

December 19, 2019  
Kawasaki Kisen Kaisha, Ltd.

**Participation in “CO<sub>2</sub>-free Hydrogen Energy Supply-chain Technology Research Association (HySTRA)”**

**~ Towards the Realization of a Hydrogen Society, “K”LINE will be involved in the Demonstration of the World’s First Liquefied Hydrogen Carrier~**

Kawasaki Kisen Kaisha, Ltd. (Head Office: Chiyoda-ku, Tokyo, Representative Director, President and CEO: Yukikazu Myochin, hereinafter “K”LINE’) is pleased to announce that “K”LINE is participating with “CO<sub>2</sub>-free Hydrogen Energy Supply-Chain Technology Research Association” (hereinafter referred to as “HySTRA”)(\*), an association working towards creating an international CO<sub>2</sub> free energy supply chain comprised of hydrogen production effectively utilizing brown coal in Australia, its liquefaction, transportation to Japan, storage and utilization. “K”LINE will provide assistance for the safe transportation of liquefied hydrogen.

HySTRA was founded in 2016 to develop and demonstrate technologies required to build a supply chain comprising of hydrogen production effectively utilizing brown coal, transportation and storage as well as utilization of hydrogen with its long-term goal to realize a stable supply of economical CO<sub>2</sub>-free hydrogen. Currently, under the assistance of the New Energy and Industrial Technology Development Organization (NEDO), HySTRA is working on the pilot phase of the project, along with studies for these technologies to become widely used in society and commercially viable around 2030.

<Principal Particulars>

Name: SUISO FRONTIER

Length over all	:	116.0m
Breadth moulded	:	19.0m
Depth moulded	:	10.6m
Design Draft	:	4.5m
Gross Tonnage	:	abt. 8,000T
Tank Capacity	:	abt. 1,250CBM
Speed on design draft:	:	abt. 13 knot
Complement	:	25 persons
Flag	:	Japan
Builder	:	Kawasaki Heavy Industries, Ltd.



Liquefied Hydrogen Carrier “SUISO FRONTIER”

(Photo by Kawasaki Heavy Industries, Ltd.)

“K”LINE has been developing professional expertise and know-how concerning safe operation of liquefied gas carriers and handling of liquefied gas cargoes such as LNG and LPG through its long history and diversified track-record of ownership and technical management of liquefied gas

carriers. Based on such extensive experience, “K”LINE will contribute to HySTRA’s demonstration by providing assistance in the technical operation of “SUIISO FRONTIER”, a liquefied hydrogen carrier which was successfully launched in Kobe Works of Kawasaki Heavy Industries, Ltd. on December 11, 2019, that will be conducted in Japan.

The “K”LINE Group will promote its efforts to reduce greenhouse gas (GHG) emissions in accordance with its “K”LINE Environmental Vision 2050, providing logistics services that are more environmentally-low-loaded and highly efficient. “K”LINE is also proud to announce that our participation in HySTRA has been motivated with our belief that our contributing towards the construction of international supply chain of hydrogen, one of the primary drivers for the realization of low-carbon and carbon-free society, is fully compliant with our own corporate vision and philosophy. “K”LINE will devote its utmost effort to contribute in construction of an international hydrogen supply chain.

(\*) Outline of HySTRA

Official Name	CO <sub>2</sub> -free Hydrogen Energy Supply-chain Technology Research Association
Abbreviation	HySTRA
Founded	February 2016
Association Members	Iwatani Corporation, Kawasaki Heavy Industries, Ltd., Shell Japan Limited, Electric Power Development Co., Ltd. (J-POWER), Marubeni Corporation, JXTG Nippon Oil & Energy Corporation, Kawasaki Kisen Kaisha, Ltd. (“K”LINE) ( <u>Newly joined.</u> )
Chief Director	Eiichi Harada (Executive Director, Kawasaki Heavy Industries, Ltd.)
Project Contents	Undertaking establishment and demonstration of technologies for a CO <sub>2</sub> free hydrogen energy supply chain comprised of hydrogen production effectively utilizing brown coal, transportation, storage and utilization of hydrogen, to commercialize the supply chain around 2030.

<Reference>

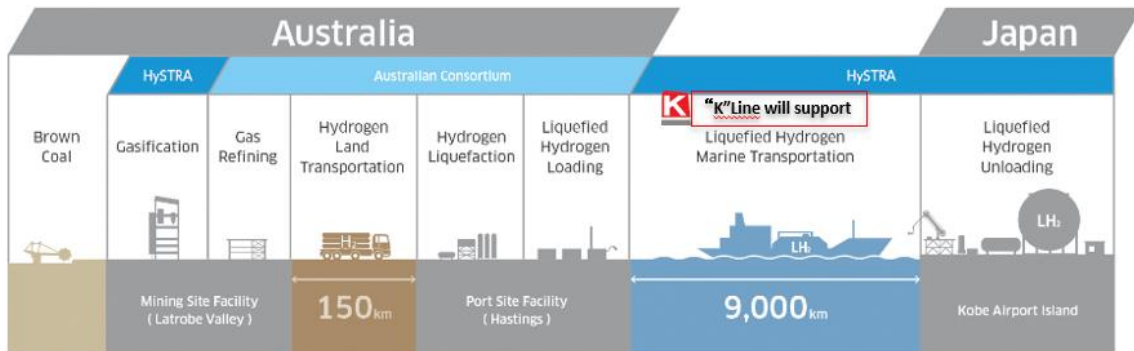
1. HySTRA Member

**HySTRA**



2. “K”LINE’s role in HySTRA

With the assistance of NEDO, in the Hydrogen Energy Supply Chain Pilot Project between Australia and Japan, HySTRA is working on the development of technologies in the fields of (1) gasification of brown coal, (2) long distance transportation of mass liquefied hydrogen and (3) liquefied hydrogen loading and unloading technologies. “K”LINE will be involved in the (2) long-distance transportation of liquefied hydrogen.



(Source: HySTRA, Kawasaki Heavy Industries, Ltd.)

HySTRA Web Site: <http://www.hystra.or.jp/en/>