

FCDIC Report 44th Issue (No.44)

"FCDIC Report No.44" is issued on March 30, 2025. Please refer to the following contents. There are many "topics"-issues, Toyota/Honda situation (next generation of FC system in FCV) at H2&FC Expo, EXPO 2025 Osaka/Kansai, Toyota Woven-City, Trump/US President, "color" of hydrogen, and FC deployment. Also, there are very interesting information about hydrogen transfer through pipe in the "General Papers & Other Publication, in the 10) and 11), each highlighted in green.

It is appreciated if you give us any comment on this new report.

1. The Journal of Fuel Cell Technology

The Journal of Fuel Cell Technology, Vol.24 No.4 is in progress. The topics is "Analysis and Evaluation on the fuel cell and water electrolysis (tentative)".

- 2. Topics related to fuel cell and hydrogen energy: from January 25 to March 21, 2025 <METI, Local Government/Tokyo, NEDO, JOGMEC>
- 1) "Calling Proposal; Technology research and development project aims at discovering and commercializing new energy seeds", Jan. 31 downloaded, 2025

URL: https://www.nedo.go.jp/content/800019897.pdf In Japanese

- 2) "Manual; Roadmap for FCV and HDC(Heavy Duty Vehicle) , Feb. 2025, 200pp", Feb. 7 downloaded, 2025 URL: https://www.nedo.go.jp/content/800020391.pdf In Japanese
- 3) "Brief explanation shown for the project, titled by 'International joint R&D on ammonia decomposition systems toward the realization of on-site hydrogen supply (2024-2027)" Outline, significant of international R&D, Project scheme and Expected outcomes", Feb. 7 downloaded, 2025

URL: https://www.nedo.go.jp/content/800020004.pdf In English

4) "Research presentation for NEDO fuel cell and hydrogen technical roadmap in FY2024, including presentation documents, held on Feb. 4 on-line – FC system, FC stack, FC production technology, hydrogen storage technology and DX technology", Feb. 12, 2025

URL: https://www.nedo.go.jp/events/report/Z2SE_00016.html In Japanese

- 5) "Japan's hydrogen revolution attracts global players", Feb. 22 downloaded, 2025 URL: https://www.jetro.go.jp/en/invest/insights/japan-insight/japans-hydrogen-revolution.html In English
- 6) "NEDO held "Natural hydrogen workshop in Japan" jointly with JAPT, and JOGMEC with nearly 500 participants in the world", Feb.20, 2025

URL: https://www.nedo.go.jp/english/whatsnew_00316.html



In English (JAPT; Japanese Association for Petroleum Technology, JOGMEC; Japan Organization for Metals and Energy Security

7) "Up-dated NEDO FC-Hydrogen roadmap published; Water electrolysis – roadmap and commentary", March 7, 2025

URL: https://www.nedo.go.jp/library/battery_hydrogen.html In Japanese

- 8) "List on hydrogen related companies in Kansai-district, categorized by production, transport/storage and utilization and also categorized by development, production, material, analysis", March 11 up-dated, 2025 URL: https://www.kansai.meti.go.jp/5-1shiene/smart_energy_initiative/hydrogen_data/index.html In Japanese
- 9) "Asia society policy salon Tokyo; Speech by Governor Koike on 1/20", March 17, 2025 URL: https://www.english.metro.tokyo.lg.jp/w/000-101-004117?redirect=%2F In English

<Business Papers>

[Next generation FC-system in FCV and other applications, Toyota and Honda in H₂&FC Expo]

1)" Toyota, 3rd generation FC-system unveiled, to passenger vehicle, versatile application and large commercial vehicle; photo available", Feb. 19, 2025

URL: https://car.watch.impress.co.jp/docs/news/1663890.html In Japanese

2)" Honda unveiled specification of the next generation of FC-system, half the cost and twice the durability, specification table and photo available", Feb. 19, 2025

URL: https://car.watch.impress.co.jp/docs/news/1663932.html In Japanese

3)" Honda news-release; photo and specification table for both next-generation of car- and stationary-module", Feb.22 downloaded, 2025

4)" Honda and Toyota unveiled next-generation FC-module and FC-system, respectively at H2&FC Expo", March 9, 2025

URL: https://news.yahoo.co.jp/articles/4534260174edc9a7f0ae90099154dcbf62e4b210 In Japanese

[Expo 2025 Osaka, Kansai]

1)" Infrastructure development for the Expo 2025 Osaka, Kansai, Japan, and creating vibrancy around the Expo", Feb. 25, 2025

URL: https://

FUEL CELL DEVELOPMENT INFORMATION CENTER



Mar. 30, 2025

www.kansai.meti.go.jp/2kokusai/ryoujikan/2025forum/2025forum_E/2025seibikyoku_mlit_e.pdf In English

(This item located here, EXPO, in spite of the METI Kansai government URL)

2)" What is 'The future city' in the coming EXPO 2025 Osaka, Kansai? 12 exhibitors showcase their future societies", March 21, 2025

URL: https://www.travelvoice.jp/english/what-is-the-future-city-in-the-coming-expo-2025-osaka-kansai-12-exhibitors-showcase-their-future-societies

In English

3)" Hydrogen fuel boat unveiled ahead of Expo 2025 in Osaka, Photo available", Jan. 29, 2025

URL: https://www3.nhk.or.jp/nhkworld/en/news/20250129_22/

A hydrogen fuel cell ship for taking passengers to and from the 2025 World Exposition in Osaka has been shown to media. The boat is powered by electricity generated from hydrogen and oxygen. Hydrogen is expected to be a next-generation energy source, as it does not emit carbon dioxide when burned. The passenger service is aimed at showcasing Japan's decarbonization technology at the expo set to open in April. The ship, named Mahoroba, is 33 meters long and can carry up to 150 people. Operators plan to run it at 10 knots, or about 20 kilometers per hour. Around 130 kilograms of hydrogen can be loaded onboard. A new hydrogen station for ships has been set up at Kansai Electric Power Company's thermal power plant at Osaka Port.

The ship was developed by Iwatani Corporation. An official of the firm, Sano Yuichi, says passengers will feel an added sense of excitement as they travel to the expo venue. He says he hopes the boat will demonstrate the great potential of hydrogen. The ship is scheduled to operate three days a week during the event. Routes include one that links Nakanoshima in Osaka, Universal City Port near Universal Studios Japan and Yumeshima, the expo site.

In English

4)" Mahoroba hydrogen fuel cell ship debuts, connecting central Osaka and Expo site in 60 minutes, Video available", Jan. 30, 2025

URL: https://newsonjapan.com/article/144796.php

In English

5)" FC ship, 'Mahoroba' unveiled to bring visitors to the venue, video available", Jan. 30, 2025

URL: https://www.fnn.jp/articles/-/821599

In Japanese

Other URL on this item in Japanese

URL: https://news.yahoo.co.jp/articles/9fdc216b11f4be94a02ba125d75f135fcb5f9974

6) Hydrogen-powered vending machine to debut at Osaka Expo, Photo available: H2 stored in cartridge",

March 19, 20245

URL: https://www.asahi.com/ajw/articles/15675115

In English

[Toyota Woven City]

1) "A special look at some areas of Woven City! The progress of the test course for mobility", Jan. 29,



2025

URL: https://toyotatimes.jp/en/newscast/111.html In English

2) "Akio Toyota on Woven City: mobility will create Japan's future", Jan. 21, 2025

URL: https://toyotatimes.jp/en/newscast/112.html In English

3) "What sort of future will Woven City bring? Collaboration in air conditioning, vending machines, food, coffee, and education", Mach 10, 2025

URL: https://toyotatimes.jp/en/series/welcome_to_woven_city/001.html In English

[Trump, president of US]

1) "Carbon capture industry tweaks message", March 16, 2025

URL: https://www.japantimes.co.jp/environment/2025/03/16/climate-change/carbon-capture-trump/ In English

2)"Clean hydrogen business facing growing headwinds; Supply costs, Trump's focus on LNG dent confidence", March 17,2025

URL: https://japannews.yomiuri.co.jp/business/economy/20250317-243806/ In English

[Pink and underground (white) hydrogen]

1) "Revolutionizing clean energy: Why pink hydrogen is the future we need", Feb. 3, 2025

 $\label{lem:url:linear} \begin{tabular}{ll} $\tt URL$: https://newstime.jp/revolutionizing-clean-energy-why-pink-hydrogen-is-the-future-we-need/linear-energy$

2) "Underground hydrogen (white hydrogen) storage market report: Trends, forecast and competitive analysis to 2031; Both Japanese and English sites available; Report written in English", Feb. 21 downloaded, 2025

 $\label{lem:url:local} \begin{tabular}{l} URL: https://www.dri.co.jp/auto/report/lucintel/250313-underground-hydrogen-storage-market-report.html In English \end{tabular}$

[Deployment of Fuel cells]

1)" Toyoda Gosei and Inabe City (Mie Prefecture) jointly held 'fuel cell Class' to around 10 year-students, including FC principle and FC-kit assembly on Match 16 for ~50 minutes", March 17, 2025

URL: https://www.toyoda-gosei.co.jp/news/details.php?id=1387 In Japanese

2)" Yamanashi Prefecture/Event Information; Human resources development on the hydrogen and fuel cell industries", March 10, 2025

URL: https://www.yamanashi.ac.jp/52021

In Japanese (Classified in the "Business topics")



[General topics]

1) "Successfully demonstrated marine transportation of green hydrogen produced in New Zealand and its utilization in Fiji; Obayashi Corp.", Jan. 28, 2025

URL: https://www.obayashi.co.jp/en/news/detail/news20250128_1_en.html In English

2) "Reducing greenhouse gas emissions by up to 62% compared to conventional methods development of hydrogen-mixed oxygen-enriched burner for a cullet melting furnace; Taiyo Nippon Sanso Corp.", Jan. 27, 2025

URL: https://www.tn-sanso.co.jp/en/news/detail.html?itemid=880&dispmid=994&TabModule995=0 In English

See also URL: https://www.tn-sanso.co.jp/Portals/0/images/en/NewsRelease/TN20250127Release_EN.pdf

3) "AIST test facility more efficiency recycles CO2 into liquid synfuel", Jan. 25, 2025

URL: https://www.asahi.com/ajw/articles/15558576 In English

4) "Demonstration test was implemented to be assumed in shelter in mid-winter, Shikaoi-hydrogen farm (Hokkaido): hydrogen evolution from excrement-bio gas", Feb. 4, 2025

URL: https://www.teijin.co.jp/news/2025/02/04/20250204_01.pdf In Japanese

5) "FY2025 3Q Financial Results, including "Accelerating BEV/battery development and production in the U.S. and China", "Further boosts to earning power", Feb. 5, 2025

URL: https://toyotatimes.jp/en/toyota_news/financial_results_2025/003.html In English

6) "JAEA plans hydrogen facility integrated with N-reactor; Goals steady supply of hydrogen without CO2 by-product, JAEA: Japan Atomic Energy Agency", Jan. 31, 2025

URL: https://japannews.yomiuri.co.jp/science-nature/science/20250131-236383/ In English

7) "Mizuho report aims to spur action to move into alternative energy", Feb. 4, 2025

URL: https:// www.japantimes.co.jp/esg-consortium/2025/02/04/mizuho-report-aims-to-spur-action-to-move-into-alternative-energy/

In English

8) "Nippon Steel cuts blast furnace CO₂ emissions by a record 43%", Feb. 6, 2025

URL:https://www.asahi.com/ajw/articles/15578199

In English

9)" Mitsubishi Gas Chemical(MGC) develops an emergency power supply based on DMFC 'FcMycle^{TM'}, collaborated with DKK Co., Ltd.", Feb. 5, 2025

URL: https://www.mgc.co.jp/corporate/news/2025/250205.html



In Japanese

10)" Mitsubishi Corp., Kirin Brewery, MCKB energy service, Takasago Thermal Engineering., and Miura collaborate on energy conversion from fossil fuels to green hydrogen", Feb. 7, 2025

URL: https://www.mitsubishicorp.com/jp/en/news/release/2025/20250207001.html In English

11)" Kobelco entered the entrustment business on PVD surface treatment, for FC and electrolysis", Feb. 20, 2025

URL: https://news.yahoo.co.jp/articles/eedaff2af5d996c87e2be6328001dd1ed783c048

In Japanese

Kobelco URL; https://www.kobelco.co.jp/releases/1216162_15541.html

 $12) "Logistics, plants, cafeteria; {\color{blue}More and more uses for hydrogen, and more partners, too!"}, Feb.~29, 2025$

URL: https://toyotatimes.jp/en/newscast/115.html

In English

13)" Komatsu begins proof-of-concept tests for the world's large dump truck equipped with a hydrogen combination engine; Photo of a concept machine of a large dump truck with a hydrogen combustion engine available", Feb. 29, 2025

URL: https://www.komatsu.jp/en/newsroom/2025/20250219_1 In English

14)" The promise of green iron, steel and ammonia is keeping the green hydrogen dream alive", Feb. 21, 2025 URL: https:// menafn.com/1109233063/The-Promise-Of-Green-Iron-Steel-And-Ammonia-Is-Keeping-The-Green-Hydrogen-Dream-Alive In English

15)" Mitsubishi and ENEOS to conduct front end engineering design for sustainable aviation fuel (SAF) production at the Wakayama Refinery", Feb. 21, 2025

URL: https://www.mitsubishicorp.com/jp/en/news/release/2025/20250221002.html In English

16)" Ready to catalyze shift to hydrogen society; Tanaka Precious Metal Technologies Co.", Feb. 19, 2025 URL: https://www.japantimes.co.jp/2025/02/19/special-supplements/ready-catalyze-shift-hydrogen-society/ In English

17)" Initiatives of aircraft for decarbonization,; state-of the-art and issue of hydrogen fuel cell and hydrogen engine", Feb. 25, 2025

URL: https://mygreengrowers.com/blog/initiatives-for-decarbonizing-aircraft/ In English

18)" Mitsubishi and ENEOS to conduct front end engineering design for sustainable aviation fuel (SAF) production at the Wakayama Refinery", Feb. 24, 2025

URL: https://www.jcnnewswire.com/english/pressrelease/96336/3/Mitsubishi-and-ENEOS-to-conduct-Front-End-Engineering-Design-for-Sustainable-Aviation-Fuel-(SAF)-Pro



In English

19)" Honda selected as a CDP "Climate Change A List" company for second consecutive year", Feb. 27, 2025

URL: https:// www.jcnnewswire.com/pressrelease/96482/3/Honda-Selected-as-a-CDP-Climate-Change-A-List-Company-for-Second-Consecutive-Year

In English

20)" Kobe Steel's ultra-low temperature hydrogen reciprocating compressor unit endorsed by CkassNK's statement of feasibility for technology qualification", Feb. 27, 2025

URL: https://www.kobelco.co.jp/english/releases/1216191_15581.html In English

21)" Uniper(Germany) and Kyuden International sign MOU to explore collaboration in hydrogen and ammonia, renewable energy, CCUS - Exploring opportunities for business expansion", Feb. 12, 2025

URL: https://www.kyuden.co.jp/english/company/news/2024/h250212-1.html In English

22)" Revolutionary hydrogen generator could transform global energy landscape", Feb. 27, 2025

URL: https://newstime.jp/revolutionary-hydrogen-generator-could-transform-global-energy-landscape/In English

23)" The hydrogen revolution: How innovations in fuel cells are reshaping the energy landscape", March.6, 2025

URL: https:// newstime.jp/the-hydrogen-revolution-how-innovations-in-fuel-cells-are-reshaping-the-energy-landscape/

In English

24)" Japan Hydrogen Fund, managed by advantage partners, leads the adoption of hydrogen in the hard-to-abate sectors", March. 4, 2025

URL: https://www.tokyocentury.co.jp/tc-news-en/services/specialty-financing/hydrogen-fund/In English

25)" The hydrogen revolution: Unveiling the future of energy storage", March 3, 2025

 $\label{lem:unveiling-the-future-of-energy-storage/lem:unveiling-the-future-of-energy-storage/lem: URL: $$https:// newstime.jp/the-hydrogen-revolution-unveiling-the-future-of-energy-storage/lem: $$In English$$$

26)" The hydrogen revolution: A ride into the future of fuel cells", March 11, 2025

URL: https://newstime.jp/the-hydrogen-revolution-a-ride-into-the-future-of-fuel-cells/In English

27)" Hydrogen is hot in the northern lands! Expanding the decarbonization movement, in Sapporo Snow Festival on hydrogen stove/flame, video available", March 12, 2025

URL: https://toyotatimes.jp/en/newscast/118.html In English

28)" Japan's coffee, whisky makers trading gas for 'green hydrogen", March 11, 2025

FUEL CELL DEVELOPMENT INFORMATION CENTER



Mar. 30, 2025

URL: https://www.asahi.com/ajw/articles/15632425 In English

29)" MHIET achieves rated operation of a 6-cylinder 500kW-class hydrogen engine generation set, photo available", March 12, 2025

 $\label{thm:compress} \begin{tabular}{ll} URL: & https:// & www.jcnnewswire.com/pressrelease/96932/3/MHIET-Achieves-Rated-Operation-of-a-6-Cylinder-500kW-class-Hydrogen-Engine-Generator-Set In English \end{tabular}$

30)" The hydrogen revolution: Provaris' bold moves to redefine energy frontiers", March 12,2025

URL: https://newstime.jp/the-hydrogen-revolution-provaris-bold-moves-to-redefine-energy-frontiers/In English

[Market]

1)" Forecast of global market on FCV - 2025~2030, detailed contents and free sample available", Jan. 30,2025 URL: https://newscast.jp/news/3061685

In Japanese

2)" Japanese FC market will reach to \$1.6 billion, detailed contents and free sample available", Jan. 30,2025

URL: https://japan.cnet.com/release/31067793/

In Japanese

3)" FC large truck will grow 57% yearly, up to \$39 billion in 2030", Jan. 27, 2025

URL: https://www.logi-today.com/718064

In Japanese

4)" Automotive fuel cell market to reach \$12.6 billion, globally, by 2033 at 45.7% CAGR", Jan. 28, 2025

URL: https://menafn.com/1109137477/Automotive-Fuel-Cell-Market-To-Reach-126-Billion-Globally-By-2033-At-457-CAGR-Allied-Market-Research

In English

5)" Hydrogen fuel cells market projected to reach USD 22.7 billion by 2033, growing at 20.2% CAGR", Jan. 27, 2025

URL: https:// menafn.com/1109133301/Hydrogen-Fuel-Cells-Market-Projected-To-Reach-USD-227-Billion-By-2033-Growing-At-202-CAGR

In English

6)" Hydrogen energy storage market is poised to attain valuation of US\$31 billion by 2033", Jan. 27, 2025

URL:https:// menafn.com/1109134133/Hydrogen-Energy-Storage-Market-Is-Poised-To-Attain-Valuation-Of-US-3104-Billion-By-2033-Astute-Analytica

In English

7)" Global market on stationary FC, detailed contents and free sample available", Feb. 6, 2025

URL: https://newscast.jp/news/0485076

In Japanese



 $8) "Global \ market \ on \ hydrogen \ storage \ bottle \ 2025, \ detailed \ contents \ and \ free \ sample \ available", Feb. \ 13, 2025, \ and \ available \ av$

URL:https://newscast.jp/news/6570329

In Japanese

9)" Alkaline fuel cell AFC market advancing clean energy solutions for sustainable power generation 2025-2034", Feb. 7, 2025

URL:https:// menafn.com/1109179239/Alkaline-Fuel-Cell-AFC-Market-Advancing-Clean-Energy-Solutions-For-Sustainable-Power-Generation-2025-2034

In English

10)" Hydrogen fuel cell market trends: Powering the automotive industry", Feb. 27, 2025

URL:https:// menafn.com/1109255197/Hydrogen-Fuel-Cell-Market-Trends-Powering-The-Automotive-

Industry

In Japanese

11)" Global AEM hydrogen generator market valued at US\$ 127 million in 2024, projected to reach US\$173 million by 2030-QY", Feb. 26, 2025

URL:https://menafn.com/1109251815/Global-AEM-Hydrogen-Generator-Market-Valued-At-US-127-Million-In-2024-Projected-To-Reach-US-173-Million-By-2030-QY

In English

12)" FC stacks - Global market share and ranking, overall sales and demand forecast 2025-2031 159pp free sample", Feb. 28, 2025

 $\label{lem:url:like} URL: https://www.gii.co.jp/report/qyr1664556-fuel-cell-stacks-global-market-share-ranking.html In English$

13)" FC catalyst market is projected to reach USD 1,338 million by 2035, expanding at 8.1% CAGR, free sample available", March 5, 2025

URL:https://japan.cnet.com/release/31056834/

In English

14)" Bipolar plates for PEM FCs - Global market share and ranking, overall sales and demand forecast 2025-2031; Jan. 2025 published 196pp, free sample available - report written English", March 7 downloaded, 2025

URL:https://researchstation.jp/report/QYR/1/Bipolar_Plates.php

In Japanese

15)" Hydrogen generation market trends: Hydrogen's role in the energy transition, related topics available", March 3, 2025

URL:https:// menafn.com/1109269211/Hydrogen-Generation-Market-Trends-Hydrogens-Role-In-The-Energy-Transition

In English

16)" Hydrogen combustion engine market set to witness significant growth by 2025-2032, free sample available", March 3, 2025

FUEL CELL DEVELOPMENT INFORMATION CENTER



Mar. 30, 2025

URL:https:// menafn.com/1109270060/Hydrogen-Combustion-Engine-Market-Set-To-Witness-Significant-Growth-By-2025-2032-AGCO-CorporationBMW-Group
In English

17)" Market on PEM/FCFC, growth and forecast - 2025~2032, free sample available", March 13, 2025 URL: https://pando.life/article/930880

In Japanese

18)" Market on FC for passenger car – market size and forecast 2025~2032, 163 pp, free sample available", March 12, 2025

URL:https://pando.life/article/928126

In Japanese

19)" Bipolar plates for PEM FCs-Global share and ranking, overall sales and demand forecast 2025-2031", March 12, 2025

URL:https://newscast.jp/news/3039683

In Japanese

20)" Fuel cell electric vehicles 2025-2045, 486pp - free sample available, report written in English", March 12, 2025

URL:https://japan.cnet.com/release/31075975/

In Japanese

21)" Hydrogen aircraft market to reach \$590 billion, globally, by 2050 at 16% CAGR", March 13, 2025

URL:https:// menafn.com/1109311859/Hydrogen-Aircraft-Market-To-Reach-5906-Billion-Globally-By-2050-At-164-CAGR-Allied-Market-Research

In English

22)" Green industrial gases market report 2025: Green hydrogen is expected to revolutionize the energy, transportation and chemical sectors by providing a zero-emission alternative to fossil fuels", March 13, 2025

URL:https:// menafn.com/1109312011/Green-Industrial-Gases-Market-Report-2025-Green-Hydrogen-Is-Expected-To-Revolutionize-The-Energy-Transportation-And-Chemical-Sectors-By-Providing-A-Zero-Emission-Alternative-To-Fossil-Fuels

In English

23)" Hydrogen fuel cell market growth: Powering the future of clean energy", March 19, 2025

URL:https:// menafn.com/1109330747/Hydrogen-Fuel-Cell-Market-Growth-Powering-The-Future-Of-Clean-Energy

In English

24)" Hydrogen fuel cells gain momentum as industries shift towards sustainable energy", March 17, 2025

URL:https:// menafn.com/1109324411/Hydrogen-Fuel-Cells-Gain-Momentum-As-Industries-Shift-Toward-Sustainable-Energy

In English

25)" Power supply equipment market for water electrolysis - A global and regional analysis: Focus on



application, Equipment type, and region-Analysis and forecast, 2025-2034, 120pp - free sample available", March 18, 2025

URL:https://www.gii.co.jp/report/bis1681012-power-supply-equipment-market-water-electrolysis.html In English

26)" Hydrogen storage market trends: Enabling a green energy future", March 17, 2025

URL:https://menafn.com/1109321951/Hydrogen-Storage-Market-Trends-Enabling-A-Green-Energy-Future In Japanese

<General papers & other publications>

1)" Corrosion and surface-treatment of stainless-steel for PEFC separator by Prof. Yashiro, Iwate Univ., DOI available and PDF to be downlorded", Feb. 7 downloaded, 2025

URL: https://www.jstage.jst.go.jp/article/sfj/75/8/75_367/_article/-char/ja In Japanese

2)" Study on new structure of high pressure CFRP hydrogen tank, Prof. T. Ogasawara, Tokyo Univ. Agriculture and Technology", Feb. 7 downloaded, 2025

URL:https://web.tuat.ac.jp/~ogasat/service35.html In Japanese

3) "Development of ionomer for fuel cell with controlled nano-structure, Prof. Rikukawa, Sophia Univ.", Feb. 14 downloaded, 2025

URL:https://main.spsj.or.jp/koho/61T/61T_10.pdf In Japanese

4) "Breakthrough in high-performance oxide-ion conductors using rubidium for SOFC; DOI available, M. Yamada, Institute of Science Tokyo", Feb.22 downloaded, 2025

URL: https://j-parc.jp/c/en/press-release/2025/02/21001472.html
 In English

5) "Breakthrough in clean energy: Palladium nanosheets pave way for affordable hydrogen, Tokyo Univ. of Science, titled by 'Synthesis of Bis(diimido)palladium nanosheets as highly active electrocatalysts for hydrogen evolution', Schematic drawings and DOI available", March 4, 2025

URL: https://www.tus.ac.jp/en/mediarelations/archive/20250227_9565.html In English

6) "Design of hydrogen carriers synthesis process applying meteorological big data and dynamic simulator, DOI available, Prof. Atsumi, Natuinal Inst. of Tech. (Kosen), Nagaoka College", March 7 downloaded, 2025 URL: https://www.jstage.jst.go.jp/article/mukimate/32/435/32_25.03.02/_article/-char/en

URL: https://www.jstage.jst.go.jp/article/mukimate/32/435/32_25.03.02/_article/-char/er In English

Relevant Japanese URL; https://www.jstage.jst.go.jp/article/mukimate/32/435/32_25.03.02/_article/-char/ja/

7) "A sustainable iron catalyst for water oxidation in renewable energy, DOI available -Prof. M. Kondo, Osaka Univ., titled by "Iron-complex-based catalytic system for high-performance water oxidation in aqueous media", March 5, 2025



URL: https://www.isct.ac.jp/en/news/niag7tzl4lht In English

8) "Gd-induced oxygen vacancy creation activities lattice oxygen oxidation for water electrolysis, DOI available, Contact to Hao Li (WPI-AIMR)", March 11, 2025

URL: https://

 $www.tohoku.ac.jp/en/press/gdinduced_oxygen_vacancy_activates_lattice_oxygen_oxidation_for_water_electrolysis.html$

In English

9) "Rational design of precatalysts and controlled evolution of catalyst-electrolyte interface for efficient hydrogen production, DOI available /contact to Heng Liu (WPI-AOMR)", March 10, 2025

URL: https://

www.tohoku.ac.jp/en/press/rational_design_of_precatalysts_for_efficient_hydrogen_production.html In English

10)" Potential for hydrogen conversion of gas demand by laying hydrogen pipelines - Targeting the manufacturing industry in Aichi Prefecture, Corresponding author T. Uneno, CRIEPI, DOI available", March 14 downloaded, 2025

URL: https://www.jstage.jst.go.jp/article/jjser/46/2/46_94/_article/-char/en

In English, paper written in Japanese (Related to "Hydrogen pipeline")

11) "Overhead hydrogen piping that connects the last mile of supply and demand points, Brother Corp., DOI, PDF available", March 21 downloaded, 2025

URL: https://www.jstage.jst.go.jp/article/hess/48/4/48_252/_article/-char/en In English

12) "New insights into efficient water splitting, DOI available; JAIST: Japan Advanced Institute of Science and Technology", Feb. 25, 2025

URL: https://www.jaist.ac.jp/english/whatsnew/press/2025/02/28-1.html In English

*The URLs are not always permanent. The article and its URL are examined this month.

4. H2&FC Expo 2025 Autumn in SMART ENEGY WEEK

The H2&FC Expo 2025 autumn will be held on Sept. $17 \sim 19$ in Makuhari Messe, Japan.

Please refer to URL(Japanese page): https://www.wsew.jp/autumn/ja-jp.html

And URL(English page): https://www.wsew.jp/autumn/en-gb.html

5. <u>Future Events</u>

<International>

The 32rd Fuel Cell Symposium, May 22 ~ 23, 2025 by hybrid in Funabori, Tokyo and online.

Lectures given basically in Japanese. Application for presentation is closed.

Please refer to URL(in Japanese): https://www.fcdic.jp/symposium/