EU-Japan Centre for Industrial Cooperation
一般財団法人 日欧産業協力センター

Monthly Japanese Industry and Policy News
September (September 1 – September 28) 2023

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Legislation and Policy News

METI holds the 5th International Conference on Carbon Recycling (2023)
The Ministry of Economy, Trade and Industry (METI) will hold "Tokyo GX Week 2023" in order to realize Green Transformation, which will transform the economic, social and industrial structure centered on clean energy, leading to decarbonization and economic growth and development. As one of the conferences, the 5th Industry-Academia-Government International Conference on Carbon Recycling 2023 will be held in Hiroshima on September 27 in collaboration with the New Energy and Industrial Technology Development Organization (NEDO).
Although they plan to stream the event online to allow as many people as possible from overseas to participate, they also plan to have in-person participation and networking at the Hiroshima venue. The conference portal site will update program and speaker information as appropriate, and will also post content related to carbon recycling from various companies and institutions, as was the case up until last year. You can register to participate from the portal site, and the deadline is Friday, September 15.

Date and time: Wednesday, September 27, 2023, 14:00-18:00
Location: Hilton Hiroshima

METI website:
https://www.meti.go.jp/english/press/2023/0804_001.html

NEDO Portal:
https://carbon-recycling2023.nedo.go.jp/en/

METI doubles development support for hydrogen reduction steelmaking to over JP¥ 400 billion
The Ministry of Economy, Trade and Industry (METI) will double the amount of development support to over JP¥ 400 billion for ``hydrogen reduction

steelmaking," which can reduce carbon dioxide (CO2) emissions in the steelmaking process by more than 50%. The commercialization date will also be brought forward by about five years from the originally planned mid-2040s. Supporting the decarbonization of the steel industry, which emits the largest amount of CO2 among domestic industries. The METI presented the proposal at the Industrial Structure Council held on September 15. The target is a hydrogen steelmaking consortium made up of major steel companies including Nippon Steel, JFE Steel and Kobe Steel.

The expenditure will be made from the JP¥ 2 trillion Green Innovation (GI) Fund, which was established to promote the development of decarbonization technology. The fund has already decided to contribute JP¥ 193.5 billion, but the amount will be further increased to accelerate the implementation of the project. The steel industry has a high burden on the environment, accounting for approximately half of the CO2 emissions of domestic industries. Hydrogen reduction ironmaking involves methods such as using hydrogen instead of coke (coal) to extract iron from iron ore. Early establishment of technology will lead to decarbonization.

METI website (in Japanese):
https://www.meti.go.jp/shingikai/sankoshin/green_innovation/energy_structure/pdf/018_05_00.pdf

Development of EV battery supply network in Japan and Canada, leading to tax incentives in the US

On September 21, the governments of Japan and Canada agreed to jointly create a supply chain for storage batteries for electric vehicles (EVs). The government will provide subsidies and other support to Japanese companies expanding into Canada in the exploration and processing of important minerals used in storage batteries. If this becomes a reality, Japanese EVs sold in the U.S. will be more likely to qualify for preferential tax treatment.

METI Minister Nishimura signed a memorandum of cooperation on the storage battery supply chain with the Minister of Innovation, Science and Industry Champagne and others in Ottawa. The METI will encourage Japanese companies to expand into Canada in areas such as exploration and processing

of important minerals and production plants for storage batteries. The Canadian government will facilitate procedures for Japanese companies to obtain development permits and support negotiations with indigenous peoples during exploration.

METI Minister's visit to Canada was accompanied by eight companies and organizations, including battery manufacturers such as Panasonic Energy, a subsidiary of Panasonic Holdings, and Prime Planet Energy & Solutions (PPES), a group company of Toyota Motor, as well as Mitsubishi Corporation. Each company also signed a memorandum of understanding with the Canadian company. Japan relies on China to procure important minerals used in storage batteries, and from the perspective of economic security, Japan is urgently expanding its sources of important minerals.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/09/20230922002/20230922002.html

Japan Weeks is held, an event where the government and financial world invites foreign money

The government and the financial world will jointly hold "Japan Weeks" from September 25 to October 6. They will intensively invite overseas investors and asset management companies to Japan and communicate an effort to transform Japan from savings to investment and asset management. Appealing to both the public and private sectors will lead to investment and new entry into Japan. In addition to the economic events held by various organizations and companies in previous years, a new event was set up for direct discussions between foreign investors and Japanese companies to create a sense of unity.

As part of this event, Prime Minister Kishida will attend the United Nations Principles for Responsible Investment (PRI) annual conference, to be held in Tokyo from October 3 to 5. The conference brings together more than 1,000 people, including investors, pension managers, and policy makers, to exchange opinions on topics such as ESG (environmental, social, and corporate governance) investing.

On October 2, the International Corporate Governance Network will hold a

seminar on the theme of corporate governance. Norwegian pension funds and others will participate. On October 3, they will invite the California State Employees' Retirement Pension Fund, which is promoting pioneering initiatives such as dialogue with companies, to hold a meeting to exchange opinions with Japanese pensions and companies. On October 5 and 6, US asset management giant BlackRock will hold a roundtable with foreign investors and government officials. In aiming to become a nation built on asset management, reforms such as pensions for asset owners are essential.

Japan Weeks website:
https://www.fsa.go.jp/internationalfinancialcenter/lp/japanweeks/

Prime Minister Kishida gives speech in New York and creates "Special Asset Management Zone" to expand investment

On September 21, Prime Minister Kishida gave a speech at a meeting hosted by the New York Economic Club, which is made up of business executives and financial professionals, and said that in order to increase foreign investment in Japan, the government creates a special asset management zone which administrative procedures can be conducted only in English. The aim is to improve convenience for business and daily life and attract foreign asset management experts.

In the speech, he emphasized, “We will carry out structural reforms, which have been pointed out as being lagging in Japan's efforts.” He explained that the total amount of assets under management in Japan has increased 1.5 times in three years, reaching JP¥ 800 trillion, and said, “We will advance the sophistication of asset management and encourage new entry. We will correct barriers to entry.”

Specifically, in addition to amending laws to ease regulations in preparation for the creation of special asset management zones, Japan and the U.S. will launch the “Asset Management Forum”. Furthermore, from the end of this month to the beginning of October, “Japan Weeks” will be held to give people a chance to experience the attractiveness of Japan's financial market, and will explain this initiative as a policy package to overseas investors.

Prime Minister’s Office website:

https://japan.kantei.go.jp/101_kishida/diplomatic/202309/22economicclub.html

METI holds hydrogen ministerial meeting

On September 25, 2023, the Ministry of Economy, Trade and Industry (METI) and the New Energy and Industrial Technology Development Organization (NEDO) held the 6th Hydrogen Ministerial Conference as part of Tokyo GX Week. Twenty-three countries, regions, and organizations participated in the conference, and the following contents were compiled as the chair's summary in order to accelerate and expand the progress of the Tokyo Declaration and the Global Action Agenda. METI Minister Nishimura attended and the key points of the chairman's summary are as follows.

- Sharing with each country an additional global goal of 150 million tons of hydrogen demand by 2030, of which 90 million tons of renewable and low-carbon hydrogen demand.
- Further expansion of hydrogen utilization will be a breakthrough in decarbonization, and it will also create new industries such as hydrogen production, create 800,000 new jobs by 2030, and contribute to sustainable global growth.
- Accelerating the development of international standards and mutual recognition based on carbon intensity and sharing the concept of carbon intensity with countries other than the G7.
- Sharing the need to further expand hydrogen utilization by collaborating with the World Bank and other financial institutions to accelerate financial support in emerging countries and attract private investment.

METI website:
https://www.meti.go.jp/press/2023/09/20230925002/20230925002-1.pdf

Company & Organization News

Mitsui & Co., IHI and others to build a hydrogen and ammonia supply network in the Osaka coastal industrial zone

Mitsui & Co., Mitsui Chemicals, IHI, and Kansai Electric Power Company announced on August 30 that they will begin a joint study to build a hydrogen and ammonia supply chain based in the Osaka waterfront industrial area.

Hydrogen is planned to be extracted by decomposition (cracking) technology of ammonia. Going forward, they will begin discussions with Kobe Steel (Kobe City, Hyogo Prefecture), which is one of the candidate companies for utilization and has announced the challenge of achieving carbon neutrality in its electric power business.

Through this initiative, Mitsui & Co., Ltd., which has the top share of ammonia imports to Japan, Mitsui Chemicals which owns chemical plants in the Sakai and Senboku coastal industrial districts, IHI which is working to build a value chain with a wide range of ammonia-related technologies, and Kansai Electric Power Company which is in the energy businesses in the Kansai region, will combine their experience and knowledge in each field and work to realize a zero-carbon society.
Ammonia contains hydrogen in high density and is easy to handle, so it is also attracting attention as a hydrogen carrier for transporting and storing hydrogen. In addition, ammonia is expected to be used in a wide range of fields, such as fuel use in the power generation field and heat use in the industrial field, because the production, transport, and storage technologies for ammonia have already been established.

Mitsui & Company website:
https://www.mitsui.com/jp/en/topics/2023/1247215_13949.html

AGC and Mitsubishi Gas Chemical manufacture and sell methanol from CO2 generated during glass manufacturing process

On August 31, AGC and Mitsubishi Gas Chemical announced that they will start studying the manufacture and sale of the world's first "environmentally-recycling methanol" that uses CO2 generated during glass manufacturing as a raw material. The aim is to commercialize it by around 2030. In this study, they applied the methanol production technology developed by Mitsubishi Gas Chemical and used the CCU technology that recovers and utilizes CO2. The goal is to convert it into methanol, which has a wide range of uses, and to manufacture and sell it.

Chemical products that use CO2 as a raw material contribute to reducing environmental impact, but the cost increase associated with CO2 capture and

conversion poses an issue. To address this issue, Mitsubishi Gas Chemical will seek to cultivate new customers through its existing sales network. In addition to this study, AGC is considering replacing the methane gas it uses as a raw material in its chemical business with environmentally-recycling methanol, and intends to commercialize chemical products based on the premise of carbon recycling.

AGC website:
https://www.agc.com/en/news/detail/1204505_2814.html

JERA agrees with Germany's Uniper to sell low-carbon hydrogen and ammonia produced in the United States

On September 5, JERA announced that it had reached an agreement with Uniper S.E. of Germany and ConocoPhillips of the United States on the sale of low-carbon hydrogen and ammonia produced in the United States to Uniper. The three companies exchanged a memorandum of understanding one year ago on September 5, 2022, and this time the memorandum has been advanced.

Germany has formulated a national hydrogen strategy aimed at decarbonization, and assuming that the demand for hydrogen in the country will increase, it has indicated a policy to promote the procurement of hydrogen from overseas. Ammonia, a hydrogen derivative, is also covered. JERA is collaborating with ConocoPhillips to develop a manufacturing base on the U.S. Gulf Coast that will produce hydrogen on a large scale and convert it into ammonia. The aim is to start commercial operation of a plant with an annual production capacity of approximately 2 million tons by the end of the 2020s. JERA plans to consider supplying low-carbon hydrogen and ammonia produced in the United States to Europe, including Uniper, as well as to Japan and other Asian countries in the future.

JERA website:
https://www.jera.co.jp/en/news/information/20230905_1655

Kansai Electric Power considers underground CO2 storage with Australian company

Kansai Electric Power (KEPCO) announced on September 5 that it will jointly consider commercialization of "CCS" that captures carbon dioxide (CO2) and stores it underground with Woodside Energy, a major energy company in Australia. They are considering a project to separate and capture CO2 emitted from Kanden's domestic thermal power plants and store it in Australia. The timing of commercialization is undecided. The two companies signed a memorandum of understanding on joint studies. After sorting out issues such as technology and cost, the feasibility of the project is evaluated. It is also considering a project to manufacture synthetic methane, which is a chemical reaction between hydrogen and CO2, in Australia and import it to Japan.

CCS is a mechanism that recovers CO2 from the exhaust gas of power plants and stores it underground under high pressure, and is expected to lead to decarbonization. However, there are few depleted gas fields that can be used as CO2 storage sites in Japan. KEPCO will promote the development of technology to utilize hydrogen and other fuels for thermal power generation, aiming for decarbonization. KEPCO sees CCS as one of the options that will lead to a reduction in environmental impact, and it is conducting research with Mitsui & Co. to commercialize CCS.

KEPCO website:
https://www.kepco.co.jp/english/corporate/pr/2023/pdf/sep5_1.pdf

Shin-Etsu Chemical and others develop a new manufacturing method for power semiconductor materials, reducing costs by more than 90%
On September 5, Shin-Etsu Chemical, the largest semiconductor wafer manufacturer, and OKI, which manufactures ATMs and communication equipment, announced that they have developed technology to create power semiconductor materials using gallium nitride (GaN) at low cost. Manufacturing costs can be reduced to less than one-tenth compared to conventional manufacturing methods. Power semiconductors are incorporated into chargers, small home appliances, and controllers that connect the motors and batteries of electric vehicles (EVs) to control power. GaN can be used to control large amounts of power.

The new technology developed by Shin-Etsu Chemical and OKI grows crystals

by spraying gallium-based gas onto a proprietary substrate. By combining Shin-Etsu Chemical's technology to thicken the crystal with OKI's bonding technology, only the crystal can be separated from the substrate. The crystal is placed on a separate substrate and used as a wafer for power semiconductors.

Compared to manufacturing methods that grow GaN crystals on silicon substrates, this method eliminates the need for an insulating layer between the substrate and the crystal. Combined with the thicker crystal film, it will be possible to flow 20 times more current. Most of the raw material gallium comes from China, but the Chinese government has introduced a permit system for export since August. But, new manufacturing methods use derived gases that are not subject to the export license system, so they are not affected by the regulations.

Shin-Etsu Chemical website:
https://www.shinetsu.co.jp/en/news/news-release/shin-etsu-chemical-to-further-drive-forward-its-qst-substrate-business-for-implementation-in-gan-power-devices/

Itochu participates in large storage battery business

Itochu Corporation announced on September 8 that it will participate in large storage batteries that can charge and discharge electricity from renewable energy. The company has partnered with Australia's Akaysha Energy, which operates storage batteries for power systems, and will participate in the storage battery business in up to 20 locations mainly in Japan by 2030. The shortage of free capacity on power transmission lines has become a serious problem, and output control measures that temporarily suppress the operation of renewable energy sources such as solar and wind power generation have spread across the country. If large storage batteries become widespread in Japan, it will lead to the effective use of renewable energy, which has lagged behind the United States and Europe.

Akesha, a subsidiary of the U.S. asset management company BlackRock, boasts one of the world's largest scales of started construction of storage batteries for electric power systems. Australia is building an energy storage facility with a capacity of 1.68 million kilowatt hours. Itochu will participate

through investments and loans, mainly in Japan. The large-scale storage battery business, which will establish up to 20 locations by 2030, will be worth up to JP¥ 100 billion. The total capacity will be 1 million kilowatt hours, giving it a share of around 10 to 20% of Japan's renewable energy storage batteries.

The reason behind Itochu's full-scale rollout of large storage batteries is the government's decision to provide generous subsidies. The government will provide up to half of the subsidy for the development of battery storage systems for renewable energy. Itochu believes that although storage batteries have a limited lifespan, they can secure a certain level of profit by making use of government subsidies. The government envisions JP¥ 150 trillion in green transformation (GX) investment in the public and private sectors over the next 10 years. The plan is to strengthen support for the spread of large storage batteries.

Itochu website:
https://www.itochu.co.jp/en/news/press/2023/230908.html

Suzuki refines auto fuel from biogas derived from cow dung in India
On September 6, Suzuki announced that it will begin a demonstration project in India to refine methane, which can be used as automobile fuel, from biogas produced by fermenting cow dung. For demonstration purposes, four biogas production plants will be installed from 2025 onwards. To begin the demonstration, the company has agreed to mutually collaborate with India's National Dairy Development Board (NDDB) and Banas Dairy, a major Indian dairy manufacturer, through Suzuki R&D Center India, which is wholly owned by Suzuki.

Each new plant will be equipped with a biogas filling station. The methane produced will be sold as fuel for CNG vehicles, in which Maruti Suzuki, Suzuki's Indian subsidiary, has a market share of over 70%. The plant construction cost is expected to be around 2.3 billion rupees (JP¥ 4 billion). The company has positioned its biogas business in India as one of the initiatives in its growth strategy towards 2030. The Indian market is expected to continue growing, and even if CO2 emissions from products are reduced, an increase in total emissions is unavoidable. In light of this situation, the company has launched a

full-scale production and supply business of biogas fuel using cattle manure, which is a large amount of dairy farm waste in rural India, as its own initiative.

SUZUKI website:
https://www.globalsuzuki.com/globalnews/2023/0906.html

Hitachi Systems visualizes forest CO2 absorption using satellite data

Hitachi Systems announced on September 7 that it has successfully conducted a demonstration experiment that uses satellite data to visualize the amount of CO2 absorbed by forests and calculate the amount of carbon credits created. The demonstration was done under the jurisdiction of the Ishinomaki District Forestry Association. Based on data obtained from satellite data, the amount of CO2 absorbed over the past 20 years was visualized, and by combining the visualized information with forest planning, the amount of carbon credits created was calculated. As a result, it was confirmed that it has the potential to absorb 22,500 tons of CO2 per year and create carbon credits worth up to JP¥ 260 million.

The satellite data used in the demonstration is provided by the French company EverImpact. The company monitors GHG emissions using satellite data and ground sensor data. The company is currently developing a real-time carbon monitoring solution and starting trial operations in Europe and Asia. Additionally, the demonstration experiment adopted the ``Voluntary Credit VCS (Verified Carbon Standard)'' certified by Verra, an American NPO that boasts an approximately 70% share of the voluntary credit market.

Japan, where 70% of its land is covered by forests, have the potential to create carbon credits through the use of nature, but many forests are left undeveloped and underutilized. In the future, the company aims to expand this service nationwide, and aims to solve forest-related issues, revitalize the forestry industry, and promote decarbonization in Japan.

Hitachi Systems website (in Japanese):
https://www.hitachi-systems.com/news/2023/20230907.html

Sanyo Special Steel completes "carbon-free hydrogen plant" at European subsidiary

Sanyo Special Steel announced on September 7 that its European subsidiary Ovako has completed construction of a carbon-free hydrogen plant at its Hofors factory in Sweden. The plant has the capacity to produce approximately 4,000 cubic meters of carbon-free hydrogen per hour through water electrolysis using fossil-free electricity.

By converting the fuel for the heating furnace at the Haforsh factory, which previously used LPG etc., to carbon-free hydrogen, it will be possible to reduce CO2 generated in the heating process by approximately 50% (approximately 20,000 tons/year). In addition to supplying hydrogen generated at the plant to fuel cell trucks, which will be the first step in building hydrogen infrastructure that can be used in the transportation sector in the future, it will also contribute to improving the stability of the power grid and using waste heat for district heating.

The plant was built with financial support from the country's government and the participation of a consortium of four leading local companies (Volvo Group, Hitachi Energy, H2 Green Steel and Nel Hydrogen), making it one of the largest facilities in Europe.

Sanyo Special Steel website:
https://www.sanyo-steel.co.jp/system/upload/news_en/20230907_en.pdf

Suzuki begins joint research with Shizuoka University on microplastic identification technology

On September 11, Suzuki announced that it will begin joint research with Shizuoka University on microplastic identification technology that utilizes the adsorption and coloring properties of proteins to plastics. Suzuki has developed a microplastic collection device (MPC) that can be installed on outboard motors, and began selling it as standard equipment on some models from July 2022. In addition to microplastics, MPC's collected materials also include sand, wood chips, and tiny marine organisms. Sorting must be done manually and visually, which requires experience and skill.

The protein used in this research has the property of adsorbing to plastic and coloring it. Also, the colors vary depending on the combination of protein and plastic. Utilizing this characteristic, it will be possible to identify collected

microplastics and accurately determine their type in a short period of time. By putting this discrimination technology into practical use, it will be possible in the future to visualize the amount and type of plastic collected using image recognition.

SUZUKI website:
https://www.globalsuzuki.com/globalnews/2023/0911.html

Honda, BMW Group and Ford Motor established new company ChargeScape in North America

American Honda Motor, Honda's U.S. subsidiary, announced on September 12, it has agreed with BMW Group and Ford Motor Company to establish ChargeScape, a new company which will provide energy services that utilize EVs and contribute to stabilizing power networks. ChargeScape provides a common information platform that connects multiple automakers with numerous electric utilities in the United States and Canada. Through this, EVs from each automaker will be efficiently connected to the power network, and they aim to stabilize the power network with a wide range of adjustment capabilities that take advantage of the scale of the number of EVs. This stabilization will also maximize the use of renewable energy-derived power in the power network, contributing to the reduction of carbon dioxide emissions, as well as reducing charging fees for EV users and costs for power companies.

As the sales of EVs and the development of charging infrastructure are gaining momentum mainly in the United States, stabilizing the power supply is a major issue, while connecting EVs and power networks is also expected to be an opportunity to create new business. Through an activity called the Open Vehicle-Grid Integration Platform (OVGIP), the three companies have built a platform that aggregates information held by electric power companies and automobile manufacturers. With this investment from ChargeScape, they will further develop and accelerate this initiative. The three companies also welcome a wide range of other automakers to join the effort once ChargeScape begins full-scale operations.

Honda website:
https://global.honda/en/newsroom/news/2023/c230912eng.html?from=latest_area

MHI provides CO2 capture technology to offshore oil and gas production, storage and offloading facilities

Mitsubishi Heavy Industries (MHI) announced on September 15 that it has signed a collaboration agreement with SBM Offshore of the Netherlands to commercialize CO2 capture modules for floating oil and gas production, storage, and offloading facilities (FPSO).

SBM Offshore, a major player in the FPSO industry, will adopt MHI's proprietary CO2 recovery technology, ``Advanced KM CDR ProcessTM,'' in its CO2 recovery module for FPSOs. By installing a CO2 capture module on an FPSO and capturing the CO2 emitted from the power generation gas turbine of the same facility, it will be possible to significantly reduce greenhouse gas emissions. CO2 emissions from FPSOs are expected to be reduced by up to 70% compared to conventional methods.

FPSO is a ship-shaped floating facility that produces oil and gas on the ocean where there are offshore oil and gas fields, stores it in tankers, and ships it to transport tankers. Demand for decarbonization in the FPSO market is expected to expand rapidly. Through this collaboration, the two companies will accelerate the development of marine CCS (CO2 capture and storage) business and contribute to the realization of global carbon neutrality.

MHI website:
https://www.mhi.com/news/230915.html

Honda recycles nylon resin with Toray

Honda announced on September 19 that it has begun a demonstration experiment to recycle nylon resin used in automobile engine intake pipes. Using technology jointly developed with Toray, nylon resin can be used again as a component with the same quality. The aim is to put it into practical use in 2027. Equipment capable of processing 500 tons of used nylon resin per year will be installed at Toray's Nagoya plant and will go into operation in fiscal 2025. The period of the demonstration experiment is until March 2026.

Nylon resin recovered from automobile waste is difficult to separate and collect, and requires advanced recycling technology, and until now, the only way to do

this was to utilize the thermal energy generated during incineration. The two companies developed a recycling technology that uses high-temperature, high-pressure water called "subcritical water" as a catalyst, and succeeded in returning the recovered nylon resin to its molecular state. In addition to having a lighter environmental impact than conventional technology that uses acid catalysts, it can reduce the time it takes to turn nylon resin into molecules by one-fifth. Another feature is that it can be recycled to the same performance and quality as components that do not use recycled materials.

Honda website:
https://global.honda/en/newsroom/news/2023/c230919aeng.html?from=latest_area

IHI considers investment in green ammonia production and sales business in Australia

On September 15, IHI announced that it will be working with four Japanese and Australian joint development partners on the North Queensland Clean Energy (HyNQ) project, which aims to produce and sell 500,000 tons of green ammonia annually using renewable energy, at Abbot Point Port in Queensland, Australia. The project aims to produce, store and export green ammonia. The plan is to advance to the initial basic design (FEED) stage by February 2024, and make a final investment decision by 2025.

The project is being developed by a joint venture development team comprised of Australian renewable energy developer Energy Estate, Queensland power company CS Energy, and Idemitsu Renewable Development Australia. IHI is working to establish an economically rational ammonia production system, to build infrastructure facilities in a timely manner as distribution expands, and to develop utilization technologies that will generate large amounts of demand.

Since 2021, IHI has been working with Marubeni and Woodside Energy, a major Australian energy company, to consider and investigate the feasibility of producing and exporting green ammonia in Australia and Tasmania. Additionally, in July, IHI received an order from Woodside Energy Technologies to study and investigate the feasibility of producing and exporting green ammonia using hydropower resources in the Southland region of New Zealand.

IHI website:
https://www.ihi.co.jp/en/all_news/2023/resources_energy_environment/1200312_3523.html

MHI begins operation of "Takasago Hydrogen Park" that can demonstrate integrated operations from hydrogen production to power generation use
On September 20, Mitsubishi Heavy Industries (MHI) announced that it began full-scale operation of the Takasago Hydrogen Park, which will be the world's first facility to consistently verify technologies ranging from hydrogen production to power generation, with the aim of early commercializing hydrogen gas turbines that use hydrogen as fuel.

Takasago Hydrogen Park is divided into areas with three functions: hydrogen production, storage, and utilization. First, in the "Production" area, it installed and started operating an alkaline water electrolysis device manufactured by HydrogenPro AS of Norway, which has one of the world's largest hydrogen production capacities of 1,100Nm3/h. The hydrogen produced at the facility will be stored in hydrogen storage equipment with a total capacity of 39,000Nm3 installed in the "storage" area. In addition, actual verification of hydrogen combustion will be conducted using a large gas turbine (450,000 kW class) at the demonstration facility combined cycle power plant located in the "use" area, and a small to medium-sized gas turbine (40,000 kW class) at the combustion test facility.

By the end of this year, it will use a large gas turbine to verify 30% hydrogen co-fired power generation while connected to the power grid, just like an actual power plant. Furthermore, in 2024, it plans to demonstrate hydrogen-only combustion using small and medium-sized gas turbines. Based on its "MISSION NET ZERO," which aims to achieve carbon neutrality by 2040, the MHI Group is focusing on three initiatives: "decarbonizing existing infrastructure," "realizing a hydrogen ecosystem," and "realizing a CO2 ecosystem."

MHI website:
https://www.mhi.com/news/23092003.html

ITOCHU and Peninsula Petroleum jointly develop ammonia bunkering in Spain

ITOCHU Corporation announced on September 22 that it has signed a memorandum of understanding with Peninsula Petroleum, a major marine fuel supplier, regarding the joint development of ammonia bunkering (marine fuel supply) in Spain. Ammonia is expected to be a zero-emission fuel that contributes to the greenhouse gas (GHG) emission reduction strategy advocated by the International Maritime Organization (IMO), and is being considered by many stakeholders, including not only those involved in the maritime industry but also shippers and fuel producers.

Peninsula is one of the leading companies working on alternative fuels for ships, including LNG and biofuels, and has strong relationships with major companies and a strong foothold in the Mediterranean region, including the Port of Algeciras. Peninsula's active efforts and knowledge regarding alternative marine fuels are expected to greatly contribute to the development of ammonia bunkering at the Port of Algeciras.

ITOCHU Corporation has been promoting the development of ammonia bunkering in Singapore together with partner companies, but this is not only the case in Spain, but also in other European regions, Panama, the Middle East, Japan, and other key locations for international maritime logistics.

ITOCHU website:
https://www.itochu.co.jp/en/news/press/2023/230922_3.html

Tokyo Stock Exchange opens "Carbon Credit Market", trading starts from October 11

The Tokyo Stock Exchange announced on September 22 that the carbon credit market will open on October 11. The company also announced that the number of participants in the carbon credit market since its opening has increased to 188. This market is expected to provide a place where carbon credits can be collectively traded in earnest in Japan, as well as to publicize the price of such credits.

In 2022, the company was commissioned by the Ministry of Economy, Trade

and Industry to conduct a carbon credit market demonstration project. In addition to listed companies, 183 participants included general business companies, financial institutions, and local government-related parties. J-Credit, which is derived from renewable energy and energy conservation, owned by the government was sold on the market, and a total of 148,933 tons of CO2 was sold during the period.

Tokyo stock exchange website:
https://www.jpx.co.jp/english/news/2040/20230922-01.html

Toshiba establishes decarbonization and circular economy technology base in Germany

Toshiba announced on September 21 that it has opened a new technology base, the Regenerative Innovation Center, in Düsseldorf, Germany, with the aim of accelerating the realization of a carbon-neutral circular economy (CN/CE) through digitalization. The new technology base will work with partners to promote cutting-edge technology development, social demonstration of the group's technologies, and standardization activities.

Specifically, it is planning activities in technical fields such as the “device field" includes batteries and semiconductors, the “energy field" includes renewable energy, hydrogen, and energy management, and the “carbon negative field" includes recovery, transportation, storage, and utilization related to CO2 removal and the “digital platform field" that utilizes energy and CO2 data.

Furthermore, it has invited RWTH Aachen University, which is a leader in cutting-edge energy technology in the European region, and the Wuppertal Institute, which pursues sustainability of the global environment, as advisors, to serve as a hub function for collaborating with leading universities and research institutes across Europe.

Toshiba website:
https://www.global.toshiba/ww/news/corporate/2023/09/news-20230921-01.html

Nissan plans to make all new European cars EV by 2030

Nissan Motor announced on September 25 that all new vehicles it will launch in the European market by 2030 will be electric vehicles (EVs). In Europe, where EVs are becoming more popular than in Japan, the company has made it clear that it is accelerating the transition from engine cars to EVs and responding to environmental regulations. Nissan plans to bring 27 electric vehicle models to market worldwide by 2030, of which 19 will be EVs. Nissan manufactures its flagship EV, the Leaf, at its Sunderland plant in the UK.

Europe has been enforcing strict environmental regulations, but on September 20, the UK announced that it would postpone the ban on the sale of new gasoline and diesel cars, originally scheduled for 2030, to 2035. The EU has also begun to revise its policy, including allowing some engine-powered cars that had been banned since 2035. Against this backdrop, Nissan aims to quickly shift to EVs and expand its market share.

Nissan website:
https://global.nissannews.com/en/releases/nissan-counts-down-to-electric-only-sales-in-europe

Other topics

220,000 people climb Mt. Fuji this year, up to pre-coronavirus levels, 38% increase from last year

Climbing Mt. Fuji is popular among foreign tourists. the Ministry of the Environment announced on September 19 that the number of climbers who passed the 8th station during this year's opening period (July 1 to September 10) was 221,322 people, an increase of 38% compared to the previous year. This is almost the same level as 94% in 2019 (approximately 236,000 people) before the spread of the COVID-19.

It was expected that there would be a significant increase in the number of climbers in the first climbing season after the COVID-19 moved to Category 5. Mountain huts are limiting the number of guests allowed to stay as a precaution against the spread of infection. The Ministry of the Environment warns, “ There are concerns about an increase in ``bullet mountain climbing'' where climbers climb overnight, but this is extremely dangerous and should be stopped.''

The number of climbers in early July increased by 64% compared to 2019. On the other hand, the number fell by 33% in early August. It is guessed that they avoided the crowded season. The survey was conducted by installing infrared counters near the 8th station of four mountain climbing routes, and the breakdown for each route was as follows; 137,236 people on the Yoshida route on the Yamanashi Prefecture side, 49,545 people on the Fujinomiya route on the Shizuoka Prefecture side, 19,062 people on the Subashiri route and 15,479 people on the Gotenba route. The Yoshida route was popular as it is relatively easy to climb even for beginners.

MOE website:
https://kanto.env.go.jp/content/000159854.pdf