

AGC Achieves Success in Demonstration Test of Glass Production Using Hydrogen as Fuel

Tokyo, October 26, 2023 - AGC (AGC Inc., Headquarters: Tokyo; President: Yoshinori Hirai), a world-leading manufacturer of glass, chemicals, and high-tech materials, has announced that it has succeeded in a demonstration test of glass production using hydrogen as fuel. This is the first time the AGC Group has conducted tests using hydrogen in an actual production furnace. The test was conducted at the electronics float glass manufacturing facility of the Kansai Plant, Takasago Factory (Takasago City, Hyogo Prefecture).



Glass melting furnace in which this demonstration test was conducted



Storage tank for hydrogen fuel

This test was conducted with the support of Air Liquide Japan G.K. (Chairman and CEO: Ilyong Park, Headquarters: Minato-ku, Tokyo) by implementing its hydrogen combustion burner to an existing conventional combustion process with oxygen using natural gas as fuel.

In this test, AGC verified the technological issues for utilizing hydrogen-fueled oxygen combustion technology in glass production, including glass quality, effects on furnace materials, flame temperature^{*1}, furnace temperature^{*2}, and nitrogen oxide (NOx) emissions control. The NOx concentration in the emitted gas from this test was maintained at the same level as in 100% natural gas, while maintaining the required temperature of the glass melting furnace.

Aiming for full-scale deployment, AGC will conduct scaled-up tests of the combustion capacity of the hydrogen combustion burner and consider demonstration tests at the AGC Group's global sites to determine the scope of application of hydrogen combustion technology.

The AGC Group conducts its glass production on global basis and is developing various technologies so that it can use the most appropriate GHG emission reduction measures according to regional characteristics and timing^{*3}. Following the [demonstration test using ammonia as fuel](#) conducted in June 2023, the AGC Group has now conducted a demonstration test using hydrogen as fuel. The AGC Group will continue to promote sustainability management under its medium-term management plan [AGC plus-2023](#), aiming to achieve its target of net-zero carbon emissions^{*4} by 2050.

Combustion flames inside the glass melting furnace

Natural gas
100%



Hydrogen
100%



<Media inquiries>

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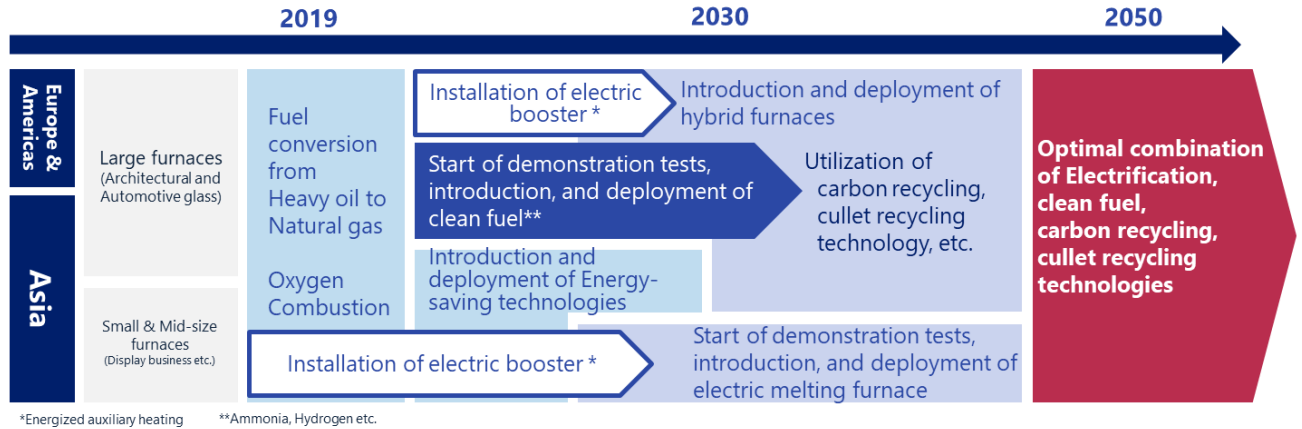
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<Notes>

*1 Temperature of flame burning at burner installed in furnace

*2 Temperature of gas inside the furnace and inner wall surface

*3 AGC Group's Technology Roadmap for Reducing GHG Emissions in Float Glass Melting Furnaces



*4 Scope 1 and Scope 2

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