



Monthly Japanese Industry and Policy News
December (Dec.2 – Dec. 27) 2022

- This news was compiled by “[Weekly Japanese Industry and Policy News](#)”.

Legislation and Policy News

METI Minister Nishimura signed a Memorandum of Cooperation on hydrogen with Commissioner Simson of the European Commission

On December 2, 2022, Mr. Nishimura, Minister of Economy, Trade and Industry, signed a Memorandum of Cooperation (MoC) on hydrogen with Mr. Simson, Commissioner for Energy, European Commission, to further develop cooperation in the field of hydrogen. By this memorandum, they exchange information on hydrogen policies, regulations, incentives, etc., and cooperate on international hydrogen trade, and also agreed to cooperate for the development of a hydrogen society. Cooperation in the field of hydrogen is already progressing between Japan and Europe, and it is hoped that the signing of this agreement will further promote cooperation. In addition, Minister Nishimura explained about efforts to release safe ALPS-treated water into the sea in relation to the decommissioning of the Fukushima Daiichi Nuclear Power Station and lobbied for the early removal of import restrictions on Japanese food products caused by the nuclear power plant accident that the EU is taking.

METI website (in Japanese):

<https://www.meti.go.jp/press/2022/12/20221202004/20221202004.html>

Decision to Impose Anti-Dumping Duties on Hot-dipped Galvanized Steel Wire Originating in the Republic of Korea and the People’s Republic of China

On December 2, the Cabinet of Japanese government enacted a Cabinet Order relating to anti-dumping duties on hot-dipped galvanized steel wire originating in the Republic of Korea and the People’s Republic of China. The Ministry of Economy, Trade and Industry (METI) and the Ministry of Finance (MOF) started an investigation on June 14, 2021, to determine the necessity of imposing an anti-dumping duty on hot-dipped galvanized steel wire originating in the Republic of Korea and the People’s Republic of China. On November 24, 2022, considering the results of the investigation, the Council on Customs, Tariff,



Foreign Exchange and Other Transactions (the Trade Remedy Subcommittee, the Customs and Tariff Committee) reported that it would be appropriate to impose anti-dumping duties on for five years (The rates of the anti-dumping duties: 9.8% - 41.7%).

*Note: Excluding the regions of Hong Kong and Macao.

METI website:

https://www.meti.go.jp/english/press/2022/1202_001.html

Japan-U.S. Energy Security Dialogue held

On December 1, the Japan-U.S. Energy Security Dialogue was held between Mr. Minami Ryo, Deputy Commissioner for International Policy on Carbon Neutrality, and Mr. Geoffrey Pyatt, Assistant Secretary of State of the United States, who was visiting Japan. The dialog was proposed by Assistant Secretary Pyatt and established as a forum to discuss energy security in Japan and the US. At the dialog, the two sides confirmed efforts by both Japan and the US and discussed future cooperation regarding energy security, the clean energy transition, the development of decarbonization technologies in other countries, as well as other topics based on the current energy situation. They also confirmed that the two countries will cooperate toward next year's G7.

METI website:

https://www.meti.go.jp/english/press/2022/1201_001.html

EPA application procedures for fruits and vegetables have been simplified

On December 6, the Ministry of Economy, Trade and Industry and the Ministry of Agriculture, Forestry and Fisheries simplified the procedures for using certificates of origin based on Economic Partnership Agreements (EPAs) in order to promote the export of fruits and vegetables. In order to export Japanese products using the EPA, the exporter submits documents to the Japan Chamber of Commerce and Industry to clarify that the exported product is an originating product based on the agreement, and receives an originating product determination. It needs to apply for issuance of a Class 1 Specified Certificate of Origin. In the future, based on requests from business operators, when determining originating products using invoices, etc., producers who have been required submission of information is no longer required.



METI website:

<https://www.meti.go.jp/press/2022/12/20221206005/20221206005.html>

Japan and UK launch digital partnership

On December 7, METI announced, it together with the Ministry of Internal Affairs and Communications and the Digital Agency, held a top-level meeting with the UK Department for Digital, Culture, Media & Sport and launched of a UK-Japan digital partnership at the ministerial level. The UK-Japan Digital Partnership builds on the work of the UK-Japan Digital Group, which was established in May 2022, to address UK-Japan digital priorities at an even higher level. Based on this partnership, the two countries will hold regular political-level meetings to further strengthen bilateral cooperation.

METI website:

<https://www.meti.go.jp/press/2022/12/20221207002/20221207002-1.pdf>

Japan, Britain and Italy jointly develop next-generation fighter

Japan, the United Kingdom, and Italy announced on Dec. 9 that they would jointly develop a next-generation fighter. They plan to develop one type of fighter that will be the successor to both the Air Self-Defense Force's F2 fighter and the British and Italian "Eurofighter Typhoon", and to start deploying it in 2035. It will be a fighter with performance exceeding the "fifth generation" such as the latest stealth fighter F35, and also aims to export to the three countries. This is the first time that Japan has jointly developed defense equipment with a country other than the United States. With regard to the development of the next-generation fighter, Japan and the United Kingdom agreed in May this year to come up with an overall picture of cooperation by the end of the year.

Ministry of defense website:

<https://www.mod.go.jp/en/article/2022/12/9f3717bac3e9bca986f2e80ba73f7822065a9f2b.html>

Advisory panel recommends expansion of ODA

Minister of Foreign Affairs (MOFA) announced Dec. 9 that the panel of experts for the Minister of MOFA had put together recommendations for reviewing the "Outline," which sets out guidelines for next year's ODA (Official Development



Assistance). In addition to emphasizing cooperation in strengthening economic security, it should clarify the path to achieving the goal by doubling the budget scale. Next year, the government plans to revise the "Outline," which sets out the principles and guidelines for ODA, for the first time in eight years in light of changes in the international situation. In the proposal, as the direction of ODA for the next ten years or so, emphasis should be placed on cooperating with developing countries not only in climate change countermeasures but also in strengthening economic security, including the strengthening of supply chains. In addition, it is recommended that a concrete path toward achieving the goal should be shown, such as doubling the budget scale, which was 0.34% of GNI = gross national income as of last year, to 0.7% in the next 10 years.

MOFA website (in Japanese):

https://www.mofa.go.jp/mofaj/press/release/press1_001202.html

METI proposes support measures for hydrogen and ammonia supply chain development

On December 13, the Ministry of Economy, Trade and Industry (METI) held a subcommittee meeting of the Advisory Committee for Natural Resources and Energy (an advisory body to the Minister of METI), and proposed an outline of support measures for the spread of hydrogen and ammonia. This will subsidize suppliers for a long period of 15 years, in principle, and cover the difference in selling prices of existing fossil fuels. Hydrogen and ammonia, which Japan aims to build a supply system for by around 2030, are expected to be used in place of liquefied natural gas (LNG) and coal, but their prices are currently several times higher. Since it will not spread as it is, the government will support suppliers to keep the selling price down to the same level as LNG and coal. Specifically, METI will determine the price that can recover the supply cost of hydrogen and ammonia, and the subsidy amount will be determined based on the difference between the price of coal and LNG. The subsidy amount will be reviewed at regular intervals.

Recorded video (YouTube in Japanese) of METI subcommittee meeting of the Advisory Committee for Natural Resources and Energy:

<https://www.youtube.com/watch?v=oql6hh3TV9o>



METI to start full-scale operation of emissions trading in FY 2026 and introduce CO2 levy in FY 2028

On December 14, the Ministry of Economy, Trade and Industry (METI) presented concrete measures (drafts) such as the introduction timing and system design for carbon pricing (CP), which requires companies to bear the cost according to their CO2 emissions, in the Green Transformation Promotion Subcommittee in the Industrial Structure Council. The "emissions trading system," which sets a limit on the amount of CO2 emitted by high-emission industries and trades the amount of emission reduction, will be put into full operation from around FY2026. In addition, from around FY2028, a system will be introduced in which fossil fuel importers, etc. pay a levy according to the amount of CO2 emitted by each fossil fuel. The levy will be introduced with a low burden at first and then gradually increased. Furthermore, in terms of emissions trading, starting around FY2033, It will gradually introduce a "paid auction," similar to the one in the EU, for power generation companies.

Recorded video (YouTube in Japanese) of Green Transformation Promotion Subcommittee in the Industrial Structure Council of METI:

<https://www.youtube.com/watch?v=qlhp74PiXSQ>

The Japanese government makes a cabinet decision to significantly increase defense spending

On December 16, the Japanese government decided at a cabinet meeting to increase defense spending by 1.6 times from the current plan to JP¥ 43 trillion over the next five years. The Kishida administration has made a cabinet decision on three security-related documents that describe the security environment as "the most severe since the end of World War II", and clearly states the possession of the capability to directly attack the territory of the other party. After the end of World War II, Japan enacted a pacifist constitution and committed itself exclusively to defense.

Prime Minister's Office website (in Japanese):

https://www.kantei.go.jp/jp/101_kishida/statement/2022/1216kaiken.html

METI, SMEA, JETRO, and SME SUPPORT JAPAN launched a support program for 10,000 new exporters



On December 16, the Ministry of Economy, Trade and Industry (METI) announced that with the Small and Medium Enterprise Agency (SMEA), Japan External Trade Organization (JETRO), and SME Support Japan, it started a program to support 10,000 new exporters. While cooperating with the chambers of commerce and industry across the country, this program works for 1) discovering new businesses which try to export, 2) preliminary export diagnosis by experts, 3) product development for export and covering expenses, and 4) matching with trading companies and support for exhibiting on EC sites. The program was decided by the Cabinet in October this year so that even small and medium-sized enterprises and regional companies that have never exported before can quickly proceed with preparations, specific business negotiations, and exports.

METI website (in Japanese)

<https://www.meti.go.jp/press/2022/12/20221216001/20221216001.html>

METI revised the J-credit system

On December 19, the Ministry of Economy, Trade and Industry (METI) announced that it had revised the J-credit system in order to promote the utilization of the carbon credit system by companies. The J-credit system is a system in which the government certifies the amount of greenhouse gas emissions reduction and absorption through the introduction of energy-saving/renewable energy equipment and forest management as "carbon credits." Under the J-Credit Scheme, 63 types of initiatives are currently eligible for credit creation, and each initiative has its own methodology. In this revision, 1) Methodology for reducing CO2 emissions by burning fossil fuels and replacing grid power by using hydrogen and ammonia, 2) Methodology for reducing CO2 emissions by introducing hydrogen fuel cell vehicles, 3) Methodology for reducing CO2 emissions from the incineration of waste oil after the use of conventional fossil-derived lubricants and the use of raw materials and fuels through the use of biomass-derived lubricants.

METI website (in Japanese):

<https://www.meti.go.jp/press/2022/12/20221219001/20221219001.html>



The government expects economic growth of 1.5% next fiscal year

The government has announced on Dec. 22 that the real growth rate of GDP = gross domestic product will be around 1.5% for the Japanese economy in FY 2023 (from April to March). This is the "economic outlook" that will be the premise of next year's budget compilation, and it was approved at the cabinet meeting. It has been revised upward by 0.4 points from the forecast as of July this year. Although there are concerns about the slowdown of the global economy, the government expects that wages will increase due to factors such as the stimulating effect of economic measures, and that personal consumption and capital investment will grow. However, many private think tanks are forecasting real GDP growth of around 1.0% next fiscal year, making the government's outlook optimistic.

Cabinet office website (in Japanese)

<https://www5.cao.go.jp/keizai1/mitoshi/2022/r041222mitoshi.pdf>

Government to change nuclear policy and expand utilization

At the GX (Green Transformation) executive meeting held on December 22, the government decided on policies for utilizing nuclear power plants, such as rebuilding decommissioned nuclear reactors and extending the operating period. Since the 2011 Tokyo Electric Power Company Fukushima Daiichi Nuclear Power Plant accident, the nuclear power policy has been in the trend of "phasing out nuclear power", but it will shift to a new policy that maximizes the use of existing nuclear power plants. While the global trend toward decarbonization is progressing, the supply and demand of energy is becoming tight due to factors such as Russia's invasion to Ukraine. The basic energy plan calls for increasing the ratio of nuclear power generation from about 7% in FY2021 to 20-22% in FY2030.

Cabinet Secretariate website (in Japanese)

https://www.cas.go.jp/jp/seisaku/gx_jikkou_kaiqi/dai5/siryou1.pdf

The government has designated 11 areas of special importance, such as semiconductors

On December 20, the government approved a cabinet order designating 11 fields, such as semiconductors, as "special important materials" to ensure a



stable supply, based on the Economic Security Promotion Law. It will support private business operators who are trying to make their supply chains more resilient in anticipation of emergencies and disasters. These are semiconductors, storage batteries, machine tools, industrial robots, aircraft and ship parts, metal minerals such as manganese and nickel, combustible natural gas, fertilizers, software, etc.¹¹. It will ensure a stable supply of goods that could hinder people's lives and economic activities if there is a shortage.

Cabinet office website (in Japanese):

https://www.cao.go.jp/keizai_anzen_hosho/supply_chain.html#bshitei

Survey and Business Data

Japan's labor productivity ranks 27th out of 38 OECD countries

Japan's hourly labor productivity in 2021 announced by the Japan Productivity Center on Dec. 2021 was at \$49.90, placing it 27th out of 38 member countries of the Organization for Economic Co-operation and Development (OECD). The ranking has further retreated from 26th place in 2020. Japan's productivity rose by 1.5% in real terms compared to 2020, but stayed at just under 60% of the US productivity (\$85.0). Labor productivity in the manufacturing industry was \$92,993, ranking 18th among OECD member countries. In 2000, the productivity of the manufacturing industry of Japan was the highest among developed countries, but it declined after that, and since 2015, it has been hovering in the 16th to 19th place.

JAPAN PRODUCTIVITY CENTER website:

<https://www.jpc-net.jp/research/detail/006174.html>

Company & Organization News

IHI receives order for world's largest methanation equipment, reuses 24 tons of CO2 per day

IHI and group company IHI Plant announced on December 1 that they had received an order for methanation equipment from JFE Steel. From the exhaust gas of the test blast furnace, 24 tons of CO₂ will be recycled per day and 500 Nm³ of methane per hour will be produced. At the time of the announcement, it has the world's largest manufacturing capacity for methanation equipment. Methanation is a carbon recycling technology that produces synthetic methane



through the catalytic reaction of CO₂ and H₂. Synthetic methane can be produced from CO₂ emitted at a business site and used as an alternative fuel to natural gas on-site, or can be injected into city gas pipelines and used at other business sites or in general households. Existing city gas infrastructure can be used, and methanation is expected to be one of the key technologies for achieving carbon neutrality.

IHI website (in Japanese):

https://www.ihico.jp/ihico/all_news/2022/resources_energy_environment/1198112_3473.html

NEC and JERA start demonstrating electric power market transactions

NEC announced on December 1 that jointly with JERA, it has started a demonstration project for electricity market trading that utilizes demand response (DR), which controls electricity demand on the consumer side. Utilizing the solar power generation and storage batteries owned by NEC, they will verify the business feasibility at the Japan Electric Power Exchange (JEPX). For the solar power generation facility (3200 kW) and storage battery (500 kW) to be installed at the Abiko Demonstration Center, NEC will use NEC's AI to make predictions that take into account event information and weather information that affect power demand, and it automatically controls the demand amount considering the characteristics of the equipment and the characteristics of the installation location. From December 1, JERA starts trading the surplus electricity generated by this on JEPX.

NEC website (in Japanese):

https://jpn.nec.com/press/202212/20221201_02.html

MOC signed between Imec and Rapidus

On Tuesday, December 6, METI minister Nishimura attended the signing ceremony of the MOC between imec, which has formed one of the EU's top semiconductor R&D ecosystems, and Rapidus Corporation, which aims to be a mass production base for next-generation semiconductors in Japan. The Minister attended with Mr. Jan JAMBON, Minister-President of the Government of Flanders, and welcomed the progress of cooperation with the Belgian and



Flemish region to strengthen the manufacturing infrastructure for next generation semiconductors.

METI website:

https://www.meti.go.jp/english/press/2022/1206_004.html

Developed a shopping bag that fish dislike, and added a bitter ingredient

Mitsubishi Chemical Group, KIRACS and Shimojima announced on December 5 that they jointly developed a plastic shopping bag using plant-derived biodegradable resin compound "FORZEAS" and the ingredient "denatonium benzoate" that gives fish a bitter taste. FORZEA is a compound that uses the Mitsubishi Chemical Group's plant-derived biodegradable resin "BioPBS," which is decomposed into water and CO₂ by microorganisms in nature. Denatonium benzoate is an organic compound that gives a strong bitter taste to humans and fish, and it is expected to reduce the risk of accidental ingestion by marine organisms.

KIRACS website (in Japanese):

<https://www.kiracs.co.jp/news/2022-12-05/>

JOGMEC and the Government of Western Australia signed a MOU on natural resources, CCS and CCUS

Japan Organization for Metals and Energy Security (JOGMEC) signed a Memorandum of Understanding (MOU) with the State of Western Australia (WA State) to strengthen the cooperation in the field of energy resources including oil, gas, hydrogen and ammonia, CCS and CCUS in general, on December 7, 2022. Under the MOU, JOGMEC will actively not only exchange information and views on oil, gas, hydrogen, ammonia, methanation, carbon capture and storage (CCS), and carbon dioxide capture, utilization and storage (CCUS) but also seek opportunities for Japanese business to work with the WA State in the future.

JOGMEC website:

https://www.jogmec.go.jp/english/news/release/news_10_00022.html

Successful launch of ispace lunar lander

The lunar lander of ispace, a Japanese space development startup, was launched from Florida, USA on December 11 by the US SpaceX rocket "Falcon



9". After confirming its stable operation in space and adjusting its trajectory to head for the moon, it is expected that it will attempt to land on the moon around the end of April 2023. A successful landing would be the world's first private mission. Private companies that fly artificial satellites are appearing one after another, but there is still no successful example of transport aircraft to the moon. ispace regards the flight of the lander as a demonstration test, and will use it as a foothold for building a transportation service to the lunar surface in the future.

ispace website:

<https://ispace-inc.com/news-en/?p=4128>

Tokyu Land Corporation conducts Japan's first technical demonstration of "Ocean Floating Solar Power Generation"

On December 8, Tokyu Land Corporation announced that proposal of Japan's first "offshore floating solar power generation system" and "Self-sailing Boat" with technology to transport electricity by sea was adopted as "Tokyo Bay eSG Project" by the Tokyo Met. Government aiming for social implementation of advanced technology in the Tokyo Bay area. The project will be implemented in collaboration with Solarduck (Netherlands), which is engaged in the offshore floating solar power generation business, and Everblue Technologies, which is working to realize an autonomous yacht using renewable energy. Tokyo, the largest consumer of electricity, but it depends on power transmission from the suburbs. This project aims to realize a city model by achieving energy generation and marine transportation in the Tokyo Bay Area.

Solarduck website:

<https://solarduck.tech/solarduck-will-build-japans-first-offshore-floating-solar-demonstrator-in-tokyo-bay/>

ANA's CO2 emission reduction target receives SBT certification, first among Asian airlines

ANA Holdings (ANA HD) announced on December 9 that the company's greenhouse gas (CO2) emission reduction target was certified as a necessary science-based target (SBT) to achieve the targets of the Paris Agreement by the "Science Based Targets Initiative (SBTi)". According to ANA HD, it is the first



Asian airline to receive SBT certification. ANA Group has established targets to reduce carbon intensity by 29 percent* in FY2030, compared to the FY2019 levels. The SBT initiative (Science Based Targets initiative) is an international initiative founded by CDP, World Resources Institute (WRI), World Wildlife Fund (WWF), and United Nations Global Compact (UNGC) that promote information disclosure on climate change countermeasures.

ANA Holdings website:

https://www.anahd.co.jp/group/en/pr/202212/20221209.html?_gl=1*13e219*_ga*OTkzNjkyMTMzLjE2NzA5MDk1MDE.*_ga_32F297W9WL*MTY3MDkwOTU3OC4xLjEuMTY3MDkwOTYwOC4wLjAuMA..

Visualization of supply chain CO2 emissions, 35 companies implement data exchange

The Japan Electronics and Information Technology Industries Association (JEITA) announced on December 9 that it has started a demonstration experiment in which 35 companies participate and exchange data between companies, with the aim of creating rules for "visualizing" CO2 emissions throughout the entire supply chain. This initiative is carried out by the Green x Digital Consortium, whose secretariat is JEITA, with a total of 35 companies including solution providers participating. It conducts technical verification of data linkage between solutions based on international frameworks and practical verification of supply chain CO2 calculation. The demonstration experiment will be conducted by two phases. In phase 1, they will conduct technical verification of data linkage, and in phase 2, conduct practical verification including CO2 calculation with user companies. Through this demonstration experiment, the consortium will create use cases for data linkage between companies and deepen industry collaboration and public-private cooperation for future social implementation.

JEITA website:

<https://www.jeita.or.jp/english/press/2022/1209.pdf>

Japan Airlines joined the partnership of "Oita Prefecture x Sierra Space x Kanematsu" considering Dream Chaser®

Japan Airlines (JAL) announced Dec. 12 that it has joined the existing partnership of "Oita Prefecture x Sierra Space x Kanematsu" to consider Dream



Chaser® utilization at Spaceport Oita. Sierra Space is attempting to utilize the airport as an Asian base for the space shuttle "Dream Chaser" under development. JAL will utilize its knowledge in air transportation to cooperate in business development in Japan and operational support at the airport. Kanematsu, Sierra Space, and Oita Prefecture formed a partnership in February, aiming to utilize the airport as Asia's first "horizontal spaceport," in which rockets are loaded onto aircraft and launched horizontally in the air. The prefecture will also promote a satellite launch business using the same type of aircraft as Virgin Orbit in the United States.

JAL website:

<https://press.jal.co.jp/en/release/202212/007108.html>

Sumitomo Forestry participates in formulation of roadmap for maintaining and expanding sustainable forests

Sumitomo Forestry announced on December 9 that it will participate in the formulation of the "Forest Sector Nature-Positive Roadmap," a roadmap for nature positive in the forest sector. This initiative is led by the World Business Council for Sustainable Development (WBCSD) (Geneva, Switzerland), a coalition of companies aiming for sustainable development, and Sumitomo is the only Japanese company to participate. The roadmap sets 2020 as the base year and aims to achieve a state (net positive) by 2030 in which no ecosystems are lost and are increasing. To this end, it calls on companies in the forest sector to build a recycling-oriented business model that maximizes the collection and recycling of materials and products while maintaining and expanding sustainable forests.

SUMITOMO FORESTRY Website:

https://sfc.jp/english/news/pdf/20221209_01.pdf

ORIX acquires Spanish renewable energy giant Elawan as a wholly owned subsidiary

ORIX Corporation announced on December 14 that it will make Elawan Energy, a renewable energy company in Spain, a wholly owned subsidiary. Orix already owns an 80% stake in Elawan and has agreed to acquire the remaining 20% stake. Aiming to become a wholly owned subsidiary by the end of March 2023.



Elawan develops and operates wind and solar power plants in 14 countries, mainly in Europe, including Spain, and North and South America. It currently has 1,290 MW of projects in operation and approximately 7.3 GW of projects under construction or development. Its feature is the expertise and functions that it consistently handles from development to operation in countries around the world.

ORIX website:

https://www.orix.co.jp/grp/en/newsrelease/221214_ORIXE.html

Asahi Kasei develops basic recycling technology for continuous carbon fiber

Asahi Kasei Corporation announced on December 14 that it has developed basic technology for recycling continuous carbon fiber. Conventional carbon fiber recycling technology cuts carbon fibers into 3-24 mm lengths and recycles them as "chopped carbon fiber" processed carbon fiber products. Chopped carbon fiber has a different shape from the original continuous carbon fiber, so it was necessary to develop a separate composite technology. On the other hand, the new technology can be recycled as the original continuous carbon fiber, so existing composite technology can be used and closed-loop recycling is realized. Specifically, it aims to socially implement a recycling system that reuses carbon fiber derived from CFRP (carbon fiber reinforced plastic)/CFRTP (carbon fiber reinforced thermoplastic) discarded from automobiles. Recycling carbon fiber discarded from automobiles as continuous carbon fiber is expected to reduce the weight of automobiles by providing high-quality and low-cost CFRTP, and the energy saving effect.

Asahi Kasei Corporation website (in Japanese):

<https://www.asahi-kasei.com/jp/news/2022/ze221214.html>

JEITA announces global production outlook for electronics and information industry in 2023

On December 15, the Japan Electronics and Information Technology Industries Association (JEITA) announced the global production outlook for the electronics and information industry. According to this, the global production value of the electronic information industry in 2022 is expected to increase by 1% from the



previous year to US\$ 3,436.8 billion. In 2023, although uncertainties about the global economy remain due to concerns about the prolonged situation in Ukraine, further growth in solution services is expected due to increased investment in economic measures and digital transformation in each country, and demand for carbon neutrality. The global production is expected to increase by 3% year-on-year to US\$ 3,526.6 billion, setting a new record high.

JEITA website:

<https://www.jeita.or.jp/english/press/2022/1215.pdf>

JEITA announces global demand forecast for the digital innovation market through 2030

On December 15, the Japan Electronics and Information Technology Industries Association (JEITA) announced the global demand forecast for the digital innovation market, including cutting-edge technologies that solve social issues. This survey is based on an analysis of public information such as the policies of the governments of major countries and the trends of leading overseas companies, as well as interviews with leading domestic companies. Based on the strategies of each country's government, this survey identified seven technology elements that have a large impact ("Web3.0/Blockchain," "Quantum Computing," "Metaverse," "Cloud/Edge Computing," "5G/Beyond 5G (6G)", "AI/data analysis", and "server security"), and the market size is estimated based on the assumption that each technology will be utilized and implemented in society. As a result, it forecasts that the digital innovation market in 2030 will reach US\$ 2,352.5 billion. IoT devices are expected to grow at an average annual rate of 9.4%, while solution services are expected to grow at an average annual rate of 16.5%, driving the market.

JEITA website (in Japanese):

<https://www.jeita.or.jp/cgi-bin/topics/detail.cgi?n=4507&ca=1>

IHI developed new catalyst for SAF synthesis and confirms world top level yield of liquid hydrocarbons

On December 19, IHI announced that it had developed a new catalyst for synthesizing sustainable aviation fuel SAF from CO₂, and confirmed a liquid hydrocarbon yield of 26%, the highest level in the world. This initiative is being carried out jointly with ISCE, a research institute under the Singapore Agency



for Science, Technology and Research. In this joint research, utilizing the catalyst technology owned by both parties, they developed a technology that can efficiently synthesize liquid hydrocarbons, which are the raw materials for SAF, from CO₂ and hydrogen. The new catalyst developed by the two organizations is a SAF synthesis catalyst that directly reacts H₂ and CO₂, and has world-leading performance in the yield of liquid hydrocarbons with 5 or more carbon atoms (C₅ + yield 26%).

IHI website (in Japanese):

https://www.ihj.co.jp/ihj/all_news/2022/technology/1198123_3481.html

JX Nippon Mining & Metals and the Netherlands company starts smelting and refining of rare metal tantalum in Brazil

JX Nippon Mining & Metals, a subsidiary of ENEOS Holdings, announced on Dec. 23 that it will launch a joint venture in Brazil with AMG Advanced Material Radical Group, a resource development company in the Netherlands, and jointly operate a tantalum smelting base from January 2023. They raise the purity of tantalum from the ore mined at AMG's Mibra Mine (Minas Gerais State). Tantalum is used in electronic components such as semiconductor materials and capacitors, and is a material that supports the digital society. According to the U.S. Geological Survey (USGS), about 60% of the world's estimated tantalum production (2021) comes from Congo, Nigeria and Rwanda in Africa. Tantalum is also included in the list of "specially important materials" under the Economic Security Promotion Law, which the Japanese government approved on Dec 20.

JX Nippon Mining & Metals Corporation website:

https://www.jx-nmm.com/english/newsrelease/fy2022/20221223_02.html

Osaka Gas to produce synthetic methane from biomass-derived CO₂ + blue hydrogen

On December 22, Osaka Gas announced that its 100% subsidiary, Osaka Gas USA, will begin feasibility studies on a project to produce synthetic methane (e-methane) using biomass-derived CO₂ in the Midwestern United States. By 2030, it aims to start producing up to 200,000 tons of e-methane annually, with a view to liquefying it at the Freeport LNG Terminal and exporting it to Japan. By



around July 2023, feasibility studies such as technical studies of blue hydrogen and e-methane production plants, surveys of suitable sites for the capture and storage (CCS) of CO₂ generated during blue hydrogen production, and business feasibility studies, will be conducted. Since e-methane can be used with existing city gas infrastructure and equipment, it is expected to be used in the power generation and transportation fields as it enables a smooth transition to carbon neutrality and a reduction in social costs.

Osaka Gas website:

https://www.osakagas.co.jp/en/whatsnew/_icsFiles/afieldfile/2022/12/21/221222_1.pdf