



*SUSTAINABLE  
ENVIRONMENT  
for QUALITY of LIFE*



## DESIGN FOR THE ENVIRONMENT

### What is it?

The Design for the Environment (DfE) program is one of EPA's premier partnership programs, working with individual industry sectors to compare and improve the performance and human health and environmental risks and costs of existing and alternative products, processes, and practices. DfE partnership projects promote integrating cleaner, cheaper, and smarter solutions into everyday business practices.

EPA also supports using "benign by design" principles in the design, manufacture, and use of chemicals and chemical processes—a concept known as "green chemistry." EPA's Green Chemistry Program promotes the research, development, and implementation of innovative chemical technologies that prevent pollution in both a scientifically sound and cost-effective manner. In addition, EPA's emerging Green Engineering Program strives to help academia introduce a "green" philosophy into undergraduate chemical engineering curricula. The DfE Program works with these and other related programs. SEQL participated in a DfE program for owners of auto body shops.

### Shared Impact and Benefits

Automotive refinishers, who spray-paint cars, use harmful chemicals, including:

- Diisocyanates, the leading cause of occupational asthma.
- Solvents, volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) linked to numerous health effects.

The Design for the Environment program teaches auto body refinishing shops owners and staff how to mitigate the release of these harmful chemicals into the air.

The safe disposal of airborne pollutants means that the air is better to breathe for everyone, including the workers in the industry. That can lead not only to better community health, but to fewer sick days of workers, and higher productivity.



This Action Item can be implemented as a

- POLICY
- ORDINANCE
- PROGRAM



## The Bottom Line

Industries as large as major chemical producers and as small as auto body shops all have an impact on the environment, if their work involves airborne or waterborne toxics. Participating in DfE or similar programs mean safer operations, more efficient processes, better public image, and a cleaner environment.

**Interested? Read on!**



## Basic Information

DfE is a program of EPA's Office of Pollution Prevention and Toxics. It focuses on developing and disseminating best practices involving the use of chemicals in manufacturing and the release of harmful pollutants through industrial or service processes. It's a "front-end," preventive program, done in partnership with industries. Ideas for DfE projects can originate with industry or EPA.

The DfE Program is working with the automotive repair industry and individual shops to increase awareness of the health and environmental concerns associated with refinishing activities and to identify and encourage the use of safer, cleaner, more efficient practices and technologies.

The strategy is straightforward: best practices and use of more efficient equipment, such as HVLP spray guns, will help prevent pollution before it is created, and appropriate protective equipment and will reduce worker and environmental exposure and risk.

DfE partner shops serve as resources and consultants, providing real world perspectives on health and safety matters in the shop and making improvements.

## How long does this take to implement?

Again, this will vary depending on the stage of research of the industry, EPA's resources and existing involvement, and the complexity of the issue. If you see a need for a project, though, it's never too soon to start discussing the need for more environmentally-friendly processes and operations.

## Who needs to be involved in implementation?

- State and local environmental engineering experts
- Chamber of Commerce and business leaders
- Businesses engaged in fields that involve toxic chemicals
- Community colleges or universities

## FAQs

**Q: I thought DfE was just for auto refinishing. Is it?**

**A:** DfE currently has projects ongoing in several industry sectors. These include not only auto refinishing, but also formulators, lead-free solder, safer detergents, flame retardants in the printed circuit board and furniture industries, wire and cable projects, and even chemical safety in nail salons! For more information about each of these, check out [www.epa.gov/oppt/dfepubs/projects/index.htm](http://www.epa.gov/oppt/dfepubs/projects/index.htm).

**Q: What's the role of local community colleges or four-year institutions in DfE?**

**A:** In the SEQL region, local community colleges helped to promote and sponsor the educational outreach to auto refinishing shops. They provided the registration and other logistical support for the classroom portion of the program.

**Q: How can I get involved in DfE if I'm in an industry that's part of one of their current projects?**

**A:** The best way is to contact the DfE representative listed on EPA's website. These persons can be found at [www.epa.gov/dfepubs/contacts.htm#partner](http://www.epa.gov/dfepubs/contacts.htm#partner).

**Q: What if I'm in an industry and I think DfE could help me?**

**A:** Check out [www.epa.gov/dfepubs/about.htm](http://www.epa.gov/dfepubs/about.htm) for information on "How to Partner." The best way to get involved, if you think you have a good DfE partnership, is to contact the leadership of your professional association or industry group, or contact your peers in the area and share your idea. Then contact your DfE representative. If you don't see someone's name listed on the EPA website for your particular industry, contact Clive Davies, the "How to Partner" contact.

## Costs

The costs of the partnership will vary and include data collection and time participating in meetings and training on safer practices. Sometimes, equipment must be modified or purchased; however, in some cases equipment that is less-polluting is also more efficient. In some cases, grant funds may be available to assist with program implementation, but this should not be the primary driver for engaging in DfE.