Liquid Air Energy Storage (LAES)

R&D | FS/Demo | **Product/ Service**

Energy & Environment SBU

- **LAES** is composed of **the charging process**, in which air is compressed, cooled, and liquified using excess renewable energy-derived and other electric power, **the storage process**, in which liquified air, compressed heat, and evaporated heat are stored, and **the discharging process**, in which liquified air is evaporated, heated, and expanded to drive a turbine generator for power generation.
- This system can **absorb solar and wind power output fluctuations** by storing and supplying electric power at the right time, **contributing to the widespread use of renewable energy**. Additionally, **it enables long-duration energy storage and provides the inertial force to stabilize the power system's frequencies.**
- In partnership with Hiroshima Gas Co., Ltd., the LAES commercial demonstration plant at Hatsukaichi LNG Terminal commenced commercial operation in December 2025. The facility enhances charging efficiency by utilizing LNG cold energy during the liquefied air production process.

Carbon Neutral Contribution points

- ✓ **Contributing to stabilizing the power system**
- ✓ Contributing to **making renewables a main power source**
- ✓ Utilization of external waste heat and waste cold heat is possible

Copyright © Sumitomo Heavy Industries, Ltd. All Rights Reserved.