



Title: Glass Melting in the Energy Transition Era: Fuel-Efficient Furnaces and Data-Driven Operational Improvement

Soaring fuel prices and increasing pressure to reduce CO₂ emissions are major challenges for glass manufacturers, who also face aging workforces and the need to transfer operational skills. Innovative melting technologies, such as oxy-fuel combustion and electric melting, are steadily advancing toward carbon neutrality. However, the optimal transition path will vary depending on each country's energy infrastructure. In parallel with these long-term innovations, practical approaches that can deliver immediate benefits for existing furnaces are also essential.

Such approaches include improving furnace fuel efficiency, utilizing operational data to detect anomalies and prevent operational problems at an early stage, and improving day-to-day operating practices to enhance productivity and extend furnace campaign life. These efforts also support the transfer of operational know-how. AGC Ceramics has accumulated technologies and proven experience in these areas, including the fuel-efficient EcoLead furnace and data-driven operation support services. This presentation will introduce these solutions through specific examples, with the aim of contributing to the sustainable development of the glass industry in the ASEAN region.