

## 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.

#### Existing businesses



#### 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 small-scale 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 CO<sub>2</sub> 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 CO<sub>2</sub> efficiently from low-purity exhaust gases and working on the efficient use of recovered CO<sub>2</sub> 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 CO<sub>2</sub>

Recovering CO<sub>2</sub> 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<sub>2</sub> 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

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

