

Businesses and technologies contributing to decarbonization (1)

LNG-related technologies

In the Energy Business, we are promoting a shift from heavy oil fuels to LPG/LNG to help reduce the environmental impact of customers' plants and factories. In addition, we are internally developing LNG supply devices and transportation equipment using our ultra-low-temperature technologies for industrial gases. We will aggressively work to develop new domains where markets are expected to grow due to the spread of LNG.

Existingbusinesses



Switch to gas energy

Switching the energy used at customers' factories and plants to LPG/LNG

LNG supply devices and transportation equipment

Applying low-temperature technologies to develop LNG supply devices and transportation equipment



New domains



Supplying LNG to smallscale users

Leveraging our expertise in industrial gas plants to develop supply systems

Increasing the use of LNG trucks and fuel ships

Contributing to the ubiquity of LNG through our engineering technologies





Businesses and technologies contributing to decarbonization (2)

Technologies related to carbon dioxide

We refine CO₂ from petrochemical plants, refineries, and other facilities and sell it as liquefied carbon dioxide and dry ice. We are developing technologies for recovering and refining CO₂ efficiently from low-purity exhaust gases and working on the efficient use of recovered CO₂ and its utilization as a resource.

Existing businesses



Carbon dioxide and dry ice supply

Supplying liquefied carbon dioxide and dry ice

Efficient use of exhaust carbon dioxide

Promotion of photosynthesis, etc.



R&D fields of focus



Technologies for recovering/ refining CO2

Recovering CO₂ from the exhaust gases of waste incineration plants

Using it as a resource (Development of CO generators, etc.)

Development of a device that converts CO_2 into CO, a useful raw material for chemicals





Businesses and technologies contributing to decarbonization (3)

Technologies related to hydrogen gas

In the industrial hydrogen gas business, we have nine bases producing compressed hydrogen and nine bases for the onsite supply of hydrogen in Japan. We have established a supply chain including production, storage, transportation, and supply.

We will contribute to the building of a hydrogen society, including in the energy sector, through our core expertise in generators and engineering technologies.

Existing businesses



Hydrogen gas supply

Supplying industrial hydrogen gas (Trailers and cylinders)

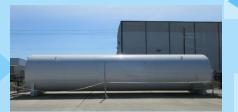
Hydrogen generators

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Onsite gas supply using a hydrogen generator



New domains



Transportation and storage of liquefied hydrogen

Manufacturing and sales of liquefied hydrogen transportation equipment and storage devices by U.S. subsidiaries

Energy hydrogen supply with local production for local consumption

Refining biogas from livestock excreta into hydrogen

