

NEDO's International Collaboration activities

November 2024

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New Energy and Industrial Technology Development Organization (NEDO)

Japan's Hydrogen Policy Moves

- Historically Japan started hydrogen/fuel cells R&D back in **1973** (before the oil shock started).
- **The first country to have formulated a national hydrogen strategy (2017).**
- The Prime Minister set **"2050 carbon neutral" declaration (2020).** **\$15bn Green Innovation Fund.**
- Positioned **hydrogen as one of the priority areas** in the Green Growth Strategy.
- **Key part of achieving green transformation economy plan (2023).**

Milestones Japan's Policy Moves

2014
Hydrogen and Fuel Cell Strategy RM

2017
Basic Hydrogen Strategy

2020
PM's 2050 CN Declaration Green Growth Strategy

2021
-Green Innovation Fund
-Revised Strategic Energy Plan

2023
-GX Promotion Act
-Basic Hydrogen Strategy updated

Targets (Set in the Basic Hydrogen Strategy on Dec. 26, 2017 – updated in 2023)

□ Supply & Demand volume:

Current (Approx. 2Mt) → 2030 (**Approx. 3Mt**) → **2040 (Approx. 12Mt)** → 2050 (**Approx. 20Mt**)

□ Hydrogen cost (@Port)

2030 (**JPY30/Nm3**) → 2050 (**Less than JPY20/Nm3**)

Japan's Hydrogen Policy Updates

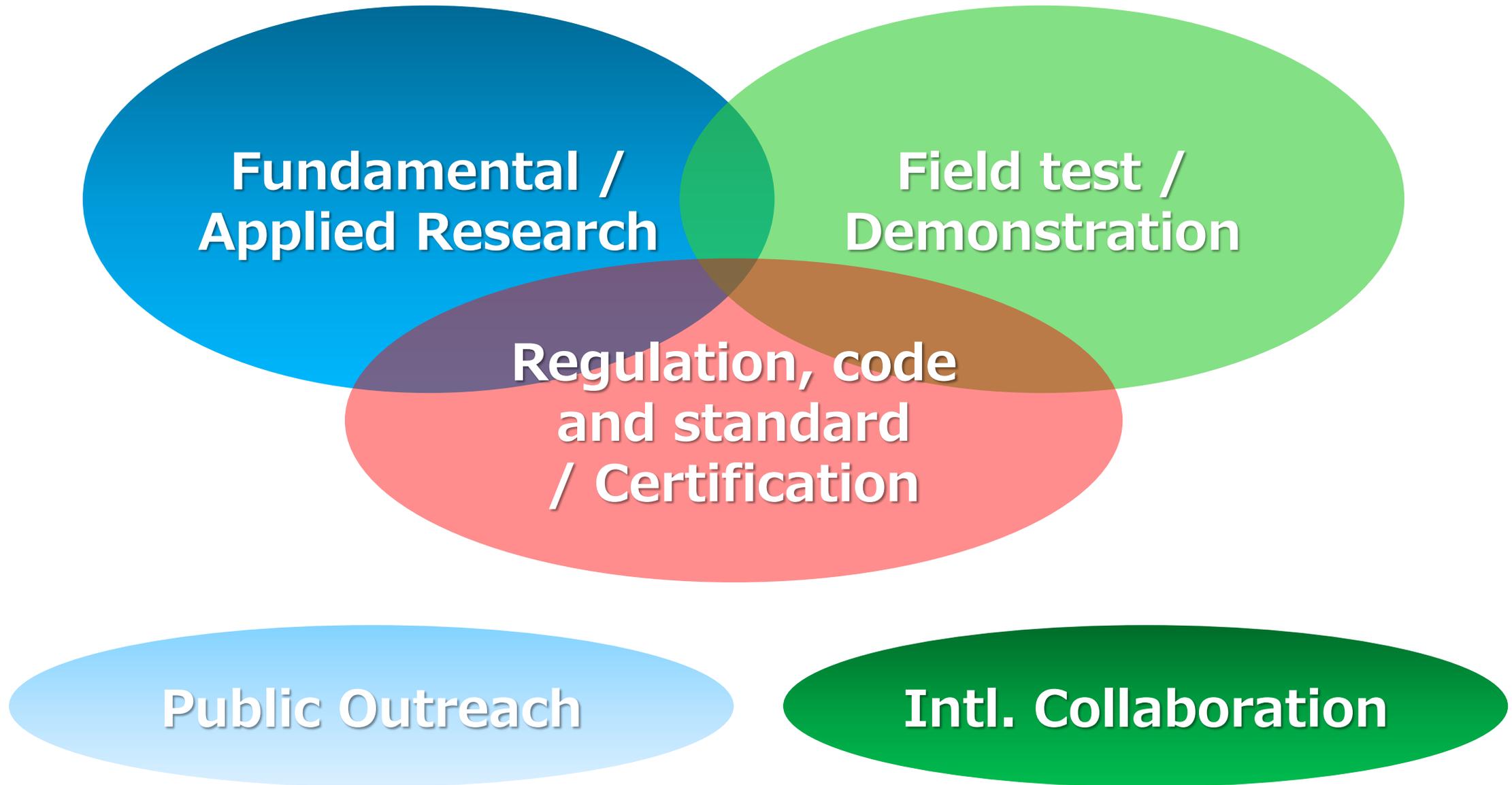
● Revision of Basic Hydrogen Strategy (6 June 2023)

- ✓ Setting new targets
 - H₂ introduction: 12million tons (2040)/ Electrolysis: 15GW(2030, worldwide)
- ✓ Promoting transition to “low-carbon hydrogen”
- ✓ Strengthening industrial competitiveness in the global market
 - Prioritizing nine strategic areas
(Electrolysis, Hydrogen Supply Chain, Fuel Cells, Power Generation, etc.)

● Hydrogen Society Promotion Act (17 May 2024)

- ✓ METI will formulate a basic policy for promoting the supply and utilize of low-carbon hydrogen and its derivatives.
- ✓ Establishment of a plan certification scheme
 - Businesses who would like to produce / import and utilize clean hydrogen and its derivatives will submit their plan to METI.
- ✓ Measures for certified businesses
 - Subsidy for price gap, constriction of common infrastructure
 - Special measures for regulation

NEDO's Strategy: Comprehensive approach

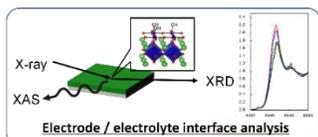


NEDO's R&DD activity

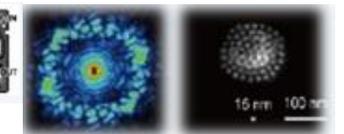
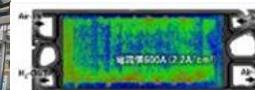
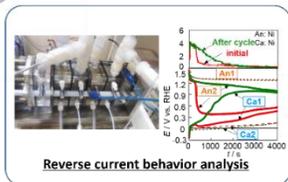
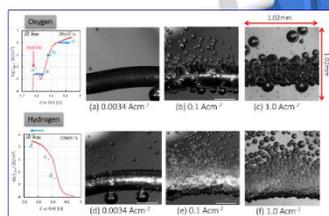
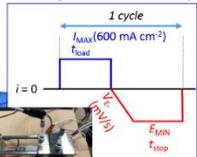
Production

Storage / Transport

Utilization



Accelerated degradation evaluation protocol



Collaboration through International Framework



International Partnership for Hydrogen and Fuel Cells in the Economy



Hydrogen TCP



IEA Technology Collaboration Programme
Advanced Fuel Cells



AN INITIATIVE OF THE CLEAN ENERGY MINISTERIAL



CLEAN
HYDROGEN
MISSION



AZEC

Asia Zero Emission Community



Hydrogen
Council



Asia Zero Emission Community

With Clean Hydrogen Partnership: June 2024

Organizing workshop to identify collaboration activity on specific theme

(Current theme)

- Electrolysis Evaluation
- Hydrogen/Ammonia Combustion
- Liquefied Hydrogen
- Hydrogen Refueling Protocol for HDV

1st WS on Electrolysis will be held during European Hydrogen Week



Technology Evaluation

Production

Transportation

Utilization

@Merced

@San Pedro (LA·LB Port)



RNG



Pipeline



Production



Storage



Mobile Refueler

93MPa

70MPa



Top handler



RTG



Tractor



Drayage truck



Ongoing other International Projects

Germany



- Hydrogen gas turbine
- Alkaline Electrolysis (FS)

USA



- ZEB System using green hydrogen (FS)

Thailand



- Fuel-cell bus (FS)
- Fuel-cell forklift (FS)
- Hydrogen from ammonia cracking (FS)

India



- Decarbonization of automobile factory (FS)

Indonesia



- Power to gas using geothermal power (FS)

FS: Feasibility Study Phase



Thank you!