

# Cryogenic Service Room

## [Special Fluid Supply Facility]

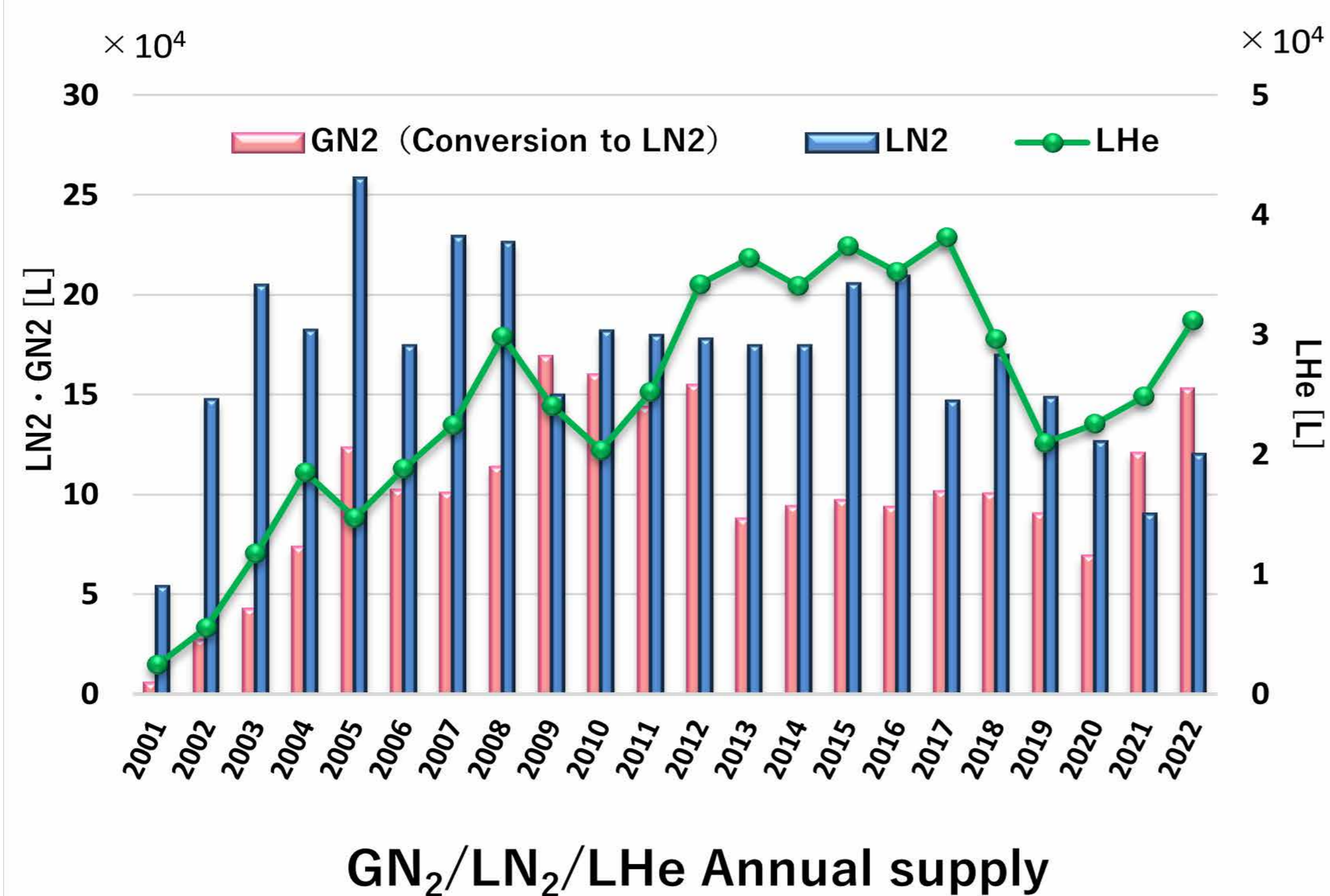
The Institute of Industrial Science    Common Facilities

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The Cryogenic Service Room is one of the common facilities in the Institute of Industrial Science and supplies liquid helium ( $-269\text{ }^{\circ}\text{C}$ ), liquid nitrogen ( $-196\text{ }^{\circ}\text{C}$ ), nitrogen gas (0.7 MPa) and primary pure water to the laboratories. Since helium is a scarce and expensive resource, we supply liquid helium through a recycling method in which evaporated helium gas is collected and re-liquefied.

### Main Equipment

- Helium liquefier ( LINDE - L140 )
- Liquid helium storage tank ( 2,500L )
- Long helium gas cylinders ( 2,085m<sup>3</sup> )
- Compressor for helium gas recovery ( 50m<sup>3</sup>/h )
- Liquid nitrogen storage tank ( 11,000L )
- Automatic Liquid Nitrogen Supply System
- Primary pure water production unit ( 2.2m<sup>3</sup>/h )



### Main Activities

- Production and supply of liquid helium
- Liquid nitrogen supply
- Nitrogen gas supply
- Supply of primary pure water
- Maintenance and management of each facility
- Accounting for the use of special fluids
- Compliance with the High Pressure Gas Safety Act
- High Pressure Gas Safety Guidance