

## Osaka Gas Becomes the First Gas Utility to Launch Shore-to-Ship LNG Bunkering Service —Contributing to Maritime Industry Sustainability

Osaka, April 21, 2025—Osaka Gas Co., Ltd. (Osaka Gas) has launched its shore-to-ship LNG bunkering<sup>1</sup> service, becoming the first gas utility company in Japan to offer liquefied natural gas (LNG) at its terminal to vessels utilizing this cleaner fuel. This new initiative aims to significantly reduce CO<sub>2</sub> emissions in the maritime industry.

The first delivery took place today at Osaka Gas' Senboku LNG Terminal in Takaishi City, Osaka Prefecture, where LNG was supplied to the VERDE HERALDO, an LNG-fueled vessel operated by Mitsui O.S.K. Lines, Ltd. (MOL). This vessel serves JFE Steel Corporation by transporting raw materials essential for steel production.

With the launch of this shore-to-ship service, in addition to its existing truck-to-ship LNG bunkering<sup>2</sup> service—operational since 2019—Osaka Gas enhances its LNG fuel delivery capabilities to address the current scarcity of facilities in Japan that can supply LNG to vessels. The company's future plans include the introduction of a ship-to-ship LNG bunkering<sup>3</sup> service utilizing dedicated LNG bunkering vessel, scheduled to commence in fiscal 2026.<sup>4</sup>

These supply methods aim to provide a stable and flexible LNG fuel supply to an increasing number of LNG-fueled vessels as the maritime industry transitions away from heavy fuel oil. This growth in LNG-fueled vessels is driven by global decarbonization trends and the International Maritime Organization's target to achieve net zero greenhouse gas emissions by 2050. Through its LNG bunkering services, Osaka Gas is well-positioned to contribute to maritime industry sustainability.

In addition to expanding LNG fuel supply to vessels, Osaka Gas is exploring the potential of replacing LNG with e-methane as marine fuel. This effort aligns with the Daigas Group<sup>5</sup> Energy Transition 2050 initiative announced in February 2025, reflecting the Group's dedication to fostering a low-carbon and decarbonized maritime industry.

1 Transferring LNG fuel from an on-shore facilities, such as an LNG terminal, to an LNG-fueled vessel moored at a wharf or jetty.

2 Transferring LNG fuel from an LNG truck to an LNG-fueled vessel moored at a wharf or jetty. This method is utilized to supply LNG fuel through Daigas Energy Co., Ltd., a subsidiary of Osaka Gas, to the Ishin, an LNG-fueled tugboat operated by Nippon Eisen Shipping Corporation, a group company of MOL.

3 Transferring LNG fuel from an LNG bunkering vessel to an LNG-fueled vessel moored at a wharf or at anchor. The bunkering vessel intended for Osaka Gas' ship-to-ship LNG fuel service has been adopted by the Ministry of Land, Infrastructure, Transport and Tourism for the 2023 LNG Bunkering Base Formation Project. It is currently under construction at the shipyard of Shitanoe Shipbuilding Co., Ltd. headquarters in Oita Prefecture.

- 4 Press release dated June 27, 2023: "Osaka Gas to Launch Ship-to-Ship LNG Bunkering Business in Osaka Bay and Seto Inland Sea" <https://www.osakagas.co.jp/en/whatsnew/icsFiles/afieldfile/2023/06/27/230627.pdf>
- 5 The group brand name of Osaka Gas.

■ LNG bunkering via the shore-to-ship method



■ Illustration of LNG bunkering business utilizing three methods

