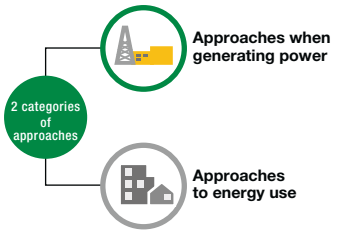
Development of technology for lower CO_2 emissions



We are developing technologies to gasify and burn coal to achieve efficient power generation.

To maximize the advantages of coal in providing stable and energy-efficient supply of electric power, and yet significantly reduce CO_2 emissions at the same time, TEPCO is advancing the development of the IGCC* (integrated coal gasification combined cycle) system. The system would realize highly efficient power generation by using a combined cycle that gasifies and burns coal, while emitting only the same amount of CO_2 as oil-fired thermal power generation. Toward commercialization of the technology, we are presently conducting demonstration tests to confirm the performance, endurance, and economic efficiency of the system.

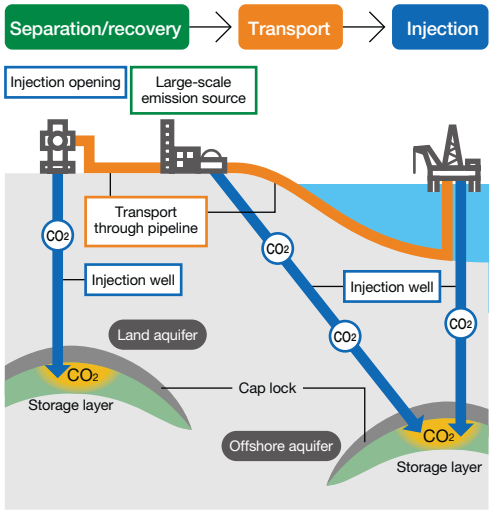
IGCC demonstration plant

Photo by: Clean Coal Power R&D Co., Ltd.

We are developing technology to capture and store CO_2

The technology for CCS* (CO_2 capture and storage) which is capturing CO_2 from power stations and facilities and storing it underground or in the sea to isolate it from the atmosphere, is being developed around the world. For its part, TEPCO is promoting the research of CO_2 recovery technologies and studies on the assessment of CCS feasibility.

The CCS concept

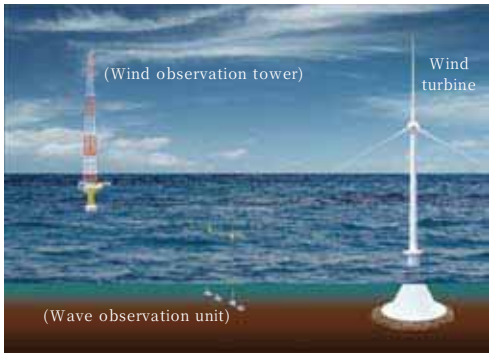


Source: Based on Ministry of Economy, Trade and Industry, "CCS2020"

We are conducting demonstration studies of offshore wind power generation

TEPCO is conducting a demonstration study of offshore wind power generation in cooperation with the New Energy and Industrial Technology Development Organization (NEDO). Under the project, a stationary wind turbine located about 3 km off the southern coastline of Choshi City, Chiba Prefecture will be used to establish operation and maintenance methods and prepare design guidelines for a wind power generation system. TEPCO is also implementing a demonstration test of offshore wind monitoring in the same location, in cooperation with the University of Tokyo.

Rendering of the demonstration facility



* Facilities in parentheses are observation facilities that have already been installed or are slated to be installed under the demonstration study of offshore wind monitoring.

Terminology

IGCC
Abbreviation for "Integrated coal Gasification Combined Cycle"

CCS
Abbreviation for "Carbon dioxide Capture and Storage"