

Session	Decarbonizing the Glass Industry (I)
Date	APRIL 10, 2025
Time (CET)	14:15 - 14:30
Chair	Serkan Şahin



Revolutionizing Glass Manufacturing with Green Hydrogen and Catalytic Filtration

Galen Kutlubay

TOPSOE, Denmark

Biography

Global Account Manager, Clean Air, TOPSOE, Denmark

Abstract

Topsoe is a global leader in decarbonization technologies, committed to creating a sustainable future for industries worldwide. We deliver innovative solutions like Solid Oxide Electrolysis Cells (SOECs) to produce e-fuels, enabling companies to transition to low-carbon operations. Our catalytic filtration technologies also support compliance with air emission regulations, addressing key environmental challenges.

The glass industry is under pressure to advance existing technologies and adopt innovative solutions such as green hydrogen (H₂) to reduce emissions affordably. Projections indicate the sector could achieve full decarbonization by 2050 through advanced technologies enhancing energy and environmental efficiency.

For over 20 years, Topsoe has partnered with glass manufacturers, delivering catalytic filtration technologies to support emission reductions. Our innovations advance De-NO_x processes, ammonia (NH₃) control, CO and VOC removal, and dioxin (PCDD/F) destruction.

SOEC technology is central to our strategy, using high-temperature electrolysis to produce green hydrogen, syngas, and other sustainable products from renewable energy. Green hydrogen offers a viable, sustainable alternative for high-temperature processes, reducing reliance on fossil fuels. While electrification will dominate future glass production, hydrogen is expected to account for 21% of the fuel mix, making it crucial for decarbonization.

SOEC also supports e-fuel production, such as methanol and ammonia, when integrated with carbon capture systems, ensuring significant CO₂ reductions without compromising efficiency. Trials have demonstrated green hydrogen's transformative potential in reducing CO₂ emissions and improving energy efficiency.

Topsoe empowers the glass industry to adopt green hydrogen, e-fuels, and catalytic filtration technologies to meet sustainability goals and remain competitive globally. Our innovations are driving the transition to a cleaner, net-zero future.

