



## GLASS FACTS

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### Serving the Glass Industry

For many readers of the *Bulletin*, the purpose and activities of the Glass Manufacturing Industry Council (GMIC) are quite possibly something of a mystery.

First of all, GMIC is a trade association of the U.S. glass industry that includes among its members, representatives of all four sectors: flat, container, fiber and specialty. Our association was incorporated in September 1998 and is registered in the state of Ohio as a 501(c)(6) organization. Our overall purpose is to promote the interests and growth of the U.S. glass industry as a whole.

Until the formation of GMIC, the U.S. glass industry had no “umbrella” body to represent its interests. Today, our membership totals 48 glass companies, research institutes, raw materials and technology suppliers, universities, and individuals. An elected board of trustees and officers direct the activities of the Council.

With many members in common, we work closely with ACerS—after all, glass is a ceramic. In 1998, we were looking for a location to establish operations. The ACerS board invited us to co-locate so that we might be able to support each other in our separate activities. Columbus happens to be pretty close to the geographical center of most glass manufacturing, so, our initial board approved setting up operations with ACerS.

#### Research Identification, Coordination

The immediate situation leading to our formation was DOE’s objective to reduce “energy intensity” in some of the leading materials manufacturing industries. Taken as a whole, this segment consumes more than 30% of the total energy used in this country.

DOE sought to provide federal funds to be matched by its industrial partners, to carry out research that would lead to significant reductions in energy use. A number of effective technologies in use in the industry today have come from that process, e.g., oxy-fuel firing; the high-luminosity, low-NO<sub>x</sub> burner; advanced temperature measurement systems; and oxygen-enriched air staging.

DOE facilitated the creation of a “vision” document, that set challenging, but realistic objectives for energy reduction. GMIC coordinated the creation of a “technology roadmap” to identify the research path we needed to take to achieve the energy efficiencies identified. Our committees established a series of research priorities that guided DOE public solicitations.

Periodically, we review project progress to ensure that work remains on target. Current and recent research projects that are expected to provide significant bene-

fits include the Submerged Combustion Melter (a radical departure from traditional melting techniques), High-Intensity Plasma Melting, Advanced Oxy-Fuel-Fired Front-End System, and Coupled Combustion Space Modeling. These technologies are expected to result in energy savings of more than 30% in some cases.

#### Other Focus Areas

Additional areas our board and members are pursuing include:

*Energy Costs*—Natural gas costs in the past few years have varied from \$4 to \$14 per million Btu! GMIC seeks an alternative that might provide lower prices for glass-melting and greater price stability. Clean coal gasification is one possible answer. We developed a White Paper to guide the investigation, and created a Coal Gasification Task Force to study the alternatives.

*Environment, Health and Safety*—Safety is too critical to be proprietary. In 2005, we hosted our first workshop on plant safety. Papers contributed by a number of our companies identified procedures and policies as well as specific techniques to increase and ensure safety. We also discuss our industry’s concerns regarding proposed regulations and laws on environmental issues, developing consensus on reasonable positions to take.

*Innovative Uses*—This work focuses around developing a process to identify and develop glass in all sectors with tensile strength closer to theoretical potentials. A GMIC-sponsored Strength in Glass contest invites students to suggest applications and products that would be possible if glass exhibited 50 times its current tensile strength.

*Energy Efficiency and Education*—We emphasize the need for energy efficiency by encouraging energy assessments at our plants and training in the use of software to identify areas of possible improvement. We also provide information on proven technologies that may contribute to greater efficiencies.

Our areas of activity are continuously expanding, not only to make a difference for our member companies (a first priority), but also for the industry as a whole.

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