

Policy and Strategic Consideration of the Implementation of CO₂ Sequestration Technology in Taiwan

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Abstract

This presentation intended to compare energy policy consensus formed in the Second National Energy Convention and conclusions of the 2006 National Sustainable Development Convention in responding to international CO₂ emission reduction treaty with the energy policies of developed countries.

Toward the end of this century, fossil fuel will remain to be major resource for human's energy consumption, as well as the major source of atmospheric CO₂ accumulation. Technologies for CO₂ capture and storage (CCS) during fossil fuel burning are recognized as the most promising measures to achieve CO₂ emission reduction in future, which come together with hydrogen transportation, storage and utilization technologies constitute the main focus in national R&D programs of many developed countries. In contrast, it has not been included in our national R&D strategic planning.

To minimize the possible impacts of international treaty requirements for CO₂ emission reduction on local industry and the economy of our country in the coming decades, and take advantage of the China Petroleum Company's experiences in natural gas underground storage technology, more investment on R&D in CCS technologies is necessary. A roadmap connecting the technology development and future national CO₂ emission reduction should be proposed. In the mean time, world trends and progress related to CCS technologies need to be watched closely as well as get involved in its international cooperation.

Short- to mid-term (before 2015) research efforts shall emphasized on technologies of coal gasification, CO₂ capture and utilization; geographic survey for potential CO₂ storage sites around the island, that help set foundation for future implementing CO₂ storage projects. Beside, enlargement of natural gas utilization and corresponding infrastructure need to be well planned. It can serve as a bridge from fossil fuel era to hydrogen economy. Research with demonstration projects of hydrogen transportation, storage and application are within the scope of this time period. Mid- to long-term (before 2020) program shall include the implementation of CO₂ sequestration technology on local sites and abroad. Local projects can strengthen domestic industries' international competitiveness, and oversea projects under Clean Development Mechanism may bring in extra CO₂ emission quota and hydrogen needed for the country's development, so as to facilitate the build up of local hydrogen economy infrastructure.