AFGM 48 ASEAN GLASS CONFERENCE
THAILAND 2026 ASEAN GLASS FORWARD
Enhancing Lives Through Innovation and Sustainability
September 21-24, 2026

Title: Advancing Energy Efficiency and CO_2 Reduction in Container Glass Manufacturing Through CAPEX & OPEX Knowledge Transfer

The container glass industry is under pressure to reduce energy consumption, lower CO_2 emissions by Global new regulations/laws and improve operational efficiency while maintaining production performance together with non-compromise in glass quality. Since glass melting furnaces are considered as energy concern business that consume huge amounts of energy among other heavy-duty businesses, furnace optimization offers significant opportunities for improving both sustainability and profitability toward Net Zero.

This study presents Şişecam/iCRON CAPEX & OPEX Knowledge Transfer methodology, an operational excellence approach combining furnace audits, process benchmarking, and specialist assessments in melting, forming, energy management, glass quality, and process engineering. The objective is to identify practical improvement opportunities and convert them into measurable operational results.

For a selected container glass furnace, operational analyses identified a quantified energy-saving potential of approximately 12% in specific furnace energy consumption. The realization of this potential is expected to reduce CO_2 emissions by approximately 8.8 tons per day, corresponding to more than 3,200 tons annually, while supporting the decarbonization objectives of glass manufacturing.

The methodology is further strengthened through ICRON's advanced production planning AI driven and scheduling platform optimizing production across furnaces, lines, molds, capacities, inventories, and customer demand. At a Şişecam subsidiary capacity utilization increased from 92% to 96%, job changes per ton fell reduced to 16%, and inventory ageing performance improved by 46%.

The presentation will share the methodology, initial implementation results, lessons learned, providing a practical roadmap for more energy-efficient, resource-efficient, sustainable glass manufacturing and environment friendly.

Keywords: Glass, Furnace Optimization, Energy Efficiency, Decarbonization, CO_2 Emission Reduction, Production Planning and Scheduling, Operational Excellence, Sustainable Manufacturing, ROI and payback.