

Asia Zero Emission Community (AZEC) : Japan's international strategy of the Green Transformation (GX) Policy

Rather than focusing on the support of RE deployment in Southeast Asia, the Japanese government emphasizes unproven and expensive technologies such as carbon capture and storage as well as coal-ammonia cofiring.

Policy Speech by Prime Minister KISHIDA Fumio to the 208th Session of the Diet (Jan 17, 2022)

“Japan will make use of its technologies, systems and know-how in hydrogen and ammonia and other areas to contribute to the decarbonization of the world, especially Asia, and lead the world in technical standards and international infrastructure development, together with the countries of Asia. “

“We aim to join forces with like-minded countries in Asia in creating something that can be called the ‘Asia Zero Emissions Community’.”

Source : Prime Minister's Office of Japan "Policy Speech by Prime Minister KISHIDA Fumio to the 208th Session of the Diet" (January 17, 2022)

AZEC

① Zero emission tech. development

② International co-financing

③ Technology Standardization

④ Carbon credit market development



Source : Prime Minister's Office of Japan

Source : METI "Clean Energy Strategy Interim Report" (May 2022)

Asia CCUS Network (ACN) : To facilitate deployment of CCUS

Launched in Jun 2021, ACN activities has been conducted by METI and ERIA.

Stated ACN mission is to “facilitate deployment of CCUS in the EAS region” through “knowledge sharing”, “research study”, “capacity-building” and so on.

However, their concept and action plans are based on misperception about renewable energies and fossil fuels realities.



The government has repeatedly spread misinformation that Southeast Asia's renewable energy potential is small.

“Fast-growing economies in Asia are forced to choose to use fossil fuels, a major source of greenhouse gas emissions, but also a region with large CO2 sequestration potential”

Source: METI: Oil and Natural Gas Subcommittee (13th Meeting), February 15, 2021



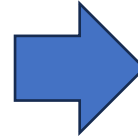
COP26 World Leaders Summit Statement by Prime Minister KISHIDA Fumio November 2, 2021

“Since solar power plays a major role in the transition to renewables in Asia, to help stabilize electrical frequency in the region, **converting existing thermal power generations into zero-emission power generation is a necessary path.**”

Source: Prime Minister's Office of Japan

Ammonia co-firing : “True & fair” way to achieve SEA CO₂ reduction?

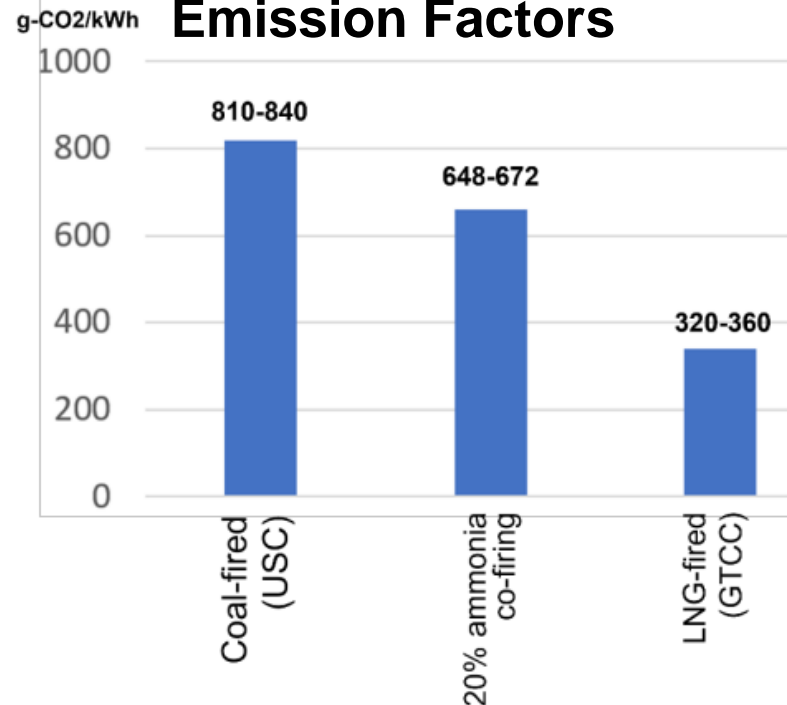
The Gov't of Japan emphasizes coal-ammonia co-firing as “realistic” decarbonization measure in the Asian region.



20% ammonia co-firing (aiming to operate in 2030's) emits twice as much CO₂ as natural gas-fired power plants.

PV is already cheaper compared to coal-fired power in SEA 4 countries. In case of ammonia co-firing would cost 2 - 3 times more than PV.

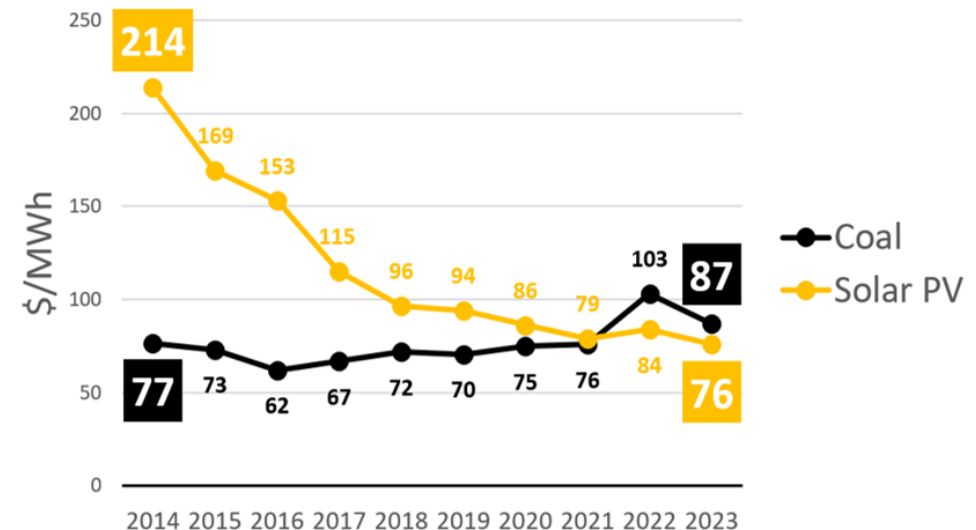
Comparison of Thermal Power Emission Factors



Source : Renewable Energy Institute
“Re-examining Japan's Hydrogen Strategy” (September 2022)

Solar PV Outcompetes Coal

Average Benchmark LCOEs of Solar PV and Coal in Southeast Asia 2014-2023 2H



Source: [BloombergNEF](#)

Asia CCUS Network (ACN) : A mechanism to export Japan's CO₂ to Asian region

In October 2021, the Cabinet approved the Sixth Strategic Energy Plan under the Basic Act on Energy Policy. During its discussion process, METI's advisory committee referred to the scenario which assumes to export of over **235Mt-CO₂/yr** from Japan.

In March 2023, METI published "CCS Long-Term Roadmap Final Report". ACN is one of the key initiatives to promote CCS projects overseas.

- Overseas storage potential is a prospective option for Japan
- Start concrete negotiations intending to CO₂ export from Japan with some countries
- Encourage domestic companies to get CCS equity via ACN or JOGMEC risk money support
- Realize emission trading scheme by developing international credit scheme including CCS-derived credit in its scope

Scenario Assumption by RITE

Scenario	シナリオ名	CCUS (貯留ポテンシャル)	CCUS (Storage potential)
Reference Case	参考値のケース		
1 Renewable Energy 100%	①再エネ100%	国内貯留:最大 91MtCO ₂ /yr、 海外への輸送: 最大235MtCO ₂ /yr	Domestic storage: max 91 Mt-CO ₂ /yr. Overseas transportation: max 235 Mt-CO₂/yr.
2 Renewable Energy Innovation	②再エネイノベ		
3 Nuclear Power Utilization	③原子力活用 ²		
4 Hydrogen Innovation	④水素イノベ		
5 CCUS Utilization	⑤CCUS活用	国内:最大 273MtCO ₂ /yr、 海外:最大 282MtCO ₂ /yr	Domestic storage: max 273 Mt-CO ₂ /yr. Overseas transportation: max 282 Mt-CO₂/yr.
6 Demand Transformation	⑥需要変容	国内:最大91Mt、 海外:最大235Mt	Domestic storage: max 91 Mt-CO ₂ /yr. Overseas transportation: max 235 Mt-CO₂/yr.

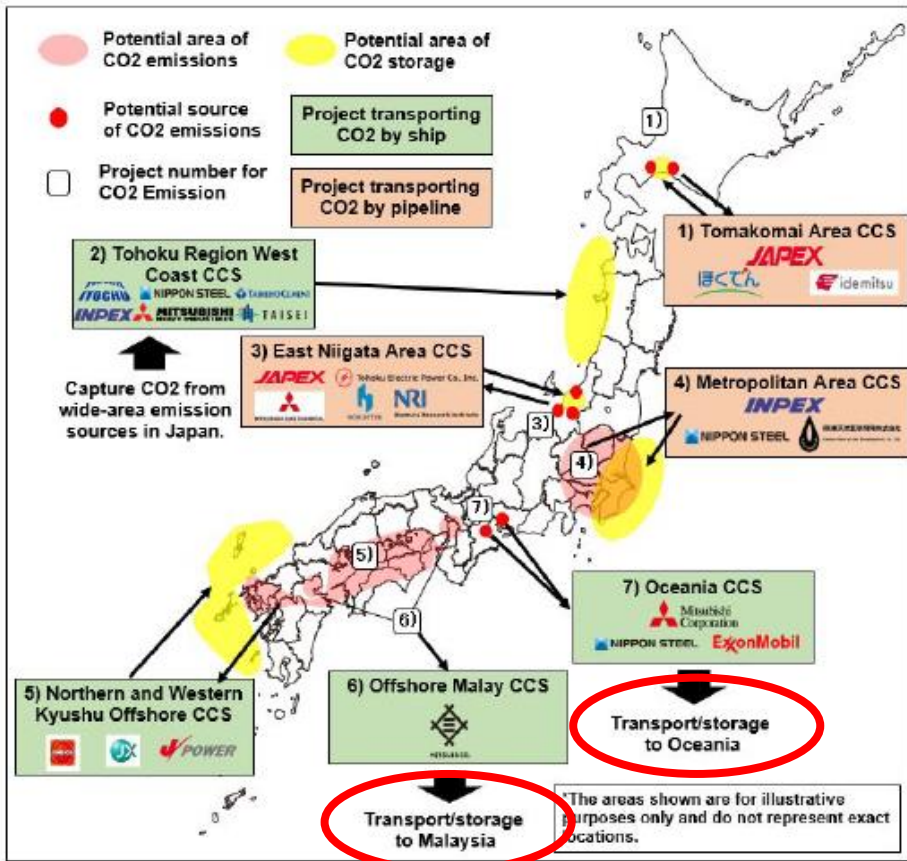
Source : METI "Outline of CCS Long-term roadmap final report" (Sep 14, 2023)
Presentation material for the 1st Carbon Management Sub-committee

Source : Excerpted from RITE "Scenario analysis for 2050 carbon neutral – Interim report" (May 13, 2021) *English translation and red highlights by REI

Asia CCUS Network (ACN) : While continuing to use fossil based thermal power, Japan aims to export its emitted CO₂ to ASEAN

In Jun 2023, METI&JOGMEC (*) announced 7 selected “Japanese Advanced CCS projects”. 2 of 7 are planning to store CO₂ overseas, namely Oceania and **Malaysia**. METI seeks to achieve approximately 120 to 240 Mtpa of CO₂ storage by 2050.

Locations of the selected projects and companies



* JOGMEC: the Japan Organization for Metals and Energy Security

Project Overview (Offshore Malay CCS)

6) Offshore Malay CCS

Company	Mitsui & Co., Ltd.
Area of CO ₂ Storage	Offshore the east coast of the Malay Peninsula in Malaysia (Offshore depleted oil and gas field, saline aquifer)
CO ₂ Storage Volume	Approximately 2 Mtpa
CO ₂ Emission Sources	Multiple industries including chemicals / oil refineries in the Kinki/ Kyushu regions, etc.
Transportation	Ship and pipeline
Project Outline	Project promoting cooperation with Malaysia's National Oil Company which maintains positive discussions on accepting CO ₂ from Japan.

Source) METI " Full-scale Commencement of Japanese CCS Projects - JOGMEC Selects Projects as Japanese Advanced CCS Projects-" (June 13, 2023)