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**
**June (June 2– June 29) 2023**

・This was compiled by "Weekly Japanese Industrial and Policy News".

## Legislation and Policy News

### Government decides on inbound expansion action plan

On May 30, the government decided on the "New Era Inbound Expansion Action Plan". From the perspective of "attracting foreign tourists" so far, it has broadened the horizons and compiled measures to "strengthen and effectively establish inbound demand." The Ministry of Economy, Trade and Industry aims to create new business and inbound markets through each measure.

This action plan target is as follows. 1) By 2030, the number of international conferences held in the business field will be ranked within the top five in the world, 2) To increase the number of foreign visitors to international exhibitions and trade fairs by 20% from before COVID-19 by 2025, 3) In the fields of education and research, increase the number of researchers from overseas by 20% by 2025 compared to pre-COVID-19, 4) In the field of culture and arts, it will make inroads into global seven by 2025 by inviting international art fairs.

METI website (in Japanese):
https://www.kantei.go.jp/jp/singi/kankorikkoku/kettei/siryou16.pdf

### Second Intergovernmental Negotiating Committee on plastic pollution was held

From May 29 to June 2, the second Intergovernmental Negotiating Committee to develop a legally binding convention on plastic pollution was held in Paris, France. About 1,700 people from about 170 UN member states, related international organizations, and NGOs participated in this meeting. From Japan, a government delegation consisting of the Ministry of Foreign Affairs, the Ministry of Economy, Trade and Industry, and the Ministry of the Environment attended.

During the negotiations, discussions were held on (1) the purpose and core obligations of the treaty, and (2) the means of implementing the treaty

obligations. About (1), Japan proposed that the objective of the Convention should be to reduce additional pollution to zero by 2040. In addition, as a means of fulfilling the obligations of the Convention as (2), Japan proposed (i) the establishment of a social system that promotes the recycling of plastics and the control of emissions into the environment, and (ii) the control of pollution at each stage of the entire life cycle of plastics. (iii) the importance of raising awareness and collecting, reusing, and recycling plastics not only at the production and waste management stages, but also at the distribution, sales, and consumption stages.

Although many opinions were put forward by each country, the Chair was given a mandate to prepare a zero draft of the text by the third meeting. As to the next meetings, it was confirmed that the 3rd meeting will be held in Nairobi, Kenya in November 2023, the 4th meeting will be held in Ottawa, Canada in April 2024, and the 5th meeting will be held in South Korea in October or November 2024.

METI website:
https://apps1.unep.org/resolutions/uploads/japanstatement.pdf

**Government revises basic hydrogen strategy, supplying six times by 2040**
On June 6, the Japanese government held a hydrogen-related ministerial meeting and decided on a new basic strategy to increase the supply of hydrogen. In order to develop the supply chain, the government will invest JP ￥15 trillion in the public and private sectors over the next 15 years. It also includes a target of increasing the supply of hydrogen to about 12 million tons by 2040, six times the current level. This new Basic Hydrogen Strategy is the first revision since its formulation in 2017.

The government will start supporting companies to invest in manufacturing equipment and related materials. In addition to "water electrolyzers" , it also target materials such as electrolytic membranes and catalysts that are indispensable for producing hydrogen. Hydrogen is a powerful decarbonized energy that does not emit carbon dioxide (CO2) when burned, but it is essential to reduce the high production costs. The market will be expanded through integrated government support for related industries, and the cost will be reduced to a level that allows widespread use.

METI website (in Japanese):
https://www.meti.go.jp/shingikai/enecho/shoene_shinene/suiso_seisaku/pdf/20230606_1.pdf

**Ministry of Economy, Trade and Industry sets 2030 total sales target for domestic semiconductor companies at JP￥15 trillion**

On June 6, the Ministry of Economy, Trade and Industry (METI) revised its "Semiconductor Digital Industry Strategy." Aiming to secure a stable supply of semiconductors, it sets numerical targets for sales. The sales of companies that produce semiconductors in Japan are about JP￥5 trillion yen (2020). In order to achieve the goal, additional investment of more than JP￥10 trillion by the public and private sectors will be required over the next 10 years, and large-scale support will be essential. This strategy will be reflected in the basic policy of economic and fiscal management currently under consideration by the government.

Regarding generative AI, it added an industrial strategy to promote its utilization, and presented a policy to develop guidelines for business operators, horizontally deploy good practices, and a study of human resource development measures. AI development requires a large amount of high-quality data, so while paying attention to copyrights, etc., it supports the construction of a mechanism that allows access to data held by public institutions, and the development of data in fields that bring about innovation through the use of AI.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/06/20230606003/20230606003-1.pdf

**The government proposes regulations on App distribution to Apple and Google**

On June 16, the government's Digital Market Competition Council compiled a draft regulation for IT companies that provide operating systems for smartphones. It will prohibit IT giants from forcing app developers to use the app stores and payment systems they offer, allowing consumers to choose from a variety of stores and payment methods.

Smartphone operating systems are dominated by two companies, Apple and Google. It is also envisioned that the two companies will create new legislation

that will be the primary target. Apple has limited the way that iPhone users with smartphones can obtain apps to its own App Store. The proposed regulation requires Apple and others to accept alternative app stores operated by other companies.

Regarding the payment system, It also recommended allowing app developers to use non-Apple and non-Google payment systems. If App stores and payment methods diversify, for example, major game companies can offer their own app stores and reduce fees. Consumers may be able to purchase games and items at lower prices.

Prime minister's office website (in Japanese):
https://www.kantei.go.jp/jp/singi/digitalmarket/kyosokaigi/dai7/siryou1s.pdf

**Unfair Trade Report: "Concerns about economic coercion grow with China in mind"**

On June 16, the Ministry of Economy, Trade and Industry (METI) released the "Unfair Trade Report" summarizing trade issues with each country. With China in mind, concerns about "economic coercion" are increasing, and it has indicated a policy to strengthen cooperation with other countries. In this year's report, with China in mind, for the first time, the main theme was "economic coercion," which puts pressure on partner countries by raising tariffs and restricting exports.

As a case of suspected "economic coercion", it includes the addition of tariffs on Australian barley and wine. On top of that, it has become an important policy issue, such as confirming that it will work to strengthen its response at the G7 Hiroshima Summit held last month, as concerns about economic coercion are increasing. The METI announced a policy of strengthening cooperation with the G7 and other countries in order to support the resilience of companies' supply chains and create an environment that deters economic coercion.

METI website:
https://www.meti.go.jp/english/press/2023/0616_001.html

**Japan and Australia move forward to build a hydrogen supply network using large liquefied hydrogen carriers**

On June 19, the Ministry of Land, Infrastructure, Transport and Tourism announced that the maritime authorities of Japan and Australia agreed with the transportation system of liquefied hydrogen with a new cargo tank insulation system replacing the vacuum insulation system to the toward the realization of a large liquefied hydrogen carrier. The new cargo tank insulation system consists of two layers of shells, inner and outer, and the space between the inner and outer shells is filled with hydrogen gas to achieve high thermal insulation performance. Based on this agreement, the design of a large liquefied hydrogen carrier will be carried out in the future.

Commercialization of future international hydrogen supply chains will require mass transportation of liquefied hydrogen. Therefore, the NEDO project is currently planning to build a large liquefied hydrogen carrier capable of carrying a total of 160,000 m3 of liquefied hydrogen, with four 40,000 m3 cargo tanks per tank. However, the transport requirements for liquefied hydrogen agreed between Japan and Australia in 2017 assume a liquefied hydrogen carrier with a vacuum insulation system with a capacity of 1,250m3. It is said that applying this method to a large liquefied hydrogen carrier cannot be a realistic structure.

For large-scale marine transport of hydrogen, liquefied hydrogen cooled to -253°C and reduced to 1/800 of its volume must be kept cold for a long period of time. A new cargo tank insulation system insulates the space between the inner and outer shells with hydrogen gas. Since the temperature of liquefied hydrogen is extremely low, it will liquefy if it is filled with a gas other than hydrogen (boiling point -253°C) or helium (boiling point -269°C). As helium is a scarce resource, they decided to fill it with hydrogen gas.

MILT website (in Japanese):
https://www.mlit.go.jp/report/press/kaiji08_hh_000086.html

**WTO judges China's anti-dumping measures on Japanese stainless-steel products to be in violation**

On June 19, the Ministry of Economy, Trade and Industry (METI) announced that the World Trade Organization (WTO) Dispute Settlement Subcommittee

(Panel) recognized Japan's claims in a dispute over China's anti-dumping measures on Japanese stainless-steel products and announced that it had recommended China to make corrections. It is expected to be adopted by the WTO Dispute Settlement Body held within 60 days from the announcement. Once adopted, China is obliged to make corrections in line with the recommendations.

China has imposed anti-dumping duties since 2019, claiming domestic industries are being harmed by the dumping of stainless-steel products imported from Japan, South Korea, Indonesia and the European Union. In 2021, a panel was set up at the WTO at the request of Japan, and hearings were being conducted. Japan had demanded the removal of the measures, claiming that China's certification and investigation procedures were flawed and violated the GATT (General Agreement on Tariffs and Trade) and the Anti-Dumping Agreement.

Anti-dumping duties apply to stainless steel slabs, hot-rolled stainless steel coils, and hot-rolled stainless steel sheets. Slabs are semi-finished products, hot-rolled coils are used for automobile parts and home appliances, and hot-rolled steel sheets are used for ships, bridges, and industrial machinery. Each has different shapes, uses, customers, and price ranges, but China ignores product differences and adds them up based on the calculated average price. Japan has argued it makes a meaningless assessment.

METI website:
https://www.meti.go.jp/english/press/2023/0619_001.html

**METI holds 1st Asian Zero Emission Community (AZEC) Meeting**

On June 24, the Ministry of Economy, Trade and Industry (METI) held the first Asian Zero Emission Community Senior Officials Meeting (AZEC SOM) in Jakarta, Indonesia. Senior officials from various countries participated in the meeting, and based on the results of the AZEC Ministerial Meeting held in Japan in March of this year, discussions were held to give shape to future cooperation. From METI, the Agency for Natural Resources and Energy, Mr. Minami, International Chief Carbon Neutral Coordinator, and Mr. Kobayashi,

International Strategy Coordinator for Natural Resources and Energy participated.

At the meeting, it was confirmed that Japan will implement measures to (1) formulate a master plan for hydrogen and ammonia, (2) formulate technical standards for CCS, and (3) promote the utilization of the Joint Crediting Mechanism (JCM). METI will continue to promote the decarbonization of Asia together with AZEC partner countries through the expansion of the market for decarbonization technology and the associated cost reduction through policy coordination and support.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/06/20230626001/20230626001.html

**METI held Japan and Ukraine Public-Private Roundtable**

On June 22, a "Public-Private Roundtable" was held in London for government and business officials from both Japan and Ukraine to exchange opinions on the economic recovery of Ukraine. It was organized by the Ministry of Economy, Trade and Industry (METI), JETRO, etc. on the occasion of the Ukraine Recovery Conference, and 46 companies from Japan participated in the event and worked to collect information with the aim of balancing reconstruction support and business. 26 companies from Ukraine also participated, and about 120 people attended, including government officials from both countries. Tsubame BHB, an ammonia production venture, announced that it has begun to consider building a production facility in Bucha near the capital Kyiv (Kiev), and exchanged a memorandum with the mayor of Bucha.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/06/20230623004/20230623004.html

Tsubame BHB website:
https://tsubame-bhb.co.jp/en/news/press-release/2023-05-19-3709

**METI Minister Nishimura attends the 3rd Japan-EU High-Level Economic Dialogue**

On June 27, the 3rd Japan-EU High-Level Economic Dialogue was held. Mr. Nishimura, Minister of Economy, Trade and Industry and Mr. Hayashi, Minister

for Foreign Affairs, from the Japanese side, and Mr. Valdis Dombrovskis, Executive Vice President of the European Commission for an Economy that Works for People, European Commissioner for Trade, from the EU side, attended. The three Ministers endorsed the "Japan-EU Digital Trade Principles", noting that Japan and the EU have achieved a higher level of cooperation. After that, discussions were held on (1) Japan-EU economic cooperation, (2) economic security, and (3) a rules-based free and fair-trade framework.

(1) Japan-EU economic cooperation
METI Minister Nishimura stated that he would like to accelerate discussions on negotiations regarding the inclusion of "provisions for the free flow of data" in the Japan-EU Economic Partnership Agreement. He also expressed his expectations for increased cooperation in the Global South in conjunction with the EU's Global Gateway Strategy. He also urged the early lifting of restrictions on the import of Japanese food products based on scientific evidence.

(2) Economic security
Mr. Nishimura evaluated that the EU's economic security strategy is in line with Japan's strategy, and stated that he would like to build a strong and reliable supply chain, including specific cooperation fields such as important minerals.

(3) Free and fair-trade framework based on rules
Minister Nishimura called for further cooperation between Japan and the EU toward MC13, including the early realization of dispute resolution system reforms, the substantial conclusion of e-commerce negotiations by the end of this year, and the handling of non-market policies and practices.

METI website:
https://www.meti.go.jp/english/press/2023/0627_003.html

**METI summarizes the direction of negative emission technologies (NETs)**
On June 28, the Ministry of Economy, Trade and Industry (METI) released a report that determined the direction of early social implementation and industrialization of negative emission technologies (NETs). In Japan, to achieve offset the estimated residual emissions of approximately 500 million to 240 million tons/year centering on the industrial and transportation sectors,

approximately several hundred million tons/year of CDRs will be required. However, since the removal cost is higher than the reduction cost, it is not possible to expand the introduction of NETs naturally. Therefore, it is important to start efforts to expand NETs as soon as possible.

In order to create a negative emissions market, this report describes (1) the need to consider government support in the initial stage of market formation, taking into consideration the status of studies in Europe and the United States, (2) carbon credits for trading the value of CO2 removal (CDR). (Removal credits) utilization environment and expansion of initial demand, (3) promote a business model that includes co-benefits (secondary value other than CO2 removal) and promote understanding of consumers, and (4) establishment of system for formulating necessary rules for market acquisition.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/06/20230628003/20230628003.html

**Survey and Business Data**

**The birth rate in 2022 was 1.26, the lowest ever**

The Ministry of Health, Labor and Welfare announced on June 2 that the total fertility rate, which indicates the number of children a woman give birth to in her lifetime, was 1.26 in 2022. It was the lowest on record in 2005. The decline was the seventh consecutive year, and was affected by the slump in the number of marriages due to the COVID-19. The number of births decreased by 5% (40,875) from the previous year to 770,747. It is the first time since statistics began in 1899 that the number of births excluding foreigners fell below 800,000.

With the aging of the population and an increase in the number of deaths from the COVID-19, the natural decline in the population in 2022 reached a record high of 798,214 people. This is about 170,000 more than the decrease in the previous year and the 16th consecutive year of natural decline. The number of marriages increased for the first time in three years, reaching 504,878, but the growth rate was only 0.7%. It is difficult to predict whether the number of marriages, which had been put on hold due to the COVID-19 will begin to rise again.

The speed of population decline exceeds expectations. The future population projections published by the National Institute of Population and Social Security Research in 2017 estimated the fertility rate to be 1.42 and the number of births to be 854,000 in 2022 in the median projection. The reality is about 80,000 fewer than this. Japan is at the brink of whether it will be able to maintain its social and economic vitality.

MHLW website (in Japanese):
https://www.mhlw.go.jp/toukei/saikin/hw/jinkou/geppo/nengai22/dl/kekka.pdf

**Japan's competitiveness ranks 35th in the world, lowest ever in the World Competitiveness Ranking 2023**

The Swiss-based business school IMD - International Institute for Management Development (IMD) announced the "World Competitiveness Ranking 2023" on June 20. Japan ranked 35th, the lowest ever.

This data was calculated from 164 statistical data collected in cooperation with 57 partner institutions around the world and the response data answered by 6,400 managers around the world. "Economic Performance", "Government Efficiency", "Business Efficiency" and "Infrastructure" are the factors to determine the ranking of competitiveness. Japanese partner institutions are Mitsubishi Research Institute and KEIZAI DOYUKAI (Japan Association of Corporate Executives).

In the overall rankings for 2023, Japan dropped one place from 34th place in the previous ranking and ranked 35th out of 64 countries, setting a record low. Japan's competitiveness has been steadily declining since 1997, when it ranked 17th. In the Asia-Pacific region, Singapore ranks first (4th overall), followed by Taiwan (6th overall) and Hong Kong (7th overall). In addition, emerging countries such as Malaysia, Thailand, and Indonesia are ranked higher than Japan. Japan ranks 11th out of 14 countries in terms of competitiveness in the Asia-Pacific region, and the result is that "counting from the bottom is faster".

IMD website:
https://www.imd.org/centers/wcc/world-competitiveness-center/rankings/world-competitiveness-ranking/2023/

**Japan drops to 125th on the gender equality index**

On June 21, the World Economic Forum (WEF) released the "Gender Gap Index," which measures how well gender equality has been achieved. Of the 146 countries surveyed, Japan ranked 125th, its lowest ever. The index in the political and economic fields deteriorated, and the ranking dropped from the previous year's survey (116th).

The survey indexes the current state of gender equality in four areas: economy, education, health, and politics. Each field is indexed with 1 if it is completely realized and 0 if it is not at all, and the overall evaluation ranking is announced every year. Japan ranked 138th in "Politics" and 123rd in "Economy".

Japan's rating is particularly low for gender equality in politics. In addition to the fact that the number of female legislators and ministers is significantly lower than in other countries and regions, the fact that there has never been a female prime minister has been factored into the index and ranking. It is in the lowest range in the world, below Saudi Arabia (131st), which is said to restrict women's rights.

The WEF analyzed that Japan has achieved more than 99% of gender equality in education. However, this time, with the addition of the percentage of students going on to college or higher, the ranking dropped significantly to 47th from the previous year (1st). This may have contributed to the overall decline in ranking.

WEF website:
https://www.weforum.org/reports/global-gender-gap-report-2023

**Company & Organization News**

**Three Japanese companies, a Singaporean company, and an Australian company to build a green hydrogen supply network**

On May 29, Iwatani Corporation, Kansai Electric Power, Marubeni Corporation, Stanwell, an energy infrastructure company owned by the Queensland state government of Australia, and Keppel (Singapore) announced that they have agreed to jointly implement the CQ-H2 project, which produces green hydrogen

derived from renewable energy in Queensland, Australia. It would be liquefied, exported and supplied domestically and internationally on a large scale.

The hydrogen production is expected to be 200 tons/day (equivalent to approximately 70,000 tons/year) around 2028, and 800 tons/day (equivalent to approximately 260,000 tons/year) after 2031.The estimated initial cost is A$ 117 million (approximately JP￥10.53 billion), and ARENA plans to subsidize A$ 20 million (approximately JP￥ 1.8 billion). The company plans to gradually start producing and supplying liquefied hydrogen from around 2030.

The Kansai Electric Power Co., a candidate to purchase the produced liquefied hydrogen, plans to consider supplying it to thermal power plants in the Himeji area and to surrounding customers. In addition, some of the produced green hydrogen is planned to be supplied from around 2028 to the ammonia synthesis facility under consideration by Keppel and Australian chemical manufacturer Incitec Pivot Limited. They plan to consider supplying green ammonia not only for its own hydrogen co-firing power plant, but also for domestic demand in Australia.

Iwatani website:
https://www.iwatani.co.jp/eng/news/files/2023/20230529_news_e.pdf

**Itochu and Neste to sell renewable diesel in Japan**

On May 29, ITOCHU Corporation announced that it entered into a partnership with Neste (Finland), the world's largest manufacturer of renewable fuels, to expand distribution in Japan of Neste MY Renewable Diesel (RD) produced by Neste. The company has signed a trademark license agreement and a collaboration agreement to strengthen branding. Neste plans to expand production of recycled aviation fuel SAF and RD, for which further demand is expected in the future.

Based on this license agreement, ITOCHU will secure an import base for RD and start importing by tanker from the second half of FY2023. In addition, it plans to expand the current supply areas of the Tokyo metropolitan area and the Chukyo area to the Kansai area, where the momentum for RD use will increase with the Osaka-Kansai Expo to be held in 2025.

Neste's "Neste MY Renewable Diesel" is manufactured from waste cooking oil, waste animal and vegetable oil, etc., which have no food competition, and reduces GHG emissions by about 90% compared to petroleum-derived light oil on a life cycle assessment basis. As a "drop-in fuel," RD makes it possible to reduce emissions while utilizing existing distribution infrastructure and internal combustion engines.

ITOCHU website:
https://www.itochu.co.jp/en/news/press/2023/230529_2.html

**JOGMEC invests in Waterberg platinum group metal project in South Africa**

JOGMEC announced June 9 that it decided to invest in the Waterberg platinum group metal project in Limpopo, South Africa, in which Hanwa Co., Ltd. participates, and made the first investment on June 9, 2023. At the request of Hanwa, JOGMEC will invest up to US$ 7.2 million, which is 75% of the expenses required for exploration projects (total of US$ 9.6 million), through HJ Platinum Metals Co., Ltd., in which Hanwa has invested. have decided.

In 2009, JOGMEC concluded a joint exploration agreement with Platinum Group Metals (PTM) of Canada, the operator of this project, and has been conducting joint exploration activities (JV survey). In 2018, Hanwa Kogyo participated in this project by taking over part of the interest held by JOGMEC. This project will be the first project to realize seamless support from JOGMEC's JV survey to handover to a private company and investment in exploration.

Platinum group is a general term for six elements: platinum, palladium, rhodium, iridium, ruthenium and osmium. In particular, platinum and palladium are widely used in industrial applications such as fuel cells and exhaust gas catalysts for automobiles, and play an important role from the perspective of decarbonization. The presence of large-scale, high-grade platinum group metals (resource amount: 242 million tons; average grade: 3.38 g/t) has been confirmed in this project. And, cost competitiveness is expected because mechanized mining is possible.

JOGMEC website:

https://www.jogmec.go.jp/english/news/release/news_10_00035.html

**Bridgestone pyrolyzes used tires to recycle oil and carbon**

Bridgestone announced on June 8 that it has started an initiative to pyrolyze used tires to produce cracked oil and recycled carbon black. It will carry out a demonstration experiment of a technology to produce recycled oil from cracked oil obtained by precision pyrolysis of used tires and to produce chemical products such as butadiene, a raw material for synthetic rubber. A large-scale demonstration with ENEOS is planned, assuming mass production by 2030.

As Bridgestone is studying a design technology for polymer materials such as high-performance rubber, and ENEOS is researching and developing a technology to refine butadiene etc. from cracked oil obtained by precision pyrolysis. Bridgestone considers chemical recycling of used tires to be one of the important measures to realize a circular economy, which aims to use 100% sustainable materials by 2050.

Bridgestone website:
https://www.bridgestone.com/corporate/news/2023060801.html

**Itochu forms partnership with UK CFP to expand emissions trading**

ITOCHU Corporation announced on June 9 that it has entered into a business alliance with CFP, a British company that sells emissions credits in Europe, to expand emissions trading, in anticipation of the introduction of the Carbon Border Adjustment Mechanism (CBAM).

CFP is an environmental solutions company that provides not only emissions credits, but also renewable energy and other decarbonized products, as well as price risk management services. Since its founding in 2006, it has a track record of trading more than 2.5 billion tons of emissions credits, and achieved sales of about $3 billion in a single year in 2022.

ITOCHU will support emissions trading, especially in Japan and other Asian countries, as a sales window for emissions credits procured and held by CFP. Furthermore, jointly with the company, it will hold seminars based on the actual situation of EU-ETS for customers in a wide range of industries, disseminate

industry information, and promote the provision of solutions that meet the needs of each customer. The idea is to develop the needs for initiatives related to emissions and to sell emissions credits.

ITOCHU website:
https://www.itochu.co.jp/ja/news/press/2023/230609.html

**JOGMEC Selects "Advanced CCS Project"**

On June 13, the Japan Energy and Metals National Corporation (JOGMEC), an independent administrative agency, selected seven CCS projects with the goal of large-scale and overwhelming cost reduction in order to fully develop the CCS business toward the realization of carbon neutrality in 2050. Seven projects were recognized as "advanced CCS projects".

The seven projects selected this time are those in areas such as Hokkaido, Kanto, Chubu, Kinki, Setouchi, Kyushu, etc., where a wide range of business fields such as power generation, petroleum refining, steel, chemicals, paper/pulp, and cement is existing. It aims to store a total of 6 to 12 million tons of CO2 per year by 2030, of which 7 projects (5 of which are assumed to be stored in Japan, and the remaining 2 projects are assumed to be stored in Asia and Oceania) to secure approximately 13 million tons. This will make it possible to store approximately 120 to 240 million tons of CO2 annually by 2050, contributing to the stable supply of energy resources and carbon neutrality in Japan.

JOGMEC website:
https://www.jogmec.go.jp/news/release/news_01_00034.html

**EnBW, VNG and JERA plan feasibility study for an ammonia cracker demonstration plant in Rostock**

JERA announced on June 12 that it will start joint development of ammonia cracking (decomposition) technology for hydrogen production in collaboration with EnBW, a major German energy company, and VNG, a major German natural gas supplier. The three companies will utilize their knowledge and know-how related to hydrogen and ammonia to consider constructing a demonstration plant for ammonia decomposition technology. In the future, based on the

knowledge obtained from the demonstration test, the company aims to optimize and scale up the production process, aiming to construct a plant for commercialization.

Ammonia is a decarbonized fuel that does not emit CO2 when burned, and at the same time, hydrogen can be extracted through decomposition. In order to procure hydrogen economically from overseas, the selection of hydrogen carriers is an important mission. Through this demonstration, the company expects to acquire a lot of knowledge about ammonia ahead of the rest of the world.

JERA website:
https://www.jera.co.jp/en/news/information/20230612_1493

**New HondaJet, crosses the U.S. without refueling**

Honda's aircraft business subsidiary, Honda Aircraft Company, announced on June 13 in the USA that it will enter the "light jet (small aircraft)" class, which is larger than existing models. It is a new model of the business jet "HondaJet" and plans to acquire type certification as a small aircraft in 2028. The new plane is fuel-efficient and able to fly across the United States without refueling.

Small jet aircraft refers to those with a maximum takeoff weight of approximately 5,670 kilograms or more and approximately 9,070 kilograms or less. The new HondaJet is expected to improve fuel efficiency by 20% compared to ordinary small aircraft, and 40% compared to medium-sized aircraft, which is one class higher. The cruising range is expected to be approximately 4,862 kilometers, assuming one crew member and four passengers. This is the first distance for a small aircraft to cross the continental United States without refueling. The maximum capacity is 11 passengers and crew.

The HondaJet, which features a jet engine mounted on the wing, began delivery in 2015. The “Elite II” currently on sale is classified as a “very light jet (ultra-small aircraft)”. The Elite II has a maximum capacity of eight people and a range of 2,865 kilometers. HondaJet sales in 2022 were 17, down 20 from 2021. A shortage of semiconductors has affected production.

Honda website:
https://global.honda/newsroom/news/2023/c230614eng.html?from=newsroom_headline_area

**Toyota launches all-solid-state battery EV in 2027, charging 10 minutes 1,200 km**

In 2027, Toyota will launch an electric vehicle (EV) equipped with an all-solid-state battery, which is considered to be the next-generation battery. It can run about 1,200 kilometers after charging for less than 10 minutes, and the cruising range is 2.4 times longer than that of current EVs. It will extend the life of the battery, which was a weak point, and rush to develop technology for mass production in the future. If it is put into practical use, there is a possibility that it will change the power map of the EV market.

On June 13, Toyota clarified its policy at a technical briefing held at its research base in Shizuoka Prefecture. It says that it has overcome the durability problem of all-solid-state batteries, and aims to use it in EVs with a specific timeframe of 2027 to 2028. In the summer of 2020, Toyota obtained a number for the world's first vehicle equipped with an all-solid-state battery and conducted a test run. In the future, it is also possible to extend the cruising range to about 1,500 kilometers with a charging time of 10 minutes or less.

In addition to solid-state batteries, Toyota will also improve the performance of existing liquid lithium-ion batteries. A next-generation model is planned to be introduced in 2026, and it will be able to run approximately 1,000 kilometers, twice as much as the current EV "bZ4X," on a 20-minute charge. If it can introduce EVs with all-solid-state batteries in 2027-28, it'll be able to offer a wide range of vehicle models equipped with various batteries by 2030.

TOYOTA website:
https://global.toyota/en/newsroom/corporate/39288520.html

**Mitsubishi Corporation establishes new company in the Netherlands to produce and sell hydrogen**

Mitsubishi Corporation announced on June 22 that it has established a new company, Eneco Diamond Hydrogen, in the Netherlands to expand its green

hydrogen production and sales business in Europe. The new company was established on June 6 as a fifty-fifty joint venture with Eneco, a Dutch integrated energy company that is a subsidiary of Mitsubishi Corporation. Eneco is engaged in the power generation business centered on renewable energy, electricity trading, and retail business in Europe.

The new company utilizes the knowledge and experience of renewable energy development that Eneco has cultivated over many years and our network with a wide range of industries such as petroleum, chemicals, steel, and shipping, and engages in green hydrogen production and sales business. In 2020, Mitsubishi Corporation acquired Eneco jointly with Chubu Electric Power. Eneco is developing a vertically integrated portfolio covering renewable energy-centered power generation business, power trading, and retail business in the Netherlands, Belgium, and Germany.

Mitsubishi corporation website:
https://www.mitsubishicorp.com/jp/en/pr/archive/2023/html/0000051535.html

**Use of liquefied biomethane (LBM) derived from livestock manure as ship fuel**

On June 21, 7 companies including Mitsui O.S.K. announced that a demonstration test of using liquefied biomethane (LBM) derived from livestock manure as a marine fuel on a coastal LNG-fueled cargo ship was successfully conducted. This is the first attempt in Japan to use biomass-derived carbon-neutral LBM as marine fuel. And this time, the existing LNG supply chain can be used to transport LBM, the existing LNG lorry can be used for truck-to-ship bunkering (supplying LNG from a tank truck on the quay to a moored LNG-fueled ship) and, LBM can be used stably with the ship's existing facilities are confirmed.

LBM is produced by recovering unused biogas generated from biogas plants owned by dairy farmers, and the main component, methane was liquefied at approximately -160°C. By liquefying it, the volume can be compressed to 1/600, allowing a large amount of methane to be transported at once. LNG fuel is expected to reduce CO2 emissions by about 25% compared to conventional fuel oil, but further CO2 reduction effects can be expected by partially using

LBM. The main component of LBM is methane, and since it can utilize existing LNG supply chains related to transportation and consumption, it is expected to be an effective means of decarbonizing ship operations.

Mitsui O.S.K. website:
https://www.mol.co.jp/en/pr/2023/23082.html

**JIC to acquire JSR, a leading semiconductor materials manufacturer, for approximately JP ¥ 1 trillion**

The Japan Investment Corporation (JIC), a public-private fund, announced on June 26 that it would acquire JSR, a major semiconductor material company, for about JP ¥ 1 trillion. As the importance of semiconductors increases worldwide, the company, which has technology essential for miniaturization, will be taken private and will support medium- to long-term growth. The idea is to lead to the restructuring of Japan's semiconductor materials industry, which is competitive but small in scale. The total purchase price is expected to be JP ¥ 903.9 billion. JSR recommended the shareholders to apply for the TOB. JIC aims to start TOB in late December after going through the procedures of each country's competition authorities.

The photoresist (photosensitive material) handled by JSR is an important material for miniaturization technology that determines the performance of semiconductors. According to materials released by both JSR and JIC to the media, as major overseas material manufacturers are increasing their competitiveness through large-scale mergers and acquisitions, JSR asked JIC to discuss its capital policy for growth in mid-November last year. It is said that the two companies shared the same recognition by moving to a system that is not affected by short-term performance by delisting, and by promoting structural reform and industry reorganization.

As the importance of economic security increases, the Ministry of Economy, Trade and Industry (METI), which has jurisdiction over JIC, has designated semiconductors as strategic goods and is providing financial support to the industry. Subsidies have been invested in Rapidus, which was launched last year with the aim of mass-producing next-generation semiconductors with a line width of 2 nanometers, and in a new factory planned by Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC) in Kumamoto Prefecture. The METI has set a goal of increasing the sales of companies producing semiconductors in Japan

to JP ¥ 15 trillion by 2030, about three times the current level.

JIC website:
https://www.j-ic.co.jp/en/news/pdf/E_20230626_JIC_PressRelease.pdf

**Mitsui & Co. launches underground CO2 storage business in Malaysia**
Mitsui & Co. announced on June 27 that it will start a business to store carbon dioxide (CO2) underground in Malaysia. It aims to start by 2030. The reservoir will be jointly developed with Petronas, the state-owned oil company of Malaysia, and Total Energies, a major French energy company. It is expected to accept CO2 emitted from manufacturing industries in Japan, South Korea, and Taiwan.

Demand for CCS is expected to increase in the future from companies with limited decarbonization methods, such as steel companies. The specific storage amount is under investigation, but Malaysia has many geological formations suitable for storage. The potential CO2 storage capacity is 13.3 billion tons, one of the largest in the world. Mitsui & Co. plans to secure storage capacity of 15 million tons per year, mainly in the Asia-Pacific region, by 2035, including this project. It also started developing a liquefied CO2 transport ship, and plans to make it a service, including the development of a distribution network.

Mitsui & CO. website:
https://www.mitsui.com/jp/en/topics/2023/1246779_13949.html

**JOGMEC publishes guidelines for calculating carbon intensity (CI guidelines)**
On June 23, JOGMEC announced a calculation method for GHG emissions associated with the production of LNG, hydrogen/ammonia, and synthetic fuels, and Carbon Intensity (CI: carbon intensity), which indicates GHG emissions per unit (energy content or weight), published as the second edition of the guideline showing the calculation method.

Based on JOGMEC's thinking, these guidelines were created with reference to individual international standards and industry standards, etc. regarding methods for calculating GHG emissions associated with the production of LNG,

hydrogen/ammonia, and synthetic fuels, which are being discussed globally. By referring to these guidelines, it is devising ways to think about CI calculation methods and more optimal calculations of methane emissions, which are being requested internationally. The main changes from the first edition are the following three points.

- Identification of major GHG emission sources in LNG/ammonia plants
- Added synthetic methane (e-methane) to the scope of the guidelines
- Added hydrogen derived from water electrolysis to the scope of the guidelines

JOGMEC website:
https://www.jogmec.go.jp/english/news/release/news_10_00037.html