

glass

Glass

— Industry of the Future



Industrial
Partnerships:
Advancing
Energy and
Environmental
Goals



Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Office of Industrial Technologies



Industry collaboration

While the trade of glassmaking dates back to colonial times, today this industry must rely on technical innovations to stay competitive. Partnerships with the U.S. Department of Energy's Office of Industrial Technologies (OIT) allow the glass industry to focus on the specific research needs of the industry and integrate new technologies into the glassmaking process.

“The attitude of support and cooperation that we have experienced with OIT partnerships has been extremely positive. There has been a feeling from all those involved of a willingness and desire to support the glass industry.”

**—Michael Greenman,
Executive Director of the GMIC**

In 1996, the glass industry produced *Glass: A Clear Vision for a Bright Future*, which outlined the industry's long-range vision for maintaining and building its competitive market position. A subsequent roadmap workshop helped the industry identify over 130 specific research needs, of which 40 were indicated as priorities.

Today, OIT works with the Glass Manufacturing Industry Council (GMIC), a trade association which represents all sectors of the U.S. glass industry, to coordinate pre-competitive R&D including evaluating project proposals and disseminating results of R&D projects.



Successful alliances

Partnering opportunities between the glass industry and OIT have developed into successful alliances varying in research interests and participants.

One recent initiative, called the G+ program, implemented in collaboration with OIT and GMIC, provides a lump sum research budget for glass industry members. This program permits individual companies to make requests for grants of up to \$24,999 per year to resolve glass industry issues. With this program, glass companies also receive access to research facilities, equipment, and expertise from national laboratories.

What's working

Several components contribute to the successful partnerships between the glass industry and OIT.

- The GMIC brings together varying glass industry interests and helps identify those areas with significant cross-sector application. With input from the GMIC, OIT then determines which technical topics are priorities for improving glassmaking processes and should be selected for research funding. The GMIC helps guide OIT's project selections by evaluating specific applications for cost-shared financial assistance.
- OIT sponsors an annual Glass Project Review in which representatives of GMIC member companies review the progress of ongoing glass R&D projects and advise the principal investigators on technical direction. These reviews are highly successful and attract broad industry participation. GMIC members also assess how other OIT research projects can impact glass operations.
- The glass industry enjoys a wide variety of partners which exposes these members to different areas of expertise and valuable experience. Glass industry members may work in collaboration with other industry players, national laboratories, universities, glass associations, and other major research institutions.



In another successful alliance, the Gas Technology Institute (GTI) collaborated with Combustion Tec (the glass division of Eclipse Combustion) and Owens Corning to develop a high-efficiency low-NO_x burner. This alliance, which began in 1996, reflects the combination of a research team, a vendor and an end-user. David Rue, manager of Industrial Combustion Processes with GTI, says, “OIT’s part was critical in enabling the partnership of GTI and Eclipse Combustion (with Owens Corning’s strong support) to complete the research, development, and testing of this burner. Without OIT’s support of this process, this efficient and clean burner would have been much more difficult to develop.”

Partnering benefits

OIT-industry partnerships can provide competitive advantages for the glass industry. By reducing energy use through the development and implementation of new technologies, the glass industry expects to:

- Reduce unit production costs by at least 20%
- Reduce air and water emissions by at least 20%
- Recycle 100% of glass production wastes

In addition, collaborative efforts offer cost-sharing opportunities that can help a company leverage its limited research dollars. Last year, OIT awarded \$11.8 million in cost-shared funding to the glass industry for R&D in new energy efficiency and waste reduction technology development.

Research partnerships can also provide connections and learning opportunities with others in the glass industry through workshops on important technical topics. Networking leads to streamlined access to Federal scientific resources and expanded involvement in cutting-edge technological development.

How to participate

OIT solicits applications for cost-shared research for the development of technologies that will enhance the economic competitiveness, and reduce energy consumption and environmental impacts for the glass industry.

In addition, OIT accepts proposals from glass manufacturers interested in participating in plant-wide energy efficiency assessments. OIT's BestPractices evaluates a manufacturer's industrial energy use and then makes recommendations for improvements in efficiency, waste reduction and productivity.

A company may go one step further by hosting a Showcase Demonstration. As a host, the company opens its facility for a one-day "open house" to industry, government, community members and other visitors and showcases the improvements and benefits from installing advanced, efficient technologies.

There are additional ways to participate in the glass industry partnership. For more information on glass industry R&D activities, visit the GMIC Web site at www.gmic.org. If you would like more information on becoming a partner, please contact the Glass Industry Team Leader, Elliott Levine at (202) 586-1476 or visit the Glass Industry of the Future Web site at www.oit.doe.gov/glass/.





For more information on the Glass Industry of the Future, contact the OIT Clearinghouse at (800) 862-2086 or visit www.oit.doe.gov/glass/

Please send any comments, questions, or suggestions to webmaster.oit@ee.doe.gov

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U.S. Department of Energy
Washington, DC 20585

DOE/GO-102001-1200
February 2001