Tomakomai CCS Demonstration Project – Achievements and Future Outlook

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Summary of Tomakomai CCS Demonstration Project

➢ Operation of full chain CCS system from capture to storage conducted successfully, target of 300,000 tonnes of CO₂ injection achieved. Monitoring operations being continued.

➢ CO₂ capture process comprising two-stage absorption system with low pressure flash tower achieved significantly lower capture energy than conventional system

➢ Deviated injection wells from onshore site into offshore reservoirs saved drilling cost, avoided disturbance of marine environment and harbor operation

➢ Safety and reliability of CCS system demonstrated

➢ Concerns about earthquakes and induced seismicity addressed
  • Natural earthquakes have not caused damage to reservoirs; no data suggesting connection between CO₂ storage and earthquakes

➢ Project being conducted with understanding and support of local community
  • Importance of information disclosure and diligent efforts to secure understanding of local stakeholders
Future Outlook of Tomakomai Project
Overview of CO₂ Ship Transportation Project

Objectives and schedule of project
1. R&D of long-distance and large-scale transportation (~1M tonnes/year) and design of equipment
   Schedule: FY2021 to FY2026

2. Liquefied CO₂ ship transportation demonstration (~10,000 tonnes/year)
   Schedule: Engineering, Procurement and Construction / FY2021 to FY2023
   Ship transportation demonstration / FY2023 to FY2026

FY: April to March

Source: NEDO
Demonstration of CO₂ Ship Transportation

Key Points
➢ World first CO₂ ship transportation for CCUS
➢ Identifying issues for social implementation in anticipation of future era of large-scale liquefied CO₂ shipping

Coal fired plant with CO₂ capture

Gross tonnage: 999 tonnes
Loadable cargo volume: Approx. 1,000 tonnes

Tomakomai CCUS Center

Source: Kansai Electric Power

Source: NEDO
Thank you for your attention

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