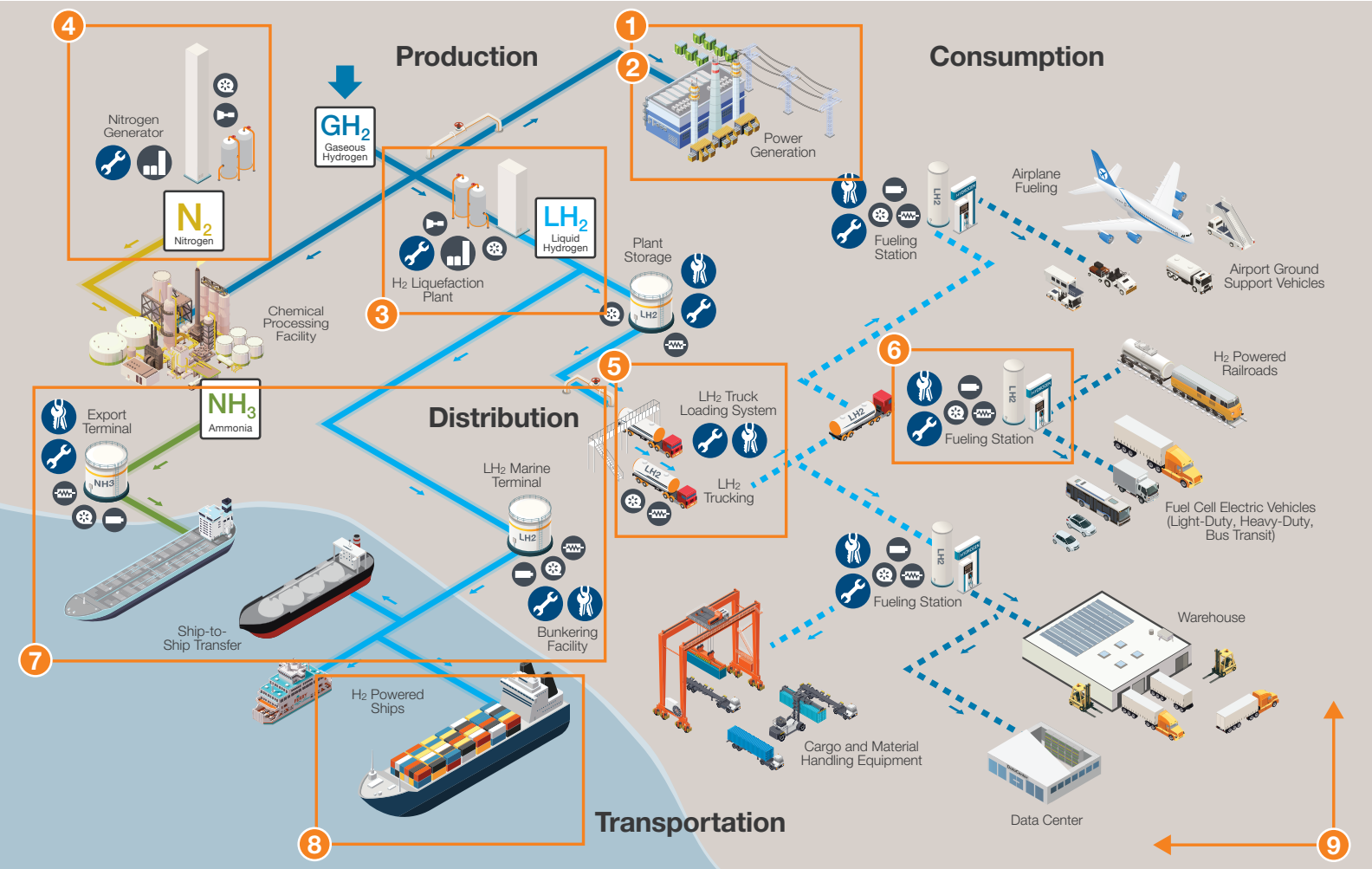


The Nikkiso Hydrogen Value Chain



- 1 ORC Systems
- 2 CCS/CCUS
- 3 H₂ Liquefiers
- 4 N₂ Generators
- 5 Trailer Loading Facilities
- 6 Refueling Stations
- 7 Terminals / Bunkering Facilities
- 8 Fuel Gas Supply System
- 9 Turnkey Solutions & Services

Nikkiso Clean Energy & Industrial Gases is your global partner for cryogenic liquid infrastructure equipment, solutions, and services.

Our heritage is industrial gases and LNG. We are poised to be one of the leading global companies in a dynamically changing global business environment to support net zero by 2050.

Uninterrupted Access to Energy at an Affordable Price



1 Organic Rankine Cycle (ORC) Energy Recovery Systems¹

- Waste Heat, Cold, Geothermal
- Radial Inflow Turbine / Expander
- Up to 25 MW per train



2 Carbon Capture Utilization and Storage (CCUS)⁴

- CO₂ Purification and/or Recovery
 - 150 to 15,000 kg/hr
- CO₂ Liquefaction
 - 5,000 kg/hr

3 Hydrogen Liquefiers¹

- Hydrogen Liquefiers
 - 5, 15, 30 MTD
- Multistage Turboexpanders
 - Oil-free High Speed Generator (HMG)
 - Active Magnetic Bearing (AMB)



4 Nitrogen Generators

- Nitrogen
 - Up to 8,000 Nm³/hr

5 Trailer Loading Facilities^{1, 2, 3}

- Virtual Pipeline
- Fully Automatic
- Vacuum-insulated piping
- 70 kg/min per train



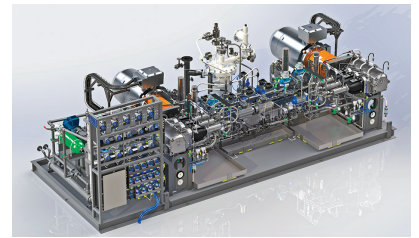
6 Refueling Stations¹

- Fully Integrated Pressurization, Temperature Control & Dispensing
 - Gaseous or Liquid H₂ Source
 - Centrifugal and Reciprocating Pumps
 - 120 to 4,000+ kg/day
 - 10 to 14 kg/min
 - H35 or H70



7 Terminals / Bunkering Facilities^{1, 2, 3}

- Shore-to-ship Pumping Solution
- Modular and Scalable Design
- Regasification System



8 Fuel Gas Supply System^{1, 2}

- Fully Integrated Tank, Pump, Vaporizer, BOG Management System
- Marine (Available now) and Aviation (In Development)



9 Turnkey Solutions & Services^{1, 2, 3}

- Project Management, Engineering, Procurement, Fabrication, Construction Management, Commissioning & Start-Up
- 19 Service Centers Worldwide
- Service Agreement - Remote Monitoring, Aftersales Support, Parts Exchange, Spares & Inventory Management, Preventive Maintenance and 24-Hr Response Time

¹ Technology also available for LNG application

² Technology also available for NH₃ application

³ Technology also available for CO₂ application

⁴ Technology also available for SAF application

