purchase of excess labeling materials.
- Redesign product inserts to use less paper.
- Lightweight plastic bottles used for product packaging.
- Eliminate tertiary packaging on outgoing products.
- Reduce materials in steel drums by standardizing specifications and down-gauging drum thickness and weight.
- Purchase materials in returnable or reusable drums. Recondition and reuse drums.
- Use refillable cylinders instead of drums for shipping.
- Send out products in returnable totes.
- Purchase in bulk to eliminate plastic pails used to store raw materials.
- Reuse 65” super sacks for storage of dry chemicals.
- Use reusable industrial oil absorbents.
- Use cleaning rags for solvent application instead of disposable applicators.
- Purchase reusable coveralls and cleaning wipes.
- Establish program to wash vinyl operator gloves for reuse.
- Send heavy equipment air filters out to be reworked in lieu of discarding.

Recycling Collection

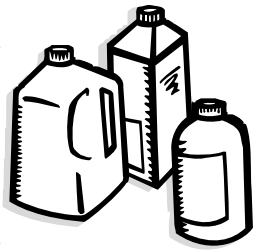
WasteWise partners commit to initiating, expanding, or improving company programs to collect recyclables. In some cases, companies add new materials to an existing program, or they increase effectiveness through activities such as employee education or community outreach. WasteWise partners in the chemical and pharmaceutical industry have set these goals:

- Recycle fiberboard barrels.
- Recycle glass into "glassphalt".
- Recycle laminated cardboard cores.
- Recycle dry chemical bags.
- Organize and maintain an employee handbook on disposal and recycling of laboratory waste.

Buying or Manufacturing Recycled Products

WasteWise partners commit to increasing the overall recycled content in the products they purchase. WasteWise partners that are manufacturers can either increase the percentage of postconsumer content in the products they make or increase the recycled content in the products they purchase. Buy-recycled activities of WasteWise partners in the chemical and pharmaceutical industry include:

- Purchase plastic drums made with recycled content.
- Increase postconsumer content in bag-in-box packaged products.
- Incorporate regenerated PET into product packaging.



WasteWise Partners in the Chemical and Pharmaceutical Industry

Abbott Laboratories
Allchem Services, Inc.
Allergan, Inc.
Alpharma USPD Inc.
Applied Specialties, Inc.
BASF Corp.
Calgene LLC
Clearon Corp.
Cytec Industries - Fortier Complex
Cytec Industries Inc., Wallingford Plant
Dow Chemical Company
Dow Corning Corp.
DuPont Pharmaceuticals Company
Duramed Pharmaceuticals
E. I. duPont de Nemours & Company, Inc.
Eli Lilly & Company
Faultless Starch/Bon Ami Company
Genzyme Corporation
Hoffman-La Roche Inc.
Merck-Medco Rx Services of NV
Monsanto Company
Monsanto Company - Luling Plant
Morton International, Inc.
Nalco Chemical Company
Noramco of Delaware Inc.
Novartis Pharmaceuticals Corporation
PCS Nitrogen Fertilizer, L.P.
Pharmacia Corporation
Phillips Petroleum Company
Purepac Pharmaceutical
Reckitt & Colman Inc.
Roche Vitamins Incorporated
S.C. Johnson & Son, Inc.
Searle & Company
Shell Chemical Company
Sterling Chemicals, Inc.
The Hall Chemical Company
The Lubrizol Corp.- Corp HQ/Wickliffe R&D Fac.
The Lubrizol Corp.- Painesville Manuf'g Fac.
The Muralo Company Inc.
The Scotts Company
The Seydel Companies
VANEX, Inc.
Witco Corp.
Zeneca Specialties

As of February 1, 2002

Sample Partner Achievements

- **Applied Specialties, Inc.** encourages waste prevention among its clients by working with its material transport tank manufacturer to collect used tanks for free. The used tanks are cleaned for reuse.
- **Calgene LLC** keeps lab and office equipment out of landfills by donating it to local primary and secondary schools, universities, and science centers. The company also reduced incoming junk mail by providing employees with postcards that request removal from mailing lists.
- **The Lubrizol Corp. Wickliffe Ohio** (Corporate Headquarters and R&D facility) collects wooden boxes and crates for internal reuse, donates old furniture for reuse, and shreds pallets to be used for lawn mulch and playground turf. In 2000, the company donated 3.4 tons of computer equipment to local schools.

Endorser Program

EPA launched the WasteWise endorser program to help spread the WasteWise message to more organizations. Endorsers are state and local government agencies, trade associations, nonprofit organizations, and businesses that help their members and constituents realize that reducing solid waste makes good business sense. By doing so, endorsers demonstrate their leadership in the environmental arena and play a pivotal role in conserving our natural resources and preventing pollution. EPA recognizes these efforts by featuring endorsers in publications and press releases, as well as through the Endorser of the Year Awards Program.

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What Does a WasteWise Endorser Do?

WasteWise Endorsers commit to:

- **Recruiting organizations to become WasteWise partners.**
  This could take the form of a mailing to local businesses, articles in newsletters, or a WasteWise presentation at an annual conference. EPA provides endorsers with all of the necessary WasteWise information and materials.

- **Providing members with ongoing promotional or technical information.**
  Endorsers might distribute promotional or technical materials, conduct waste reduction workshops, sponsor an awards program, or facilitate the exchange of information among member companies.

WasteWise Endorser Program Fact Sheet (ASCII)
Describes key aspects of the WasteWise Endorser program, designed for trade associations and other membership-based organizations who want to promote WasteWise to their members.

Check our membership listing for current Endorsers.

Endorser Registration Form

Interactive online form | PDF (2 pages, 62 KB)

Some of the documents provided by EPA are Adobe Acrobat PDF (Portable Document Format) files. For more information about PDFs, visit the About PDF page.

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ADOPT YOUR WATERSHED

Contact

Name:	Patty Scott
Phone:	(202) 566-1292
Internet:	http://www.epa.gov/adopt
Mail:	Adopt Your Watershed U.S. EPA 1200 Pennsylvania Ave NW (4501T) Washington, D.C. 20460

Adopt Your Watershed

To encourage stewardship of the nation's water resources, the Environmental Protection Agency (EPA) is leading an "Adopt Your Watershed" campaign. Through this effort, EPA challenges citizens and organizations to join us and others who are working to protect and restore our valuable rivers, streams, wetlands, lakes, ground water, and estuaries. By visiting our on-line database, you can learn about opportunities to get involved in activities in your community, such as monitoring, cleanups, and restoration projects. As of April 2002, the database contains 3500 groups that you might want to join.

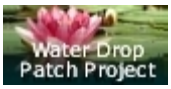
In honor of the 30th Anniversary of the Clean Water Act, 2002 has been declared the Year of Clean Water. EXIT disclaimer Volunteer monitors, agency staff, and members of the public are invited to join in the celebration by participating in **National Water Monitoring Day**, scheduled to commemorate October 18 -- the day the Clean Water Act was signed into law. A simple and inexpensive Year of Clean Water Kit will be available to classrooms and citizens. Visit the **Year of Clean Water** web site for more information and links to other events and activities.

For other ideas on how you can help, check out the new Watershed Patch Project. This is a collection of watershed activities designed for schools, science clubs, and community organizations. Once students complete the requisite number of activities, educators can download certificates right from the web!

Or check out Fifteen Things You Can Do to Make a Difference in Your Watershed. Also, find out what Girl Scouts are doing to help protect their local watersheds through the Water Drop Patch Project.

Adopt Your Watershed Application for Recognition

Information presented in the Adopt Your Watershed database does not constitute an official endorsement by EPA of any particular group's policies, activities, or positions on federal or state legislation. Disclaimer.



This page was generated on Wednesday, December 10, 2003

View the graphical version of this page at: http://www.epa.gov/adopt/

Fifteen Things You Can Do to Make a Difference in Your Watershed

Learn About Your Watershed

Become Active in Your Watershed

Help Increase Public Awareness in Your Watershed

1. **Learn about your watershed**. Start by using the Watershed Information Network (WIN) to find your watershed address and learn about its environmental health. Other useful sites include Surf Your Watershed, the Watershed Atlas, Envirofacts and Enviromapper. Also be sure to check out EPA's Wetlands web page to learn about the importance of wetlands.

2. **Use EPA's Nonpoint Source Program web pages to learn about how nonpoint source pollution affects your watershed and your coastal watershed.** Identify ways you can help prevent polluted runoff from your home, ranch or farm. Check out Give Water a Hand EXIT disclaimer (for students) or the National Farm*A*Syst/Home*A*Syst Voluntary Assessment Programs EXIT disclaimer (for farmers and homeowners), and the U.S. Department of Agriculture's Natural Resources Conservation Service's Programs and Activities EXIT disclaimer to find out how you can be part of the solution, instead of part of the problem.

3. **Go on an Estuary Walk, Lake Walk, Stream Walk, or River Walk and make observations and assessments of waterbody conditions**. If you see anything abnormal (such as dead fish, oil spills, leaking barrels, and other pollution) contact your city or county environmental department right away and report the nature and location of the problem.

4. **Find out about our precious coastal and marine resources by reading the Coastal Watershed Fact Sheets.** Learn about our pressure on ocean resources EXIT disclaimer and find out 25 things you can do to help save coral reefs. EXIT disclaimer

5. **Learn how land use and development decisions affect your water resources and how watershed planning and the watershed approach can help.** Find out about model ordinances to protect water quality at EPA's Model Ordinances to Protect Local Resources web pages and the Center for Watershed Protection. EXIT disclaimer Also learn about alternatives to current development patterns such as low-impact development EXIT disclaimer and smart growth. EXIT disclaimer

6 **Find a watershed organization in your community and volunteer to help.** If there are no active groups, consider starting your own. Use EPA's Adopt Your Watershed's Catalog of Watershed Groups to locate groups in your community or visit the Watershed Information Network's How to Start a Watershed Team page.

7 **Become a Volunteer Water Quality Monitor**. Help collect water quality data and build stewardship for your local waterbody. Attend a training workshop to learn proper monitoring techniques and safety rules. Visit EPA's Volunteer Monitoring Homepage and read Starting Out in Volunteer Water Monitoring. Consult the National Estuary Program's Volunteer Monitoring page for guidance in coastal areas.

8 **Organize or join in the cleanup of a beach, stream, estuary, or wetland.** For example, participate in the National River Cleanup Week, May 10 - 17, 2003 EXIT disclaimer sponsored by American Outdoors, EXIT disclaimer or the International Coastal Cleanup EXIT disclaimer sponsored by the Center for Marine Conservation EXIT disclaimer on the third Saturday of every September. For information on coastal debris, read Turning the Tide on Trash. Be sure to follow safety guidelines for any cleanup activity!

9 **Create a Wildlife Habitat in your Backyard, Workplace or Schoolyard.** Download the National Wildlife Federation's 28-page booklet that outlines 10 backyard conservation projects. Information about educator workshops and resourses are available at the Schoolyard Habitats web page. EXIT disclaimer Or join the National Wildlife Federation's Backyard Wildlife Habitat Program. EXIT disclaimer

10 **Participate in or help coordinate a special wetlands activity during the month of May to celebrate American Wetlands Month**. Visit the Terrene Institute web site EXIT disclaimer for ideas for special wetland activities. Also, celebrate International Migratory Bird Day EXIT disclaimer on Saturday May 10, 2003 by joining in an event to raise awareness about the importance of birds, biological diversity, and wetlands.

11 **Enter environmental art and poetry contests.** For example, the International "River of Words" Poetry and Art contest EXIT disclaimer is open to youth between the ages of 5 to 19 and invites children to explore and interpret their local watershed through the arts. Similar sites include the National Institute of Environmental Health Sciences' Environmental Art and Poetry Gallery EXIT disclaimer.

12 **Prepare a presentation about your watershed for a school or civic organization.** Explain what a watershed is. Discuss water quality threats, including polluted runoff and habitat loss. Highlight things people can do to protect water quality, including limiting fertilizer use and eliminating herbicides and pesticides. Be sure to provide case studies from other watersheds and to highlight success stories. Research your presentation using a variety of water education materials. EXIT disclaimer

13 **Organize a Storm Drain Stenciling Project in your neighborhood.** Produce and distribute a flyer or door hanger for households to remind residents that storm drains dump directly into your local waterbody. Join the Center for Marine Conservation "Million Points of Blight" campaign EXIT disclaimer or check with a local watershed group, or your county government -- many offer assistance with stenciling projects. Earthwater Stencils EXIT disclaimer also provides guidelines and information!

14 **Sponsor a Watershed Festival in your community to raise awareness about the importance of watershed protection.** Organize the festival around a water body in your watershed (estuaries, etc.), an issue (protecting drinking water sources), or a

national event (Coast Week.) Find out how to organize an event using the Water Environment Federation's Walk Your Watershed Festival Organizing Kit EXIT disclaimer or the Groundwater Foundation's guide, "Making Waves: How to Put on a Water Festival" and "Making More Waves: Ideas from Across the US and Canada for Organizing Your Water Festival. EXIT disclaimer

15 **Learn how to fund your watershed outreach and public education efforts.** Use the following EPA resources to get started: the Environmental Education Grants Program, the Catalog of Federal Funding Sources for Watershed Protection, Environmental Finance Program, and the Clean Water State Revolving Fund Program.

Click here if you'd like to receive a Certificate of Recognition for your watershed protection activities.

This is not a complete list of available resources and mention of these products does not constitute endorsement by EPA. Visit the Office of Water Homepage or the new Watershed Information Network for a more complete list.

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View the graphical version of this page
at: http://www.epa.gov/owow/watershed/earthday/earthday.html

HIGH PRODUCTION VOLUME CHALLENGE PROGRAM

Contact

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United States
Environmental Protection
Agency

Pollution Prevention
and Toxics
(7401)

EPA 745-F-98-002b
July 2000
www.epa.gov

Chemical Right to Know Fact Sheet Series

Voluntary Participation in the HPV Challenge Program

The Challenge

One of the key components of the Chemical Right-to-Know (ChemRTK) Initiative is the HPV Challenge Program. The goal of this program is to ensure that a baseline set of health and environmental effects data on approximately 2,800 high production volume (HPV) chemicals is made available to EPA and the public. U.S. HPV chemicals are industrial chemicals that are manufactured or imported into the United States in volumes of 1 million pounds or more per year. U.S. manufacturers and importers of HPV chemicals were invited to voluntarily sponsor chemicals in the HPV Challenge Program. Sponsorship entails the identification and initial assessment of the adequacy of existing information, the conduct of new testing only if adequate information does not exist, and making the new and existing test results available to the public. Any needed testing on the HPV chemicals in the HPV Challenge Program should be completed by 2004 with all data available to the public by 2005. The Agency intends to consider specific chemicals which are not voluntarily sponsored in the HPV Challenge Program as candidates for test rules under Section 4 of the Toxic Substances Control Act (TSCA).

Rising to the Challenge

Since the HPV Challenge Program was announced in late 1998, over 430 companies, working either independently or through 155 consortia, have publicly committed to make screening level health and environmental hazard data available on approximately 2,080 chemicals by 2005. Commitments to the HPV Challenge Program have come from companies and consortia of all sizes around the world. There have even been commitments from companies that were not asked to participate; others have volunteered chemicals that were not on the HPV list. These commitments ensure that more baseline hazard data are available to the public in the next few years than have been available in the two and a half decades since TSCA was passed in 1976. This clearly demonstrates the chemical industry's commitment to responsible product stewardship and will allow EPA and industry to build a solid foundation for sound scientific judgment and responsible hazard communication on HPV chemicals.

Participation in the Challenge

EPA encouraged all U.S. companies that make or import HPV chemicals to take advantage of the voluntary program. The sign-up period for volunteering under the HPV Challenge Program ended on December 1, 1999. Companies which volunteered to participate in the program did so by submitting a letter of commitment to EPA identifying Chemical Abstracts Service (CAS) numbers and names of chemicals or categories sponsored, the

company's technical contact person and phone number, and the start year in which data gathering on the chemical will begin. All commitment letters are available on the ChemRTK website. Although the sign-up period for the HPV Challenge Program has ended, companies may still voluntarily sponsor chemicals if "viable commitment" requirements are met. These requirements are posted on the ChemRTK website. Prior to starting any new testing on a chemical, participants are required to submit a test plan and must provide information on existing data in the form of robust summaries. All test plans and robust summaries will be posted on the Internet for a 120 day public review period prior to the initiation of any new testing. This will ensure that no unnecessary or duplicative testing is done under the HPV Challenge Program.

International Cooperation

The International Council of Chemical Associations (ICCA) consists of representatives of chemical associations from the United States, Canada, Europe, Japan, Australia, Mexico, Brazil, Argentina, and New Zealand. ICCA has begun its own global initiative on international HPV chemicals, calling for the assessment and testing of 1,000 "high priority" chemicals by the year 2004. The assessments and testing will be directly tied in with the Organization for Economic Cooperation and Development (OECD) HPV Screening Information Data Set (SIDS) Program. There is considerable consistency among the OECD HPV SIDS Program, the ICCA HPV Initiative, and the U.S. HPV Challenge Program. All three programs have the following components:

- focus on HPV chemicals,
- are based on the OECD SIDS test battery,
- include the steps of information gathering, test plan development, and conducting SIDS testing as needed to provide a complete set of screening level hazard data,
- allow the use of category approaches to group chemicals and the use of Structure Activity Relationship (SAR) analysis as an alternative to testing where scientifically appropriate.

Companies can meet the requirements of the HPV Challenge Program either directly through the Challenge Program or indirectly through the OECD HPV SIDS Program and/or the ICCA HPV Initiative. U.S. companies deciding to sponsor chemicals under the HPV Challenge Program can also identify those chemicals as U.S. contributions to the OECD HPV SIDS Program and/or the ICCA HPV Initiative.

Next Steps

Companies and consortia are now submitting the first test plans and robust summaries of existing data. All information regarding these submissions is available on the ChemRTK website. Stakeholders are encouraged to participate in the public review process and may comment on the completeness and adequacy of these submissions via the "submit comments" button on the ChemRTK website.

For more information on participating in the HPV Challenge Program, including a list of chemicals sponsored under the Challenge or a list of sponsoring companies, go to EPA's Chemical Right-to-Know Website at: http://www.epa.gov/chemrtk. Interested stakeholders may join our automated updated notification service on the "What's New" page to receive email updates on the HPV Program. All documents posted on the website may be obtained in hard copy by contacting the TSCA Assistance Information Service at (202) 554-1404. Companies that want to discuss specific aspects of the program with EPA may contact Barbara Leczynski at (202) 260-3945.

SUSTAINABLE FUTURES

Contact

Name:	Maggie Wilson	or	Bill Waugh
Phone:	(202) 564-8924		(202) 564-7657
Internet:	http://www.epa.gov/opptintr/newchems/sustainablefutures.htm		
Mail:	New Chemicals Program U.S. EPA, Office of Pollution Prevention & Toxics 1200 Pennsylvania Avenue, NW (7405M) Washington, DC 20460		

Sustainable Futures

- Upcoming training workshops on P2 Framework Models
- When sending in PMNs for the Sustainable Futures Project...

On December 11, 2002, EPA announced in the Federal Register a voluntary pilot project, entitled Sustainable Futures. The goal of this pilot project is to encourage the application of pollution prevention principles and the development of inherently low hazard new chemicals submitted as premanufacture notices (PMNs) under section 5 of the Toxic Substances Control Act (TSCA). Furthermore, the Agency seeks to gain additional data and experience regarding the pollution prevention, risk reduction, and source reduction benefits of use of hazard, exposure, and risk screening methodologies such as EPA's Pollution Prevention (P2) Framework in new product development efforts.

To encourage industry participation in this voluntary pilot project, the Agency will consider providing regulatory flexibility in the form of certain expedited review to participants in the pilot project. For purposes of this voluntary pilot project, EPA will implement a program leading to the opportunity for simultaneous submissions of Test Market Exemption applications and PMNs on chemical substances for which the submitter demonstrates the application and use of the P2 Framework or other scientifically acceptable hazard and exposure screening methodologies. This regulatory flexibility will have the effect of reducing the time to market for select new chemicals from 90 to 45 days.

In order to qualify for this pilot project, and associated expedited review, companies subject to TSCA section 5 reporting requirements must demonstrate experience and competence with the P2 Framework or other scientifically acceptable approaches to chemical risk screening. In order to do this, companies will need to:

1. Take necessary training;
2. Apply hazard and exposure screening tools and demonstrate to EPA that this information has been used to inform decision making to select safer new chemical alternatives to submit as new chemical notifications (and, where appropriate, to identify opportunities to eliminate or control exposures through process controls); and
3. Submit 5-10 successful (i.e., not regulated by EPA) PMNs or PMN exemption notices which have been developed using chemical hazard and exposure screening tools. These submissions should also include documentation of chemicals evaluated, models used, endpoints on which decisions were based, and the submitter's perspectives on the extent to which the screening tools provided useful information to compare alternatives and select safer chemicals.

The Federal Register notice provides additional detail relating to the expedited review available under this pilot project and discusses criteria or factors EPA will consider to determine eligibility for the pilot project and associated expedited review.

Note: PMN submitters who want to participate in Sustainable Futures, please clearly state this fact in capital letters at the top of the cover letter for the PMN submission -- for example, SUSTAINABLE FUTURES or ATTN: SUSTAINABLE FUTURES. Thank you.

Training Opportunities for Sustainable Futures

Just announced... New Sustainable Futures 2 1/2 day training sessions set for Chicago, IL in October 2003, and Washington, DC in December 2003 - ***Contact Bill Waugh (waugh.bill@epa.gov) to sign up.***

Companies interested in participating in this Sustainable Futures pilot project must demonstrate an understanding of the scope, applicability, interpretation, and limitations of pollution prevention and chemical hazard and exposure screening tools, such as the Pollution Prevention (P2) Framework. These tools can be used to conduct screening level assessments of chemicals based on an analysis of chemical structure or other considerations.

EPA offers P2 Framework risk screening software to participating companies and other interested stakeholders. The Agency also offers detailed training workshops to those interested in learning more about the P2 Framework models.

EPA conducts workshops and presentations that provide an overview of the P2 Framework models to industry and other stakeholders. P2 Framework workshops are 2-3 days in length. They involve hands-on training in the use, interpretation, and limitations of P2 Framework methodologies.

Attendees of the P2 Framework workshops are encouraged to bring to the workshop the CAS Registry Numbers or structures of the types of chemicals of specific interest to them so that they may use these as examples when they run the models during the workshop. Attendees should not bring any confidential business information (CBI) to the workshops.

P2 Framework workshops are particularly well suited for participants with a strong background in chemistry and familiarity with issues associated with human health and environmental hazard, exposure, and risk assessment. Those interested in learning about dates and times for upcoming training, whether given by EPA or other qualified individuals, should check this webpage.

Sessions currently being offered:

Contact Bill Waugh at waugh.bill@epa.gov to sign up for the following sessions

- Chicago, IL, DePaul-O'Hare campus, October 28-30, 2003
- Washington, DC, December 15-17, 2003
    - Sample agenda for the training sessions
    - Location Information

Past Sessions:

- Denver, January 22-24, 2003
    - Slides from the Denver Session
- Washington, DC, June 16-18, 2003

NATIONAL ENVIRONMENTAL PERFORMANCE TRACK

National Environmental Performance Track
U.S. Environmental Protection Agency

Contact

Name:	The Performance Track Information Center
Phone:	(888) 339-PTRK
Internet:	http://www.epa.gov/performancetrack/
Mail:	The Performance Track Information Center c/o Industrial Economics Incorporated 2067 Massachusetts Avenue, 4th Floor Cambridge, MA 02140

Basic Information

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The National Environmental Performance Track ("Performance Track") is a voluntary partnership program that recognizes and rewards private and public facilities that demonstrate strong environmental performance beyond current requirements. The program is based on the premise that government should complement existing programs with new tools and strategies that not only protect people and the environment, but also capture opportunities for reducing cost and spurring technological innovation.

Since the program's inception in June 2000, Performance Track membership has grown and has produced solid results. Performance Track encourages participation by small, medium and large facilities and its members are located throughout the United States, including Puerto Rico. Furthermore, all of the major industries are represented, with manufacturers of chemical, electronic and electrical, and medical equipment composing nearly 40 percent of the members. Over the last three years, Performance Track has received 421 applications and accepted 345. Currently, there are approximately 300 members. For a closer look at the activities and accomplishments of our members to date, as well as our goals for future achievements, please refer to the Performance Track Progress Report (PDF, 1.2MB, 27 pp).

Performance Track also provides recognition, regulatory flexibility, and other incentives that promote high levels of environmental performance and provides a learning network where best practices can be shared. In addition, the program encourages continuous environmental improvement through the use of environmental management systems and fosters public outreach, community involvement, and performance measurement. For an in-depth look at Performance Track, please view the Program Guide (PDF, 248KB, 15 pp).

If you would like more information about Performance Track, please view Frequently Asked Questions or visit the Performance Track Contact Us page.

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View the graphical version of this page at: http://www.epa.gov/performancetrack/about.htm

Criteria

Standard Criteria | Small Business Criteria | Site Visits | Annual Performance Reporting

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The National Environmental Performance Track is open to facilities of all types, sizes, and complexity, public or private, manufacturing or service-oriented.

Performance Track is designed to recognize facilities that consistently meet their legal requirements and have implemented high-quality environmental management systems. Performance Track encourages facilities to continuously improve their environmental performance and to work closely with their community and employees.

Once accepted, members remain in the program for three years, as long as they continue to meet the program criteria. After three years they may reapply.

Facilities applying to Performance Track must have:

- Environmental Management System in place
- History of sustained compliance
- Commitment to continuous environmental improvement
- Community outreach

For more information about the specific program criteria, visit the links below or download the Performance Track Program Guide (PDF, 254KB, 15 pp About PDF).

- **Standard Criteria**
- **Small Business Criteria**
- **Site Visits**
- **Annual Performance Reporting**

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Benefits

Recognition | Networking | Low Priority for Routine Inspections | Regulatory and Administrative Incentives

EPA seeks to establish Performance Track as the "gold standard" for facility based environmental performance - a standard that participating members strive to attain as they meet or exceed their performance commitments. To encourage facilities to achieve environmental excellence and continuous improvement, EPA adds value to Performance Track membership through:

Recognition - How does PT publicize member achievements? Find out about opportunities for increased recognition of member successes.

Networking - Interested in sharing information with other organizations? Find out ways to exchange information and create a "learning network" for members.

Low Priority for Routine Inspection - Want to save time and money with fewer inspections? Read about this exclusive incentive for Performance Track members.

Regulatory and Administrative Incentives - What incentives are available or planned? Read about regulatory and administrative policies and proposals beneficial to members.

Recognition

Recognition | Information Sharing | Low Priority for Routine Inspections | Regulatory and Administrative Incentives

The EPA recognizes your facility's participation in Peformance Track in a number of ways:

Elected Official Letters - Performance Track will send letters to your elected representatives at the local, state, and national levels. If you would like us to send a letter to your elected officials announcing your acceptance in the program, please email the contact names and addresses of your elected officials to Luctrician Booth at booth.luctrician@epa.gov.

Trade Journal Articles - Performance Track writes articles about many of its members for trade association journals. Each month we highlight a Performance Track member on our Web site that has been featured in the news. If you are mentioned in the news, or if you would like us to write an article about your facility's achievements or innovative practices, please e-mail Kevin Easley at easley.kevin@epa.gov.

Performance Track Outreach Award - While Performance Track rewards all members for their commitment to improving their role in the environment, we also give special awards to those members who make an effort to educate the public and encourage prospective facilities to join Performance Track. The Outreach Award nominations are due at the end of the calendar year and are given to members at the Annual Member Event. The Fall 2003 P-Track News edition will have information announcing nomination deadlines and criteria. For additional information on the Outreach Award, please email Luctrician Booth at booth.luctrician@epa.gov.

Member Listings on EPA Web Site - All Performance Track members are listed on the EPA Performance Track Web site and in a membership directory that is published annually and widely distributed at EPA conferences and events. To find a list of all Performance Track members visit the Members page.

Performance Track Network - In an effort to promote Performance Track to a wider audience of top

environmental performers, we partner with trade associations, membership organizations, and nongovernmental organizations, through the Performance Track Network. These partners have committed to supporting the principles of Performance Track and communicating the mission of the program to their top environmental performers. For a list of current network members, please visit the Partners section of our web site.

Information Sharing

Performance Track provides members with a range of opportunities to share information about innovative approaches and best practices. The Mentoring Program and Tele-Seminar series are program initiatives that are central to promoting information exchange and leadership practices within Performance Track.

Mentoring Program - The Mentoring Program matches either current members or potential Performance Track members with top performing facilities currently in the program. EPA created this program to facilitate shared learning and extend the benefits of information sharing beyond the existing membership base to future members. Through the Mentoring Program, members can provide application assistance, share best practices with other members, earn recognition, and receive one-on-one assistance from other members in specific areas of interest. Member facilities that are active in educating facilities about Performance Track are also eligible for the Performance Track Outreach Award. To learn more about this initiative and how you can get involved, take a look at the Mentoring Program page. If you have any questions or would like to get involved in the Mentoring Program, please email Lisa Grogan at grogan.lisa@epa.gov.

Tele-Seminars - Tele-seminars, presented by members and outside experts, feature leadership practices in environmental management and related disciplines that can help you improve or modify your own operations. These bimonthly seminars also give EPA an opportunity to inform Performance Track members about other innovative EPA programs. Tele-seminars are announced via email, in P-Track News, and in the "Recent Additions" Box on the home page of the Performance Track Web site.

All participants are asked to register for upcoming Tele-Seminars of interest by sending an email to Lisa Grogan at grogan.lisa@epa.gov. Upon registering, participants will receive a call-in number and a link to download the associated presentation materials. If you are interested in reviewing past presentations, they are archived and located on the Member's Only Web site.

Low Priority for Routine Inspections

Currently, Performance Track facilities are given a low federal priority for routine inspections. Senior EPA enforcement officials in each region are responsible for ensuring that this policy is implemented and appropriately incorporated into internal planning and accountability processes, as well as planning processes with states and localities.

As a designated low inspection priority facility, members save the resources and time regularly spent preparing for and responding to inspection requests. Review EPA memos detailing this policy initiative:
Performance Track/ Office of Enforcement and Compliance Assurance Memo - April 23, 2002
Performance Track/ Office of Enforcement and Compliance Assurance Memo - October 29, 2003

Regulatory and Administrative Incentives

Recognition | Information Sharing | Low Priority for Routine Inspections | Regulatory and Administrative Incentives

One benefit of Performance Track membership is that EPA rewards you by developing regulatory and administrative actions that only apply to participating Performance Track facilities. Such incentives are being designed and implemented to:

- Recognize and reward environmental accomplishments;
- Encourage facilities to perform beyond basic compliance;

- Allow members to operate more efficiently; and
- Demonstrate that innovation is integral to EPA's evolving regulatory framework.

These incentives are at various stages of development and are briefly addressed in terms of their relation to major environmental media and federal-state partnerships initiatives. For more information, visit the links below.

- Air Incentives
- Water Incentives
- Waste Incentives
- Cross Media Incentives
- States Incentives

For more information about EPA incentives development efforts designed to support Performance Track facilities, please call or e-mail the following agency staff who will be able to assist you:

- Bob Sachs
  Incentives Coordinator
  202-566-2884
  sachs.robert@epa.gov

- Richard Kashmanian
  Water Incentives
  202-566-2875
  kashmanian.Richard@epa.gov

- Chad Carbone
  Air, Water, and Waste Media
  202-566-2178
  carbone.chad@epa.gov

- Eileen McGovern
  State Partnerships
  202-566-2881
  mcgovern.eileen@epa.gov

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at: http://www.epa.gov/performancetrack/benefits/recognition.htm

Resource Center

Environmental Improvement Categories | Public Outreach and Performance Reporting | Industry Sector

The Performance Track Resource Center provides resources for facilities interested in improving their environmental performance. The Resource Center contains links to specific technical resources available on the Internet. The links in the Resource Center are organized by Environmental Improvement Categories, Public Outreach and Performance Reporting, and Industry Sector. The Resource Center provides information that can help facilities:

- Set environmental goals
- Develop approaches for improving their environmental performance
- Learn about best practices used by other facilities
- Quantify environmental benefits of performance improvements
- Benchmark their performance against that of other facilities
- Understand the business benefits of environmental performance improvement

The Resource Center can be helpful for facilities that are:

- Considering applying to Performance Track
- Filling out the program application
- Working to meet performance commitments made under the Performance Track
- Drafting annual Performance Track reports
- Communicating with stakeholders about facility performance
- Looking for examples of what current Performance Track Members have accomplished

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Performance Track Network

State Programs | Performance Track Network | Federal Partners | Performance Track Participants' Association (PTPA) EXIT disclaimer

Through the Performance Track Network, EPA collaborates with select national trade associations, nongovernmental organizations (NGOs), and professional organizations to inform top environmental performers that they work with about Performance Track and the benefits of membership. EPA currently has twenty-three Performance Track Network Partners , including the American Chemistry Council (AAC), the National Association of Chemical Distributors (NACD), the National Paint and Coatings Association (NPCA), and the Synthetic Organic Chemical Manufacturers Association (SOCMA).

What are the benefits of becoming a Network Partner?

- EPA recognizes Partners by acknowledging their efforts in publications, as well as at Performance Track events. Performance Track NetworkPartners also will be listed on the Performance Track Web site.
- EPA provides Partners with materials to assist them in marketing Performance Track, including application materials, articles for journals, presentations, and talking points. EPA representatives are also available to speak about Performance Track at Partners' conferences and meetings.
- If a Partner has its own voluntary environmental performance initiative, EPA will identify the similarities to Performance Track and potential opportunities for further collaboration.
- EPA will periodically arrange opportunities for roundtables and other information exchanges involving Network Partners, agency decision makers, and EPA subject matter experts.

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at: http://www.epa.gov/performancetrack/partners/trade.htm

CHEMALLIANCE

Contact
Name: Scott Butner
Email: scott.butner@pnl.gov
Internet: http://www.chemalliance.org

Introduction

ChemAlliance is your source of up-to-date information concerning the environmental regulations affecting the chemical industry. ChemAlliance is operated by a partnership of environmental professionals in academia, government and industry. We're designed to provide you with quick and easy access to:

- Regular feature articles by ChemAlliance staff and guest authors, providing timely and informative views on issues of importance to our readers.
- Up-to-date information on the regulations affecting chemical manufacturers, and cost-effective strategies to insure compliance
- Regulatory and compliance tools for technical assistance providers and industry professionals alike
- Information about pollution prevention in the chemical industry, and why it is an important part of any compliance strategy.
- Fun tools for managing info-glut and customizing ChemAlliance to meet your needs.

Who Uses ChemAlliance?

ChemAlliance is designed as a way for industry, regulators and technical assistance providers to work together to improve both the environment and the bottom line. It is serves as a resource center for

- compliance assistance programs
- pollution prevention technical assistance providers
- industry trade and professional associations
- small business development centers
- industry environmental professionals

Who is ChemAlliance?

The ChemAlliance site was made possible in large part due to funding provided by the United States Environmental Protection Agency under assistance agreement CX829049010. ChemAlliance is operated by Pacific Northwest National Laboratory with support from Michigan Technological University. You can meet our staff here
ChemAlliance also depends on the active involvement of a wide range of partners, including:

- The U.S. Environmental Protection Agency
- Synthetic Organic Chemicals Manufacturers Association
- National Association of Chemical Distributors
- American Chemistry Council
- The Consumer Specialty Products Association
- Texas Natural Resource Conservation Commission

Valuable input has also been received from other industry organizations including:

- The Society of the Plastics Industry
- The American Institute of Chemical Engineers
- The Pharmaceuticals Research and Manufacturers of America

We welcome your organization to join the growing list of active participants and partners in the success of ChemAlliance.

Information provided on this site is subject to certain limitations, so please read our disclaimer!
Send mail to johnsons@battelle.org with questions or comments about this web site.
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Regulatory Handbook

Your source for regulatory assistance tools!

In this Handbook, ChemAlliance provides a wide range of tools to help you understand, evaluate, and comply with environmental regulations more effectively.

- **Virtual Plant Tour** - Take our "virtual plant tour" and see how reviewing your operations can tell you a lot about which regulations you'll need to consider.
- **Regulatory Puzzle Tour** - A quick summary of the major regulations.
- **Background & History** - Detailed descriptions of environmental laws and regulations.
- **Glossary of Environmental and Regulatory Terms** - So what do all those @$#! acronyms stand for?
- **Hotlines** - A list of available EPA Hotline phone numbers.
- **Web Resources:**
  - **Laws & regulations** - On-line sources for full text of regulations, and other resources from the EPA and other agencies.
  - **Tools in Review** - We've collected and reviewed a list of self-assessment resources which can help you decide how you measure up.
  - **Solutions and Support** - Links to other sites that provide compliance assistance and pollution prevention support.
  - **Web Links** - Tired of search engines? We've collected hundreds of web links related to environmental regulations and compliance.
- **Caveats** - What we do and don't do in these webpages.

Information provided on this site is subject to certain limitations, so please read our disclaimer!
Send mail to johnsons@battelle.org with questions or comments about this web site.
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Feature Articles

ChemAlliance's feature articles provide useful information about effective regulatory compliance and environmental management strategies for the process industries. Articles cover topics ranging from new rule making, compliance strategies, tips for moving "beyond compliance" and timely perspectives from industry peers. All of our articles include relevant web links so you can "dig deeper" into the subject.

Interested in Contributing a Feature Article?

ChemAlliance is always on the lookout for well-written articles dealing with regulatory issues and their impact on the chemical industry. If you have an idea for a feature or would like to suggest a topic, please contact Scott Butner at scott.butner@pnl.gov

Recent Additions

10-Year MACT Standards for the Chemical Industry: Historical Background and Recent Proposals

(originally appeared 01/30/2003)

The EPA has recently proposed a revised schedule for issuing 6 Maximum Achievable Control Technology (MACT) National Emission Standards for Hazardous Air Pollutants (NESHAPs) of relevance to chemical and plastics manufacturers. The intent of these standards is to accelerate the use of advanced technologies to reduce the emissions of Hazardous Air Pollutants (HAP) and to thereby improve air quality. These standards have important consequences for some chemical manufacturing facilities. This article presents an overview of the new MACT standards.

Web-Based Environmental Regulatory Updates: A 50-State Survey

(originally appeared 04/05/2002)

For environmental health and safety officials and others in the trenches, state-level regulatory information may be just as important as federal-level information. ChemAlliance staff performed a review of the web-sites of the 50 state environmental agencies to determine the degree to which their web-based regulatory information was accessible and user-friendly, including whether there were timely updates on impending regulatory requirements and detailed information on rules and regulations. This short article summarizes the results of our on-line survey.

AIChE's CWRT Updates Guide to Control and Prevention of VOC and HAP Emissions

(originally appeared 02/07/2002)

The American Institute of Chemical Engineers (AIChE) Center for Waste Reduction Technology (CWRT) has recently published the book, "Practical Solutions for Reducing Volatile Organic Compounds and Hazardous Air Pollutants." The manual is an update to the 1993 AIChE CWRT publication "Current and Potential Future Industrial Practices for Reducing and Controlling Volatile Organic Compounds". In the eight years since the original publication, enormous scientific, political, social, and economic changes have impacted air quality and environmental regulations, prompting a new look at an old subject. ChemAlliance staffer Lesley Snowden-Swan provides an overview of this useful technical resource.

Beyond RCRA: Prospects for Waste and Materials Management in the Year 2020 - An Unofficial Executive Summary

(originally appeared 01/06/2002)

In 1999 the U.S. Environmental Protection Agency (EPA) established a working group with state environmental agencies to explore the longer-term future of the Resource Conservation and Recovery Act (RCRA). A roundtable meeting of experts on this subject was convened in Washington, D.C. in September 1999, whose insights were summarized in a separate paper. The recently released white paper, "Beyond RCRA" follows up this work for the purpose of creatively engaging and stimulating dialogue on the future of our nation's waste management system, by providing a broad outline of this future, and the economic, technological and institutional forces that might shape it. ChemAlliance staff member Barry Solomon provides a synopsis of the paper and how it might affect the eventual reauthorization of RCRA.

Other Feature Articles

How to Build Performance Into the Responsible Care® MSV Conformance Standard

(originally appeared 02/13/01)

Critics of the ISO 14001 EMS standard point out that the standard is a conformance standard (e.g., focusing on process and procedure), not a performance standard (which mandates specific outcomes). What happens when you take the best from each of these differing approaches to management standards? In this article, author **Bob Pojasek** compares the Responsible Care® standard (like ISO 14001, a conformance standard) with an environmental performance standard based on the Baldrige model. He goes on to demonstrate that the best solution may just be one that marries the best of both.

The National Environmental Performance Track Program: An Opportunity for Chemical Companies

(originally appeared 01/26/01)

The US EPA's National Environmental Performance Track Program is designed to motivate and reward top environmental performance. By encouraging a systematic approach to managing environmental responsibilities, taking extra steps to reduce and prevent pollution, and being good corporate neighbors, the program is rewarding companies that strive for environmental excellence. At the same time, many participating companies are finding that they are saving money and improving productivity. In this article, ChemAlliance staff member **Bo Yan** and ChemAlliance Co-Director **Barry Solomon** describe this innovative program of the EPA, the benefits and costs for facilities to participate, and some special consideration for small businesses.

Metrics Will Matter

(originally appeared 10/04/00)

EHS managers pride themselves in utilizing the very latest software systems to collect and track metrics. The displays are impressive and the reports may give one a good feeling of being in control. But, according to author Richard McLean, some EHS managers may be winning the battle to efficiently sort data, but loosing the strategic war to gain competitive advantage for their companies. Metrics theory and practice has undergone a quiet revolution over the past five years and the long term business implications are truly astonishing.

Crystal Ball Gazing: A Critical Examination of the Environmental Profession in the New Millennium

(originally appeared 10/04/00)

ChemAlliance contributor Richard McLean looks into his crystal ball to see what's on the horizon for environmental professionals. Reprinted with permission from *EM*, Air & Waste Management Association's Magazine for Environmental Managers.

EPA's New Chemicals Program Under TSCA: The Basics

(originally appeared 09/21/00)

The New Chemicals Program is the U.S. Environmental Protection Agency's (EPA) program for management of potential risk from chemicals new to commerce, as mandated by Section 5 of the Toxic Substances Control Act (TSCA). Anyone who plans to manufacture or import a new chemical substance for a non-exempt commercial purpose is required under TSCA Section 5 to provide the EPA with notice before initiating the activity. This article presents an overview of the New Chemicals Program.

Understanding and Using EPA's Chemical Industry Compliance Improvement Tool

(originally appeared 06/01/00)

In September 1998 the U.S. EPA's Office of Enforcement and Compliance Assurance (OECA) developed the Chemical Industry Compliance Improvement Tool (CIT). The CIT is a directory of environmental regulatory resources that is designed to assist the chemical industry sector and regulators with the task of improving regulatory compliance. This article discusses three methods for improving compliance that are presented within the CIT; namely: environmental auditing, environmental management systems (EMS) and pollution prevention (P2).

EPA Revises Policies on Self-Audits and Small Business Compliance

(originally appeared 06/01/00)

In the April 11, 2000 Federal Register, the U.S. Environmental Protection Agency (EPA) issued its revised final Small Business Compliance Policy and its Audit Policy, to expand the options allowed under the Policies for discovering violations and to establish a time period for disclosure. The purpose of this article is to provide the reader with an outline of the background and distinguishing features that characterize the revision of the two policies.

Chemical Accident Prevention: Site Security

(originally appeared 03/18/00)

Facilities that handle chemicals are actively engaged in managing risks to ensure the safety of their workers and the community. Most of their efforts focus on ensuring that the facility is designed and operated safely on a day-to-day basis, using well-designed equipment, preventive maintenance, up-to-date operating procedures, and well-trained staff. Increasingly, though, facilities are addressing the risks posed by vandalism, terrorism and sabotage. In this article, the US EPA's Chemical Emergency Preparedness and Prevention Office (CEPPO) looks at what facilities can do to reduce chemical risks due to terrorism and sabotage.

note: this article is in Adobe Acrobat (PDF) format.

Proper Monitoring Essential to Reducing 'Fugitive Emissions' Under Leak Detection and Repair (LDAR) Programs

(originally appeared 12/14/99)

The Clean Air Act requires refineries to develop and implement a Leak Detection and Repair (LDAR) program to control fugitive emissions. In this article (adapted from EPA's "Enforcement Alert"), comparison monitoring conducted by the U.S. Environmental Protection Agency's (EPA) National Enforcement Investigation Center (NEIC) shows that discrepancies in monitoring methods may result in an under-reporting of the number of leaking valves and components in some facilities.

Use this Checklist to Improve Your Process!

(originally appeared 10/20/98)

Rick Grote shares a **checklist of pollution prevention strategies** for chemical manufacturers.

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- On-Line Stakeholder Discussion of TRI Burden Reduction Options, Phase II, **Now Until January 5, 2004** (added 11/5/2003)
- "Transparent Reporting for EHS" Workshop, February 9-10, 2004 in Denver Colorado (added 10/22/2003)
- 2004 National Environmental Assistance Summit, April 19-22, 2004, Baltimore, Maryland (added 10/20/2003)
- Reportable Quanity Adjustments Made for Carbamate-Related Waste Streams and K178 Waste (added 12/7/2003)
- Environmental Groups Threaten to Sue Exxon Mobil Refinery in Louisiana (added 12/7/2003)
- Amendments to National Emission Standard for Benzene Waste Operations Issued (added 12/4/2003)
- Pollution Prevention Resource Exchange (P2Rx) Updates Directory of State P2 Programs (added 12/4/2003)
- New Book Highlights Compliance-Side Total Chemical Management for Improving Operations and Reducing Environmental Impacts (added 12/4/2003)
- ACC Recently Honors 15 Companies for Energy Efficiency Process Improvements (added 12/3/2003)
- 2004 Presidential Green Chemistry Challenge Awards Nominations Due December 31, 2003 (added 12/3/2003)
- Proposed Rule Lists Nonwastewaters from Certain Dyes, Pigments, and Colorants as RCRA Hazardous Wastes (added 12/2/2003)
- Comment Period Extended on Data for Spent Hydrorefining Catalyst from Petroleum Refining, January 18, 2004 (added 11/25/2003)
- Petition Proposes Removal of Ethylene Glycol Monobutyl Ether from HAP List (added 11/25/2003)
- DOE Extends Proposal Deadline for Chemical Industry R&D Funding (added 11/21/2003)
- Multimedia Wastewater Compliance Guide for Synthetic Organic Chemicals Industry Available from SOCMA (added 11/20/2003)
- Security Vulnerability Analysis (SVA) Tools Available Online from SOCMA (added 11/20/2003)
- EPA Finalizes Issues for Reconsideration Under New Source Review (added 11/11/2003)
- Pollution Prevention Engineer Job Opening at Georgia Department of Natural Resources (added 11/10/2003)
- EPA Requesting Comment on RCRA Burden Reduction Ideas (added 11/4/2003)
- EPA Proposes De-regulation of Certain Recyclable Secondary Materials from RCRA Hazardous Waste Regulations (added 10/30/2003)
- Call for Papers: AIChE Center for Chemical Process Safety 2004 International Conference, Abstracts Due January 15, 2004 (added 10/28/2003)
- National Dialogue Sessions to Solicit Feedback on EPA's Draft Report on the Environment (added 10/21/2003)
- Director Position Open at Kansas State Pollution Prevention Institute (added 9/9/2003)

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DESIGN FOR THE ENVIRONMENT

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About DfE

The DfE Approach:

Examines the hazards of chemicals used in an industry.

Assesses alternative processes, formulations, and emerging technologies.

Promotes risk reduction through cleaner technologies and safer chemical choices.

DfE's Mission / Vision | What is DfE? | Program History | Partners | Internships | Related Programs

The Design for the Environment (DfE) Program is a voluntary partnership program that works directly with industry to integrate health and environmental considerations into business decisions.

Businesses today face a variety of challenges, including maintaining high-quality goods and services at a low cost; staying competitive in a global marketplace; and meeting consumer preferences for more environmentally friendly products. To help businesses meet these challenges, DfE partnerships inform businesses in the design or redesign of products and processes that are cleaner, more cost-effective, and safer for workers and the public.

The DfE process promotes voluntary environmental improvement by addressing industries' need for key information on how to incorporate environmental concerns into business decisions. The process systematically:

- Identifies the array of technologies, products, and processes that can be used to perform a particular function within an industry and related pollution prevention opportunities.
- Evaluates and compares the risk, performance, and cost tradeoffs of the alternatives.
- Disseminates this information to the entire industry community.
- Encourages and enables use of this information by providing mechanisms and incentives to institutionalize continuous environmental improvement.

Why Design for the Environment?

DfE provides decision-makers with information, tools, and incentives to make informed decisions that integrate risk, performance, and cost concerns. A DfE project potentially provides many benefits, including:

- Reduced health, safety, and ecological risks.
- Increased efficiency and customer acceptance.
- Improved worker morale and productivity.
- Reduced regulatory burden.
- Improved channels of communication, cooperation, and collaboration among stakeholder organizations.
- Expanded business and market opportunities.

Program History

DfE's Mission / Vision | What is DfE? | Program History | Partners | Internships | Related Programs

In the early 1990s, manufacturers started thinking in terms of "design for" qualities or traits in their products and processes. At the same time, views on risk management began shifting to approaches that promote risk reduction through pollution prevention (also known as source reduction). EPA recognized the need to develop a cleaner, safer technologies program to work with industry to design products, processes, and technologies that are competitive but environmentally preferable. Several non-regulatory, voluntary initiatives on safer chemical synthesis, comparative risk analysis, and alternative technology development merged to create the EPA's Design for the Environment (DfE) Program.

DfE was created as a voluntary program that:

- Champions risk reduction through pollution prevention approaches.
- Empowers industry to articulate and meet environmental goals.
- Integrates environmental, economic, and performance objectives into the redesign of product processes and management systems.
- Creates new government and stakeholder partnerships.

DfE was created to build on the current industry trends to incorporate environmental factors into design decisions. Today's businesses face a variety of challenges, including:

- Maintaining high quality at low cost.
- Staying competitive in a global marketplace.
- Meeting consumer demands for products that are less harmful to the public and to the environment.

The DfE Program provides a context to translate pollution prevention into cost-effective alternatives for industry by:

- Developing and implementing integrated approaches for risk management.
- Coordinating actions with industry sectors, state and local governments, and academic groups that support pollution prevention.
- Making comprehensive, comparative multimedia risk information accessible.
- Identifying incentives to encourage investment in pollution prevention.
- Placing information into a risk-based business focus context.
- Creating customized, user-friendly information products, such as case studies, fact sheets, and Web-based virtual pages.

Since 1992, the DfE Program has worked with more than 18 industrial sectors to empower industry to incorporate environmental considerations, along with performance and cost considerations, into decision-making processes. By doing so, companies provide environmental protection more effectively and efficiently by using cleaner technologies. This Web site highlights findings and impacts of the DfE Program.

Approaches & Tools

How to Partner | CTSA | IEMS | LCA | Formulator Initiative | Best Shop Practices | Greening the Supply Chain | Other Related Tools

DfE partners with a wide variety of industry sectors that share a common goal: development of cleaner, safer, and cheaper processes and technologies. The partnerships do not necessarily use the same approaches to achieve this goal, however. A DfE partnership utilizes one or more of the following approaches:

- Cleaner Technologies Substitutes Assessment (CTSA)
- Integrated Environmental Management System (IEMS)
- Life-Cycle Assessment (LCA)
- Formulator Initiative
- Best Shop Practices
- Greening the Supply Chain
- Other Related Tools

The first step in any approach is forming an industry-wide partnership. If a particular company believes its industry can benefit from a DfE project, it should bring this to the attention of an appropriate association (technical or trade) to see if broader industry interest exists and develop a partnership proposal for DfE.

Partners

DfE's Mission / Vision | What is DfE? | Program History | Partners | Internships | Related Programs

- Adhesives Technologies Partnership
- Automotive Refinishing Partnership
- Computer Display Partnership
- Flexographic Printing Partnership
- Formulator Initiative
- Garment & Textile Care Partnership
- Gravure Printing Partnership
- Industrial & Institutional Laundry Partnership
- Integrated Environmental Management Systems
- Lithographic Printing Partnership
- Printed Wiring Board Partnership
- Screen Printing Partnership

How to Partner

How to Partner | CTSA | IEMS | LCA | Formulator Initiative | Best Shop Practices | Greening the Supply Chain | Other Related Tools

How does the DfE Program partner with businesses?

How does a business start designing for the environment?

What are the criteria for a DfE partnership?

What are the expectations for a DfE partnership?

How does the DfE Program partner with businesses?

The DfE Program forms voluntary partnerships with industry sectors, usually through industry leaders, and trade or technical associations. These partnerships also might include public interest groups, universities, research institutions, and other government agencies at the federal, state, and local level.

For each partnership, DfE ensures that information on traditional and alternative technologies reaches the people who make the decisions, such as managers, engineers, buyers, and product or chemical end users. DfE provides these individuals with a variety of materials and tools, such as fact sheets, bulletins, case studies, software, videos, and training manuals. These materials are distributed throughout the industry so that companies can make more informed decisions that reduce risks to workers and the environment and even boost a business' bottom line.

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How does a business start designing for the environment?

A business can initiate a DfE project on its own or collaborate with the assistance of its industry trade or technical association. Associations can provide financial resources and share information, including incentives to making changes and the recognition of businesses that have overcome obstacles. If a particular company believes that its industry can benefit from a DfE project, it should bring this to the attention of an appropriate association to see if broader industry interest exists. Associations are encouraged to contact the DfE Program for information on how to either propose a partnership with EPA or initiate projects on their own. Businesses can also design for the environment on their own using the models and templates developed by the DfE Program.

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What are the criteria for a DfE partnership?

A partnership proposal should fulfill three critical criteria for the DfE Program to consider a potential partnership. These criteria are:

- **CRITERIA 1:** A potential risk or risks to human health or the environment has been identified.
- **CRITERIA 2:** DfE's risk reduction through pollution prevention approaches are applicable and likely to identify solutions and recommendations. Possible solutions are viable, and goals are realistic.
- **CRITERIA 3:** Potential partners are willing to engage in a DfE partnership and believe in the value of the DfE approach. Potential partners show commitment and the organizational ability to involve external partners such as active business leaders and trade associations.

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What are the expectations for a DfE partnership?

- Evaluate the human health and environmental impacts of a business' processes and products.
- Identify information needed to make environmental and human health decisions.
- Conduct an assessment of alternatives.
- Consider cross-media impacts and the benefits of substituting chemicals.
- Reduce the use and release of toxic chemicals through innovation of cleaner technologies that use safer chemicals.
- Implement pollution prevention, energy efficiency, and other resource conservation measures.
- Make products that can be reused, refurbished, remanufactured, or recycled.
- Monitor the environmental impacts and costs associated with each product or process.
- Recognize that although change can be rapid, in many cases, there is the need to adopt a cycle of evaluation and continuous improvement.

For more information on how to partner, contact DfE.

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GREEN CHEMISTRY

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Green Chemistry Program Fact Sheet

Chemistry Designed for the Environment

WHAT IS GREEN CHEMISTRY?

Green Chemistry is the use of chemistry for pollution prevention. More specifically, green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances.

By offering environmentally benign alternatives to the more hazardous chemicals and processes that are often used in both consumer and industrial applications, green chemistry is promoting pollution prevention at the molecular level.

GREEN CHEMISTRY FOCUS AREAS

Green chemistry technologies can be categorized into one or more of the following three focus areas:

- The use of alternative synthetic pathways for green chemistry
- The use of alternative reaction conditions for green chemistry
- The design of safer chemicals that are, for example, less toxic than current alternatives or inherently safer with regard to accident potential.

GREEN CHEMISTRY

THE GREEN CHEMISTRY PROGRAM

The Pollution Prevention Act established a national policy to prevent or reduce pollution at its source whenever feasible. The Pollution Prevention Act also provided an opportunity to expand beyond traditional EPA programs and devise creative strategies to protect human health and the environment. A highly effective approach to pollution prevention, green chemistry applies innovative scientific solutions to real-world environmental situations, all through voluntary partnership programs. This innovative approach to pollution prevention through the environmentally conscious design of chemical products and processes is the central focus of EPA's Green Chemistry Program, an initiative under EPA's Design for the Environment Program.

HOW WAS THE GREEN CHEMISTRY PROGRAM STARTED?

Shortly after the passage of the Pollution Prevention Act of 1990, EPA's Office of Pollution Prevention and Toxics (OPPT) began to explore the idea of developing new or improving existing chemical products and processes to make them less hazardous to human health and the environment. In 1991, OPPT launched the model research grants program "Alternative Synthetic Pathways for Pollution Prevention". This program provided, for the first time, grants for research projects that included pollution prevention in the synthesis of chemicals. Since that time the Green Chemistry Program has built collaborations with many partners to promote pollution prevention through green chemistry. Partnering organizations represent academia, industry, other government agencies, and non-governmental organizations.

WHAT IS EPA DOING TO PROMOTE GREEN CHEMISTRY?

The goal of EPA's Green Chemistry Program is to promote the research, development, and implementation of innovative chemical technologies that accomplish pollution prevention in both a scientifically sound and cost-effective manner. To accomplish its goals, the Green Chemistry Program recognizes and supports chemical technologies that reduce or eliminate the use or generation of hazardous substances during the design, manufacture, and use of chemical products and processes. More specifically, the Green Chemistry Program supports fundamental research in the area of environmentally benign chemistry as well as a variety of educational activities, international initiatives, conferences and meetings, and green chemistry tools. The program is composed of four major program areas including green chemistry research, the Presidential Green Chemistry Challenge, green chemistry education, and scientific outreach.

GREEN CHEMISTRY RESEARCH

EPA's Green Chemistry Program supports basic research in green chemistry in order to provide the chemical tools and methods necessary to design and develop products and processes that are more environmentally benign. In 1992, EPA awarded six grants to fund basic research projects that consider impacts to human health and the environment in the design of chemical syntheses. In 1992 and 1994, EPA's Office of Pollution Prevention and Toxics and Office of Research and Development, respectively, signed Memoranda of Understanding with the National Science Foundation (NSF) to jointly fund green chemistry research. These initial activities were the beginning of the establishment of a number of research opportunities that have, to date, awarded tens of millions of dollars in the form of grants for basic research in green chemistry. These opportunities include a number of industry/university/government consortia. In addition, EPA's Small Business Innovation Research Program (SBIR) includes green chemistry in its research grants solicitation, as does the EPA/NSF "Technologies for a Sustainable Environment" solicitation offered every 1-2 years.

PRESIDENTIAL GREEN CHEMISTRY CHALLENGE

The Presidential Green Chemistry Challenge promotes pollution prevention and industrial ecology through an EPA Design for the Environment partnership with the chemical industry. Through high level recognition and support, the Presidential Green Chemistry Challenge promotes innovative developments in and uses of green chemistry for pollution prevention. The Presidential Green Chemistry Challenge recognizes outstanding accomplishments in green chemistry through an annual awards program; it also supports innovative research in green chemistry through the EPA/NSF "Technologies for a Sustainable Environment" solicitation. The green chemical technologies recognized and supported by the Presidential Green Chemistry Challenge are scientifically sound, are economically viable, and directly reduce risks to human health and the environment by reducing the hazards associated with the design, manufacture, and use of chemicals.

GREEN CHEMISTRY EDUCATION ACTIVITIES

In order for green chemistry to be incorporated effectively into chemical product and process design, it first must be incorporated into the education system. For green chemistry to become widely adopted and practiced, chemists must be formally educated about green chemistry during both their academic and professional training. To accomplish this, EPA's Green Chemistry Program supports a variety of educational efforts that include the development of materials and courses to assist in the training of professional chemists in industry and education of students in academia. EPA's primary partner in these efforts is the American Chemical Society (ACS).

SCIENTIFIC OUTREACH

In order for green chemistry to become standard practice in industry, academia, and government, EPA's Green Chemistry Program is working to communicate both the concept and the science at all levels of chemical education, to all sectors of industry, to decision- and policy-makers, and to the scientific community in general. EPA's Green Chemistry Program supports a number of outreach projects that include organizing and participating in prominent meetings and conferences, such as the National Green Chemistry and Engineering Conference and the Gordon Research Conference on Green Chemistry; publishing in scientific journals and books; and developing and disseminating computational tools and databases.

Office of Pollution
Prevention and
Toxics (7406M)
EPA 742-F-02-003
March 2002

Visit EPA's Green Chemistry Program Web Site
for further details and future updates

www.epa.gov/greenchemistry

Printed on paper that contains at least 50 percent postconsumer fiber.

What is Green Chemistry

Introduction

The Pollution Prevention Act of 1990 established a national policy to prevent or reduce pollution at its source whenever feasible. The Pollution Prevention Act also provided an opportunity to expand beyond traditional EPA programs and devise creative strategies to protect human health and the environment. Green chemistry is the use of chemistry for pollution prevention. More specifically, green chemistry is the design of chemical products and processes that reduce or eliminate the use and generation of hazardous substances. Green chemistry is a highly effective approach to pollution prevention because it applies innovative scientific solutions to real-world environmental situations. Promoting this new approach to pollution prevention through the environmentally conscious design of chemical products and processes is the focus of EPA's Green Chemistry Program, an initiative under the EPA's Design for the Environment Program.

For more information see:
Green Chemistry Program Fact Sheet (31 KB, PDF, English)
Folleto de informatión sobre la química verde (50 KB, PDF, Spanish)

PLEASE NOTE: Some of the documents mentioned in this Section are in Adobe's Portable Document Format (PDF). To view or print them you will need to have the Adobe Acrobat Reader program installed on your computer. The Reader can be downloaded and used with no charge; check here for more information on the Adobe Acrobat Reader

History

Shortly after the passage of the Pollution Prevention Act of 1990, the Office of Pollution Prevention and Toxics (OPPT) explored the idea of developing new or improving existing chemical products and processes to make them less hazardous to human health and the environment. In 1991, OPPT launched a model research grants program called "Alternative Synthetic Pathways for Pollution Prevention". This program provided unprecedented grants for research projects that include pollution prevention in the design and synthesis of chemicals. Since then, the Green Chemistry Program has built many collaborations with academia, industry, other government agencies, and non-government organizations to promote the use of chemistry for pollution prevention through completely voluntary, non-regulatory partnerships.

Goals

EPA's Green Chemistry Program promotes the research, development, and implementation of innovative chemical technologies that accomplish pollution prevention in a scientifically sound and cost-effective manner. To accomplish these goals, the Green Chemistry Program recognizes and supports chemical technologies that reduce or eliminate the use or generation of hazardous substances during the design, manufacture, and

use of chemical products and processes. More specifically, the Green Chemistry Program supports fundamental research in the area of environmentally benign chemistry as well as a variety of educational activities, international activities, conferences and meetings, and tool development, all through voluntary partnerships with academia, industry, other government agencies, and non-government organizations.

Partnerships

EPA's Green Chemistry Program works with many partners to promote pollution prevention through green chemistry. Partnering organizations represent academia, industry, other government agencies, scientific societies, trade organizations, national laboratories, and research centers. Specific partners of EPA's Green Chemistry Program are listed below.

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Scientific Organizations

American Chemical Society (ACS) EXIT disclaimer
Council for Chemical Research (CCR) EXIT disclaimer
International Union of Pure and Applied Chemistry (IUPAC) EXIT disclaimer
National Research Council (NRC) EXIT disclaimer
National Science Foundation (NSF) EXIT disclaimer
Society for Environmental Toxicology and Chemistry (SETAC) EXIT disclaimer

Industry

The BF Goodrich Company EXIT disclaimer
The Dow Chemical Company EXIT disclaimer
Dow Corning Corporation EXIT disclaimer
E.I. DuPont de Nemours EXIT disclaimer
Eastman Kodak Company EXIT disclaimer
Polaroid Corporation EXIT disclaimer
Rochester Midland Corporation EXIT disclaimer
Solutia EXIT disclaimer

Trade Associations

American Petroleum Institute (API) EXIT disclaimer
American Chemistry Council EXIT disclaimer
Society of the Plastics Industry (SPI) EXIT disclaimer

Academia

National Autonomous University of Mexico (English) EXIT disclaimer
Universidad Nacional Autónoma de México (Spanish) EXIT disclaimer
University of Massachusetts, Boston EXIT disclaimer
University of South Alabama EXIT disclaimer

Education Centers

Center for Sustainable Systems EXIT disclaimer
Partnership for Environmental Technology Education EXIT disclaimer

Research Centers

Center for Process Analytical Chemistry (CPAC) EXIT disclaimer
at the University of Washington
Emission Reduction Research Center (ERRC) EXIT disclaimer
at the New Jersey Institute of Technology
Green Chemistry Institute (GCI) EXIT disclaimer
National Environmental Technology Institute (NETI) EXIT disclaimer
at the University of Massachusetts, Amerst
Toxics Use Reduction Institute (TURI) EXIT disclaimer
at the University of Massachusetts, Lowell

Government

Environmental Council of the States (ECOS) EXIT disclaimer
Environment Canada EXIT disclaimer
National Institute of Standards and Technology (NIST) EXIT disclaimer
National Technical Information Service (NTIS) EXIT disclaimer
U.S. Department of Energy (DOE) EXIT disclaimer

National Laboratories

Los Alamos National Laboratory (LANL) EXIT disclaimer
National Renewable Energy Laboratory (NREL) EXIT disclaimer

Environmental Groups

Environmental Defense (EDF) EXIT disclaimer

International Organizations

Center for Green Chemistry EXIT disclaimer (Australia)
Inter-university Consortium: Chemistry for the Environment EXIT disclaimer
(Italy)
International Union of Pure and Applied Chemistry (IUPAC) EXIT disclaimer
Organization for Economic Cooperation & Development (OECD)
EXIT disclaimer
Green & Sustainable Chemistry Network EXIT disclaimer (GSCN, Japan)
Royal Australian Chemistry Institute (RACI) EXIT disclaimer
Royal Society of Chemistry (RSC) EXIT disclaimer (Great Britain)

Journals

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at: http://www.epa.gov/greenchemistry/whats_gc.html

Tools and Literature

Expert System | Literature Database

Green Chemistry Expert System

The Green Chemistry Expert System (GCES) allows users to build a green chemical process, design a green chemical, or survey the field of green chemistry. The system is equally useful for new and existing chemicals and their synthetic processes. It includes extensive documentation.

Click here for instructions and to download the Green Chemistry Expert System.

The GCES features are contained in five modules:

- The Synthetic Methodology Assessment for Reduction Techniques (SMART) module quantifies and categorizes the hazardous substances used in or generated by a chemical reaction, based on information entered by the user. Reactions can be modified in the SMART module and re-evaluated to optimize their green nature.
- The Green Synthetic Reactions module provides technical information on green synthetic methods.
- The Designing Safer Chemicals module includes guidance on how chemical substances can be modified to make them safer; it is organized by chemical class, properties, and use.
- The Green Solvents/Reaction Conditions module contains technical information on green alternatives to traditional solvent systems. This module also allows users to search for green substitute solvents based on physicochemical properties.
- The Green Chemistry References module allows the user to obtain additional information using a number of search strategies. The user may also add references to this module.

Green Chemistry Literature Database

EPA's Green Chemistry Program is currently compiling and organizing journals articles into specific sub-topics for a literature database on the subject. Topic areas include alternative synthesis methods, catalysis, reaction conditions, and alternative solvents. The goal of this database is to have a compilation of green chemistry literature which is publicly accessible.

SECTOR STRATEGIES PROGRAM

SectorStrategies
Insight • Innovation • Results

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SectorStrategies

Insight • Innovation • Results

EPA's **Sector Strategies Program** seeks industry-wide environmental gains through innovative actions taken with a number of manufacturing and service sectors. The Office of Policy, Economics and Innovation (OPEI) works with participating trade associations, EPA programs and regions, states, and other groups to find sensible solutions to sector-specific problems. The Program was established in June of 2003.

Sector Strategies Program Rollout Announcement [May 2003].

OPEI staff members serve as *sector points-of-contact*. They develop expertise in the operations and issues of each industry. They assess opportunities to improve environmental performance while reducing regulatory burden. They connect with the right individuals to plan and implement initiatives for each sector.

The program focuses on three priority areas:

- *Promoting environmental management systems.* Sector teams work with trade associations to develop and implement a plan for delivering needed outreach, training resources, and support to build a 'business case' for EMS.
- *Overcoming regulatory or other barriers to performance improvement.* Sector teams address the most significant impediments to better industry-wide performance. Each sector point-of-contact also can serve as a liaison between trade associations and assistance providers in EPA and states.
- *Performance measurement.* Sector teams explore creative ways to measure and report industry-wide environmental and economic progress using performance indicators, success stories, and other tools.

OPEI works with 12 partner sectors for the **Sector Strategies Program**: Agribusiness, Cement Manufacturing, Colleges & Universities, Construction, Forest Products, Iron & Steel Manufacturing, Metal Casting, Metal Finishing, Paint & Coatings, Ports, Shipbuilding & Ship Repair, and Specialty-Batch Chemical Manufacturing.

Specialty-Batch Chemicals

The Sector

Specialty-batch chemicals represent an important segment of the chemical industry. From pharmaceuticals to cosmetics, soaps to plastics, and all manner of industrial and construction products, materials produced by the specialty-batch chemical manufacturing industry save lives, make our food supply safe and abundant, and enable the manufacture of literally thousands of other products. The specialty-batch chemical sector is characterized by: batch processing; the manufacture of intermediate and custom formulations, as well as specialized end-use products; an emphasis on product differentiation and performance; and in general, the production of products in relatively small volumes and the sale of these products at a higher profit margin than commodity or bulk chemicals, although this may vary widely for different types of specialty-batch chemicals.

The specialty batch chemical manufacturing sector utilizes Responsible Care ®, a voluntary program to help manage the sector's generation of air emissions, wastewater and hazardous waste, as well as health and safety impacts. Over 5000 companies, many of them small facilities, have sales of over $80 billion dollars a year and are located all over the United States with many companies in California, Texas, New Jersey, New York, Illinois, North Carolina, Georgia, and Louisiana.

Our Work

We have been working with the specialty-batch chemical manufacturing sector for several years. Our work has focused on addressing regulatory or other government barriers to improved environmental performance, helping to expand the use of Environmental Management Systems (EMS) as a tool to achieve better performance, and measuring sector-wide performance improvements. Below are key resources for the sector, including background information on the sector from the initial stages of our partnership, and a summary from the "Specialty Batch Chemical Sector Environmental Forum."

Principle Findings: The US Specialty-Batch Chemical Sector [**PDF**; 211 KB]
This background document is the result of the research and validation phases of the sustainable industry process. An overview of the specialty-batch chemicals sector, this document also characterizes the traits, trends, drivers and barriers to environmental and economic performance.

Specialty Batch Chemical Sector Environmental Forum [**PDF**; 223 KB]
On September 4-5, 2002, EPA and SOCMA partnered to hold the "Specialty Batch Chemical Sector Environmental Forum." The Forum was designed to promote dialogue between federal and state regulators and industry leaders on the environmental opportunities and challenges facing the specialty batch chemical sector. The "Summary of Proceedings" from the Forum details the highlights of the forum including a presentation on SOCMA's Responsible Care® program, as well as a panel discussion on EPA voluntary programs and how they can help specialty-batch chemical companies to continuously improve their environmental performance.

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