



## Advancing DfE and Green Chemistry in Government Summary Paper

**GC3** Green Chemistry &  
Commerce Council

### **Accomplishments:**

The Advancing Design for Environment and Green Chemistry Workgroup of the GC3 focused most of its attention on strengthening the implementation of government level DfE activities, particularly those of EPA. Many of the group's discussions revolved around the structure and functioning of the EPA's DfE program, DfE labeling for industrial cleaners, and other efforts. Less attention was paid to the issue of green chemistry implementation in EPA and the current green chemistry research bill in the Congress.

A key accomplishment of the group was its development of a February 1, 2007 a letter of support for the U.S. EPA Design for the Environment Program. This letter was sent to Steve Johnson, Administrator for the U.S. EPA and cc'd to the House Interior, Environment and Related Agencies Subcommittee and the Senate Interior, Environment Subcommittee. It was signed by 25 organizations who gave their support to the content of the letter.

Please see Appendix I for a copy of the letter. Please see Appendix II for a recent article from "Inside EPA" that describes how the DfE contributed up to 40% of the value to the agency's voluntary programs, giving them the third highest rating in the EPA based on the OMB Program Assessment Rating Tool (PART) evaluation. The article quotes Joel Tickner and Dave Long and mentions the letter and the work of the GC3.

An acknowledgement letter was sent by James Gulliford, Deputy EPA Administrator in response to the DfE letter and Joel Tickner is currently in the process of scheduling time with Charlie Auer to discuss EPA work and the DfE Program. Additional follow up with Congressional staff is also planned.

### **Potential Next Steps:**

We have discussed several possible next steps:

1. Group participants could approach the states to provide information on DfE (and green chemistry) and to advocate for the value of the DfE approach and for the positive recognition of products that go through DfE review. California has proposed legislation that would create a CA State Design for the Environment Program (SB291). A DfE program would grow out of the perceived value of the federal DfE program and State programs such as the MA Toxics Use Reduction Institute in Lowell. This would advance

DfE at the state level and advance the acceptance of DfE recognized products nationally. This may also affect the generation of innovative state level policy.

2. Work to promote environmentally preferable product purchasing and the inclusion of DfE reviewed products along with EcoLogo and Green Seal ecolabeled products. There was agreement that having options of robust product review and recognition programs is a good thing with respect to creating competition in the marketplace and advancing the development of green chemistry products. As part of this work, it was suggested that the group could collaborate with the International Sanitary Supplier Association (ISSA) who tracks environmentally preferable product purchasing solicitations.
3. Review and describe DfE program output in general and boost the transparency and flexibility of the DfE methodology. There are several projects (in various sectors) within DfE and it would be useful to better broadcast the information, protocols and frameworks that have been developed through these projects which provide:
  - a. Technical data and information including chemical assessments and reports on chemicals and chemical products such as flame retardants used for furniture and electronics
  - b. Tools, strategies and protocols that consider the lifecycle perspective for
    - i. Chemical assessment
    - ii. Product assessment
    - iii. Identification of industry sector best practices
4. Discuss the relationship between green chemistry and DfE and ways to jointly advance these two areas in government and commerce.
5. Generate additional outreach materials to explain:
  - The business case for the DfE approach including synergy with
    - Investor programs and
    - Potential benefits to companies who invest in this direction
  - The identification of need for specific chemical hazard information
  - How to make better products from the
    - Chemical perspective
    - Lifecycle of chemicals and materials perspective
  - How to describe DfE as an approach
  - How to describe how the DfE approach compares to ecolabels and standards when applied to the review of individual products

We would like to obtain from the meeting a sense of the priorities for next steps.

## Appendix I



February 1, 2007

Steve Johnson, Administrator  
U.S. Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Mr. Johnson,

We, the members of the Green Chemistry and Commerce Council (GC3), write today to encourage you to fully support financially the U.S. EPA's Design for the Environment Program (DfE). The DfE Program is uniquely suited to help accelerate progress in sustainability by working with industry sectors including chemical manufacturers, formulators and chemical users – a huge segment of industry. DfE's distinctive qualifications are based partly on its location in your organization.

The GC3 is a voluntary arena for representatives from approximately 60 US companies invested in greening their supply chains to meet, talk, and learn from the experiences of other firms participating in this endeavor. Our mission is to promote and support green chemistry and DfE research, practices, and purchases nationally among states, federal agencies, and other companies by:

- Implementing green chemistry, green engineering and design for environment throughout supply chains and share strategies to overcome barriers;
- Promote education and information on safer chemicals and products than can increase demand by broad range of consumers; and
- Identifying existing and needed information on toxics hazards, risks, exposures and safer alternatives to promote "green chemistry" as defined by the 12 Principles of Green Chemistry.

In addition to businesses, the GC3 includes a broad range of participants with expertise and interest in sustainability and green chemistry from academia and non-governmental organizations.



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The organizations participating in the GC3 recognize that there is a growing market for safer products and green chemistries. As leaders in our fields, we also recognize that we must work in partnership with others to both create sustainable supply chains and differentiate our products as being truly sustainable. Our goal is to move beyond compliance with regulatory requirements to innovative product design and stewardship for the 21<sup>st</sup> century. We appreciate the fact that DfE encourages and recognizes greener chemistry, and provides industry with a credible touchstone that lets us know (and helps us communicate internally and externally) when we have innovated successfully and are on the road to sustainability. We would like to have greater access to DfE Programs so that we can show progress in developing and using green chemistries and continue to lead change in our diverse industrial sectors.

DfE's unique capacity is due in part to its strategic partnerships within the EPA. Because DfE is co-located with the New Chemicals Program in the Office of Pollution Prevention and Toxics, it has access to the technical tools and expertise of that program. DfE uses these tools to assess the environmental profiles of chemicals in commerce and safer alternatives, and then disseminates these findings. Because DfE develops this information in a multi-stakeholder context, with environmental advocates, as well as businesses, business leaders can take action with confidence. Chemical manufacturers and users can act on DfE Partnership generated information to make and use chemicals that protect the environment and human health. Businesses who participate in the DfE Partnership and act on information developed therein are recognized as leaders, both by EPA and the environmental community.

The impact of your DfE program is impressive. One example is DfE's Furniture Flame Retardancy Partnership. Pentabromodiphenyl ether - the flame retardant used to make furniture foam fire-safe - is found in increasing amounts in people and the environment. When the manufacturer of pentaBDE agreed to a voluntary phase-out of this chemical, the furniture industry and the chemical industry joined with DfE and environmental groups to evaluate alternatives. Over the course of a few months, the DfE partnership enabled the industry to protect property and save lives with alternative flame retardants that were also safer for the environment.

DfE Partnerships encourage innovation in chemical products that help protect the environment, while meeting or exceeding performance demands and providing a market advantage. For example, the DfE Formulator Program partners with formulators of products— ranging from cleaners to holding tank treatments to aircraft conversion coatings— to identify formulations that are less toxic to humans and the environment throughout their lifecycle. The Formulator Program provides recognition for those products that are the best in their class with respect to functionality and green chemistry. As participants in the program, we know that DfE understands that change is difficult and formulation chemistry is complex, as are the technical and business challenges we face as manufacturers as we optimize and balance performance, cost, and environmental concerns. That is why DfE technical assistance and expertise is so valuable to us: it is scientifically rigorous and credible. Leaders in industry and environmental advocates alike highly value DfE partnerships because they offer meaningful information, technical guidance and even recognition for products that are safer for the environment and human health.

We congratulate you on the success of your DfE Program in protecting the environment and human health. We understand that measurement of environmental results is critical to EPA programs. We know first hand that DfE produces measurable results and that through DfE we are partners with EPA in achieving and reporting those results. By helping firms who are truly committed to protecting the environment differentiate themselves as leaders in sustainability, DfE helps us grow our businesses and we help EPA report improved environmental results.

We believe that the DfE program should be a high priority in your Agency and that DfE should be provided with greater resources to enable the program to broaden its beneficial impact both on the environment and on business. We would welcome the opportunity for an in-person meeting to present the case for DfE resources. The Lowell Center for Sustainable Production is serving as the main contact for the GC3; in the case that a meeting is possible, please contact Dr. Joel Tickner at (978) 934-2981 or [Joel.Tickner@uml.edu](mailto:Joel.Tickner@uml.edu).

Sincerely,

Lowell Center for Sustainable Production

The following organizations, as part of the GC3, give their support to the content of this letter:

Alpha Gary Corporation  
Paul Anastas, PhD, Green Chemistry Institute  
Columbia Forest Products  
CommonWealth Biofuels LLC  
Corporate Express/Coastwide Laboratories  
Crypton, Inc.  
Berkeley W. Cue, PhD, Private Consultant  
Daley International  
Five Winds International, Inc.  
Green Blue Institute  
Hewlett-Packard Company  
Andrea Larson, PhD, Associate Professor, Graduate School of Business Administration,  
University of Virginia  
Massachusetts Toxic Use Reduction Institute  
McDonough Braungart Design Chemistry (MBDC)  
Method Home Products Inc.  
Nike  
Pure Strategies, Inc.  
Beth Rosenberg, ScD MPH, Tufts School of Medicine  
SC Johnson & Son Inc.  
Seventh Generation, Inc.  
Shaw Industries  
Supresta  
Sustainable Research Group  
Sysco Corporation  
Tyco Electronics/MA-Com

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Sen. Judd Gregg  
Sen. Wayne Allard  
Sen. Lamar Alexander

## Appendix II

### Article about DfE from “Inside EPA” publication – March 28, 2007:

Green Chemistry Rating May Aid Embattled EPA Voluntary Programs March 28, 2007 (from the Bureau of National Affairs)

The Environmental Protection Agency’s voluntary green chemistry program “design for the environment” (DfE) contributed significantly to the agency’s pollution prevention (P2) program, which received the third highest rating among all agency programs by a White House Office of Management & Budget (OMB) review, a boon for agency partnerships with businesses at a time when such voluntary programs are facing criticism.

The favorable OMB review is significant because it comes at a time when EPA’s Inspector General is expected to criticize agency voluntary programs in an upcoming review, and some members of Congress are questioning the value of putting funds into voluntary programs when regulatory programs are facing budget cuts.

Businesses and environmentalists are supporting DfE as a key sustainability program and the strong OMB showing of the P2 program bolsters the supporters’ view that DfE deserves more funding. One policy expert who works with environmentalists and companies says the success of the P2 program should prompt similar voluntary programs.

DfE is part of the agency’s P2 program—housed within the Office of Pollution Prevention & Toxics (OPPT). Under the OMB Program Assessment Rating Tool (PART) evaluation, P2 received an 83 percent overall score.

Only the EPA leaking underground storage tank cleanup program and acid rain trading received higher ratings than the P2 program. In addition to its 83 percent score, the P2 program was given a “moderately effective” rating, just below the highest rating of “effective.”

The P2 DfE program “was a key factor in the PART” review, explains an EPA official, noting that the DfE performance measures were 40 percent of the P2 PART score. “We’ve had a lot of attention recently in part because a number of states are considering environmentally preferable purchasing and our program is one way to do that,” the official adds.

For example, in late February, California Sen. Joe Simitian (D) introduced a state bill, SB291, that proposes to establish a DfE program in California modeled on EPA’s program. Also, in limiting volatile organic chemical (VOC) content in cleaning products, the state is considering restrictions on VOCs coupled with a whole-product-profile review based on a program such as DfE, according to the agency official.

PART was developed following the Government Performance & Results Act of 1992, which called for all federal agencies to develop strategic plans to achieve performance results, a response to criticisms that government programs were engaged in costly activities that failed to demonstrate any clear benefits. In PART reviews, programs are asked to define their specific purpose, to specify the “existing problem, interest, or need” the program is addressing, what annual performance measures it is using, and dozens of other questions. Programs are given quantitative scores, depending on their answers.

The 2006 PART review for the P2 program—a wholly non-regulatory, competitive grant program—was the program’s first. Previous PART reviews for portions of the OPPT did not include the P2 program, explains an agency source. The P2 program’s FY06 enacted budget was \$21 million. That compares with an estimated FY07 budget of \$27 million and a proposed FY08 budget of \$26 million, which is a nearly \$1.5 million reduction from the amount proposed in the President’s FY07 budget, but nonetheless represents a \$4.2 million increase over the FY06 enacted level, explains the agency source.

Performance measures for the P2 program include “cumulative pounds of hazardous materials reduced” by the P2 program, “business, institutional and government costs reduced by P2 program participants,” “reductions of hazardous chemicals per federal dollar spent,” and “pounds of hazardous materials reduced by P2 program participants.”

“It’s one of the best programs out there for independent review of chemicals for being environmentally responsible,” says a senior official with consumer products manufacturer S.C. Johnson, which has its own Green List process for evaluating chemicals. While DfE does not provide a “certification,” companies whose chemicals have undergone a DfE review can add the program’s logo to their relevant products.

“The DfE has continuous improvement,” a necessary component to make chemicals steadily better, says the S.C. Johnson source, noting that the agency has given the company feedback on its raw materials, and pointed out where S.C. Johnson needs to go “to get even better.” For instance, under the company’s Green List system, a chemical may be rated “2,” but to achieve an even higher rating of “3” the company would need to redesign the chemical in specific ways indicated by the DfE review.

The Green Chemistry and Commerce Council (G3)—a group of some 40 industry, academic, and NGO representatives convened through the Lowell Center for Sustainable Production (LCSP), in Lowell, MA—“supports DfE strongly,” and wrote a Feb. 1, 2007, letter to EPA Administrator Stephen Johnson urging greater funding for the program, which has “a backlog of reviews” to process, says the S.C. Johnson source.

An LCSP source says DfE “is one of the few programs in EPA which everyone from Greenpeace to chemical manufacturers can support” because “it’s about solutions.” The program uses an alternatives assessment process that deploys resources to promote innovation, a “focus on the positive” rather than spending huge sums of money to “just do risk assessments” that incrementally improve the understanding of a chemical’s risks.

“Agencies should put a lot more resources into this,” the LCSP source adds. EPA’s Voluntary Children’s Chemical Evaluation Program “was all about risk assessments for kids,” but DfE “actually protects kids’ health” by moving manufacturers toward less hazardous chemicals, the source says.

In response to the G3’s Feb. 1 letter to Johnson, EPA Assistant Administrator for Pollution Prevention & Toxic Substances James Gulliford sent a reply dated March 2. In his reply, Gulliford agrees with the G3 view on “how important it is for leaders to be able to monitor their movement toward sustainability” and acknowledges the “fact that you find DfE to be a ‘credible touchstone’ in this regard” is a “clear indication” of the program’s value.

Posted on 03/28 at 03:11 PM