Challenge for Carbon Neutrality
-Toward the realization of a CO2-free hydrogen supply chain

Oct. 5. 2023

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Kawasaki Heavy Industries, Ltd.

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Powering your potential

カワる、サキへ。
Changing forward

Introducing Kawasaki Heavy Industries

130 year-old heavy construction company

Ship & Offshore Structure

Rolling Stock

Aerospace Systems

https://www.khi.co.jp/mobility/aero/aircraft/b787.html

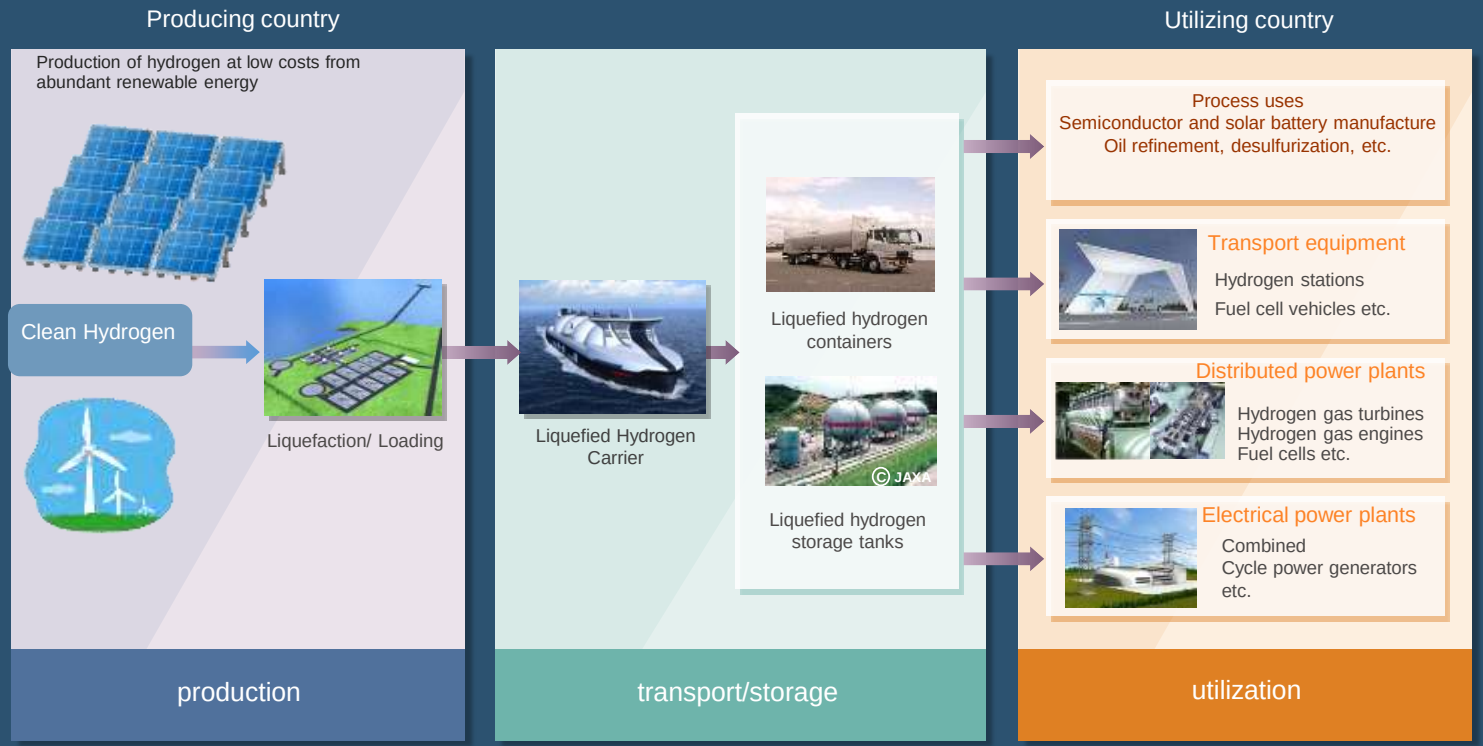
Energy System &
Plant Engineering

Motorcycle & Engine

Precision Machinery & Robot

Vision for Hydrogen Supply Chains

Stable energy supply while reducing CO2 emissions



Hydrogen Gas Turbine CHP* at Kobe Port Island

*CHP: Combined heat and power

Started power generation by hydrogen combustion in 2018

Supported by NEDO

NEDO : New Energy and Industrial Technology Development Organization

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International hydrogen supply chain: completed pilot demonstration

February 2022

World's First International Liquefied Hydrogen Transportation
Liquefied hydrogen carrier ‘SUISO FRONTIER’

©HySTRA

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*This project is supported by the "FY 2015 to FY 22 NEDO Target-Set Industrial Technology Development Grants' Demonstration Project for Construction of Unused Lignite-derived Hydrogen Large-Scale Maritime Transport Supply Chain."

Reduce hydrogen costs by increasing the size of equipment

«Suiso Frontier»: 1 250 м^3

X 128

Коммерческий масштаб: 4 резервуара×40 000 м^3

Резервуар для жидкого водорода: 2 500 м^3

X 20

Expanding hydrogen fuel to Marine and Aviation

Development of Hydrogen-Fueled Vessel Propulsion System * 1

Complete lineup for various applications by around 2026

Hydrogen Aircraft Core Technology Development Project* 2

Promote development in anticipation of full-scale launch after 2035

Joint Research on Hydrogen Engines

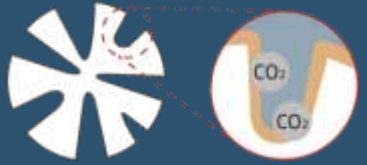
Domestic two- and four-wheel manufacturers collaborate to develop hydrogen engine

*1 NEDO Green Innovation Fund Project "Development of a Hydrogen Fuel Ship Propulsion System" (about 21.9 billion yen in subsidies) (Yanmar Power Technologies to be Adopted in Consortium with Japan Engine Corporation)

*2 NEDO Green Innovation Fund Project "Core Technology Development for Hydrogen Aircraft" (grant: about 18 billion yen)

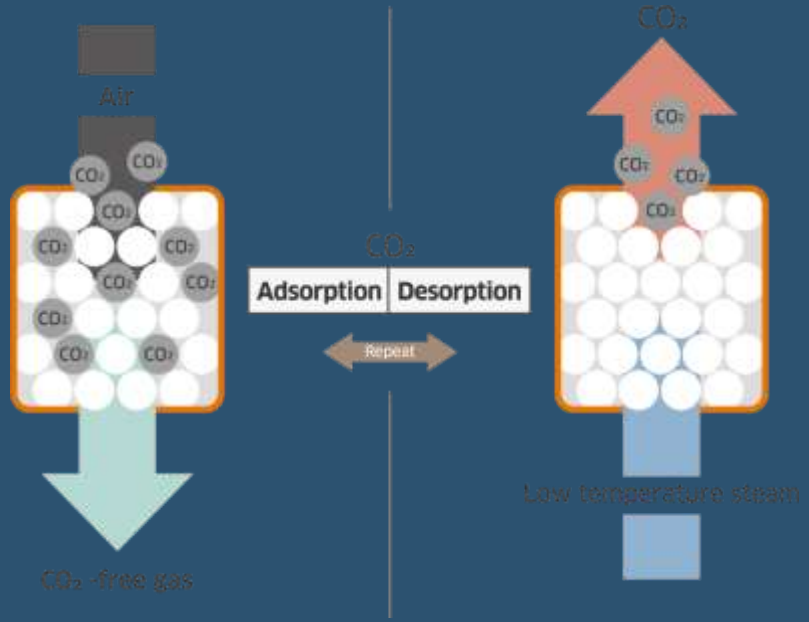
Kawasaki CO_2 Capture (“KCC”) technology

Amine solid sorbent



Amine, covering on pore surface, captures CO_2 selectively.

Sorbent regenerated by low-temperature steam



KCC for post-combustion capture

Large-Scale Demonstration
at Coal-Fired PP
Maizuru, Kyoto, Japan

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