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
August (July 28 – August 31) 2023

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Legislation and Policy News

International Standard issued for "Automated Valet Parking Systems"
On July 27, the Ministry of Economy, Trade and Industry (METI) announced that an international standard jointly developed by Japan and Germany on "automated valet parking" was issued. Widespread use of this technology will contribute to the effective use of parking spaces and the reduction of accidents in parking lots. In addition, it is expected that the user's convenience will be improved and CO2 emissions will be reduced, as the user's parking operation will be eliminated, and the search for a parking spot and waiting for a vacant space will be eliminated.

After the user gets off at the entrance of the parking lot, the automated valet parking system automatically drives the vehicle in the parking lot and parks it in a designated parking spot. This standard stipulates the operations and procedures of a series of automated valet parking systems, from parking lot reservation to vehicle delivery to the parking lot, automatic driving and parking in the parking lot, and vehicle pick-up.

This standard was proposed by Japan to ISO (International Organization for Standardization)/TC204 (ITS intelligent transport systems)/WG14 (cruise control) chaired by Japan in April 2017, and will be internationally approved on July 13, 2023 and published as a standard.

ISO website:
https://www.iso.org/standard/78420.html

METI announced self-development ratio of oil and natural gas of Japan
On August 15, the Ministry of Economy, Trade and Industry (METI) announced that the self-development ratio of oil and natural gas of Japan in FY2022 had been 33.4%, down 6.7 percentage points from the previous fiscal year. The self-development ratio of oil and natural gas is defined as the ratio of the purchased amount and domestic production related to the interests of Japanese

companies to the import and domestic production of oil and natural gas.

For Japan, which relies on imports from overseas for most of its oil and natural gas, securing a stable supply of resources and energy is essential. Therefore, in the 6th Strategic Energy Plan (decided by the Cabinet in October 2021), it was proposed to raise the independent development ratio of oil and natural gas, including domestic production, to 50% or more in FY2030 and 60% or more in FY2040.

However, the self-development ratio in FY2022 decreased by 6.7 points compared to the previous fiscal year. Although it peaked at 40.6% in FY2020, it has been on a downward trend since then, reaching 40.1% in FY2021 and 33.4% in FY2022. According to the METI, while the amount of crude oil imports increased due to the recovery from the economic downturn caused by the COVID-19, the amount of oil and natural gas in which Japanese companies have interests has decreased due to changes in the international situation and the energy market.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/08/20230815001/20230815001.html

METI Minister Nishimura visited five African Countries

Minister of Economy, Trade and Industry (METI) Nishimura visited five African countries (Namibia, Angola, Democratic Republic of the Congo, Zambia and Madagascar) from August 6 to August 13. He held meetings and signed joint statements and memorandums of understanding with his relevant ministers in various places. He also sought to strengthen intergovernmental and business ties to secure mineral resources.

Namibia

Minister Nishimura, Minister of Mines and Energy of the Republic of Namibia and Minister of Industrialization and Trade signed a joint statement on cooperation in the mining sector, improvement of the investment climate and economic cooperation.

Angola
This was the first visit to Angola as Minister of METI. He signed the Joint Statement on Improving the Investment Climate and Economic Cooperation and witnessed the signing of the Japan-Angola Investment Agreement. METI also hosted the Japan-Angola Business Roundtable in which over 20 Japanese companies and Angola companies took part in.

Democratic Republic of the Congo
He witnessed the signing of a work plan on exploration cooperation with the Japan Energy and Metals National Corporation (JOGMEC) and the Ministry of Mines of the Democratic Republic of the Congo.

Zambia
METI held the Japan-Zambia Mining Investment Roundtable, and the minster exchanged the opinion with the attendees from 11 Japanese companies in order to realize investment in Zambia. And he witnessed the signing of a memorandum of understanding between JOGMEC and the Ministry of Mines and Mineral Development to strengthen cooperation in the field of exploration, etc.

Madagascar
Both countries confirmed that Japan cooperates in a wide range of fields, including minerals, such as the Ambatovy Project, Africa's largest mining investment project that produces nickel and other minerals, in which Japanese companies participate, and the Toamasina Port expansion project which will serve as a shipping port for this project.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/08/20230812001/20230812001.html

ALPS treated water, the government decided to start releasing on August 24

Concerning the plan to dilute the treated water accumulated at TEPCO's Fukushima Daiichi Nuclear Power Station and to release it into the sea (ALPS treated water), the government decided at a meeting of related ministers to begin releasing it on August 24, provided that weather conditions do not

interfere. The Ministerial Meeting was held at the Prime Minister's Official Residence on August 22, attended by Prime Minister Kishida and Minister of Economy, Trade (METI) and Industry Nishimura.

In this context, Prime Minister Kishida said that the government continued to explain to other countries about the release of treated water, based on the fact that the IAEA (International Atomic Energy Agency) issued a report last month which concluded that safety standards were met.

He then said, "It is important to continue to communicate with fishermen on an ongoing basis and I instructed the relevant ministries and agencies to take thorough measures". In addition, bearing in mind that China is moving to restrict the import of Japanese marine products, he also clarified his intention to strengthen support for expanding domestic consumption and developing overseas sales channels.

Prime Minister's office website (in Japanese):
https://www.kantei.go.jp/jp/101_kishida/actions/202308/22hairo_alps.html

MOFA website:
https://www.mofa.go.jp/press/release/press5e_000031.html

Tritium concentration in sea area of Fukushima Daiichi Nuclear Power Plant remains below standard even after treated water is released

Tokyo Electric Power (TEPCO) announced on August 25 that the concentration of radioactive substances in seawater sampled around the Fukushima Daiichi nuclear power plant was below the detectable level and no abnormalities were found. It was announced that the analysis value of tritium concentration in the seawater sampled in the pipe was about the same as the calculated concentration, and that the analysis value was less than 1,500 becquerels per liter. The safety standard for tritium concentration in Japan is 60,000 becquerels per liter.

The concentration of tritium in seawater sampled at 10 locations within 3 kilometers from the power plant after the start of release on August 24 was below the detection limit (approximately 10 becquerels per liter) at all locations.

TEPCO plans to collect seawater from 10 locations every day for about a month and publish the analysis results the next day. The website of the Ministry of the Environment (MOE) also provides daily information on the analysis results of treated water.

TEPCO website:
https://www.tepco.co.jp/en/decommission/progress/watertreatment/index-e.html

MOE of Japan website:
https://shorisui-monitoring.env.go.jp/en/

Survey and Business Data

Annual GDP increased 6.0% April-June, but personal consumption weak
The Cabinet Office announced on August 15, 2023 that the gross domestic product (GDP) for the April-June quarter was up 1.5% in real terms compared to the previous quarter, or 6.0% on an annualized basis. This is the third consecutive quarter of positive growth. While personal consumption was weak, recovery in exports boosted the overall economy. Nominal GDP increased by 2.9% from the previous quarter, or an annualized increase of 12.0%. The actual annualized amount was JP￥590.7 trillion, exceeding the previous term (JP ￥574.2 trillion) and setting a record high.

The annual growth rate will exceed 6.0% for the first time since the October-December quarter of 2020 (7.9% increase), which temporarily recovered from the slump caused by the COVID-19. Exports increased by 3.2% from the previous quarter, marking the first positive growth in two quarters. The growth was driven by an increase in the number of automobiles due to the easing of semiconductor supply constraints. The recovery in inbound (foreign visitors to Japan) also contributed positively. Inbound consumption is classified as exports for calculation purposes.

Imports fell 4.3%, marking the third straight quarter of negative growth. The negative range widened from the 2.3% decrease in the January-March period. The decline in mineral fuels such as crude oil, medicines such as COVID vaccines, and mobile phones pushed down the whole. The decline in imports

was a factor pushing up GDP. Items related to domestic demand are conspicuously depressed or sluggish. Personal consumption, which accounts for the majority of GDP, decreased by 0.5% from the previous quarter, marking the first negative growth in three quarters. Eating out and lodging increased as the COVID crisis returned to normal, and sales of automobiles and game software also increased. On the other hand, food and beverage sales declined due to persistently high prices, and home appliances, which stay-at-home demand due to the COVID has run its course, were down.

Cabinet office website:
https://www.esri.cao.go.jp/en/sna/data/sokuhou/files/2023/qe232/gdemenuea.html

2.32 million foreign visitors to Japan in July, nearly 80% of pre-COVID-19 numbers

On July 16, the Japan National Tourism Organization (JNTO) announced that the number of foreign visitors to Japan in July was 2.32 million, an increase of 77.6% compared to 2019. Excluding China, where restrictions on overseas travel to Japan continued, the total number was 103.4% compared to the same month in 2019, exceeding the record before the spread of the COVID-19.

By region, the number of foreign visitors to Japan increased from East Asia, including South Korea, and in Europe, the United States, Australia, and the Middle East, particularly in the United States and Canada, which exceeded the results in the same month of 2019. Regarding regular international flights, as of the summer 2023 schedule, the number of flights has recovered to about 60% of the pre-COVID-19, and since then, the number of flights has continued to increase and return, mainly from East Asia.

On August 10, the Chinese government announced that it had lifted the ban on group travel to Japan, which had continued for three and a half years. This is likely to further boost the recovery of inbound tourists from the same month onwards. On the other hand, there is a serious shortage of human resources in the service industries such as hotels and restaurants.

JNTO website (in Japanese):
https://www.jnto.go.jp/

METI releases market survey results on e-commerce

On August 31, the Ministry of Economy, Trade and Industry (METI) announced the results of the 2022 Japanese e-commerce market (EC) survey. According to this, the size of the B2C market in Japan is JP¥ 22.7 trillion, an increase of 9.9% from the previous year. In addition, the size of the B2B market in Japan in the same year increased by 12.8% to JP¥ 420.2 trillion. The EC rate is 9.1% for B2C (up 0.35 points from the previous year) and 37.5% for B2B (up 1.9 points from the previous year).

Looking at the breakdown of the B2C market size in the product sales field, “food, beverages, alcoholic beverages” (JP¥ 2,750.5 billion), “household appliances, AV equipment, PCs, peripherals, etc.” (JP¥ 2,552.8 billion), “Clothing, clothing miscellaneous goods, etc.“(JP¥ 2,549.9 billion) and “household goods, furniture, interior goods” (JP¥ 2,354.1 billion) accounted for the largest share. They accounted for 73% of the field.

Since 2016, C2C market size estimation has been carried out based on the rapid expansion of person-to-person EC = C2C as one of the EC channels. The C2C market size in 2022 is estimated to be JP¥ 2,363 billion (6.8% increase from the previous year). On the other hand, the cross-border e-commerce (B2C) market size among Japan, the United States, and China has increased in all three countries. The amount of cross-border EC purchases by Chinese consumers from Japanese businesses was JP¥ 2,256.9 billion (up 5.6% year-on-year), and the amount of cross-border EC purchases from US businesses was JP¥ 2,749.9 billion (up 6.7% year-on-year). The both continued to increase from the previous year.

METI website (in Japanese):
https://www.meti.go.jp/press/2023/08/20230831002/20230831002.html

Company & Organization News

Sekisui House collaborates with startups aiming for net increase in biodiversity in residential areas

On July 27, Sekisui House announced that it will start joint research with Think Nature (Naha City, Okinawa Prefecture), a greentech startup company, on the net increase in biodiversity in residential areas. In this initiative, they will create new products/services and business models related to housing construction that will lead to net gains in biodiversity, as well as create other realization ideas and carry out enlightenment activities.

They promote the standardization of natural capital-related data sets and calculation methods that can be used to calculate net biodiversity gains through greening activities on existing building sites. Since 2001, Sekisui House has been working on a plan to conserve and restore biodiversity by planting mainly native tree species in urban residential areas to build a green network.
In the same year, this effect was jointly verified with the University of the Ryukyus and Think Nature, and the world's first system for quantitative evaluation of urban biodiversity was published as the "Nature Positive Methodology."

Think Nature is a university-launched green tech startup company made up of researchers with outstanding research achievements in biodiversity science. It has created big data on the spatio-temporal distribution of wildlife and ecosystems covering the world's land and sea, and has visualization and prediction scenario analysis technologies.

Sekisui House website (in Japanese):
https://www.sekisuihouse.co.jp/company/topics/topics_2023/20230727/

Itochu creates carbon credits through Kenyan environmental tech and conversion to cooking fuel

On July 28, ITOCHU Corporation signed an agreement with KOKO Networks Limited (KOKO/Kenya) for long-term offtake and joint sales of carbon credits. KOKO is an environmental technology company that creates carbon credits by converting home cooking fuels in Kenya. It is developing a project to supply low-cost renewable bioethanol fuel instead of charcoal to about one million households in eight cities in Kenya. Using a dedicated fuel case, users

purchase bioethanol fuel from fuel ATMs installed in approximately 2,500 locations, and cook using a dedicated home cooker.

Until now, the use of charcoal as a household fuel has caused harmful substances such as NOx, SOx, and particulate matter to spread indoors, causing health problems. Charcoal production is responsible for deforestation of 2 million hectares a year in Africa. KOKO's cooking fuel conversion will significantly reduce health hazards and greenhouse gas emissions. Proceeds from the sale of carbon credits generated by this will be returned to Kenyan households through discounts on cooking utensils. In addition, the project is expected to receive support from the Kenyan government to obtain certification for equivalent adjustment, and if it is realized, it is expected that the market value of carbon credits will increase further.

Itochu website:
https://www.itochu.co.jp/en/news/press/2023/230728_2.html

ANA procures "carbon removal credits" from US company

On August 1, All Nippon Airways announced that it signed a contract with 1PointFive, an American company working on DAC (Direct Air Capture) technology that directly captures and stores CO2 from the atmosphere, to procure carbon removal credits derived from DAC technology for the first time in the world as an airline. 1PointFive is currently building a DAC plant in Texas, USA, which is expected to begin commercial operation in 2025. ANA plans to procure a total of more than 30,000 tons of carbon removal credits (CDR) from this DAC plant over three years from 2025.

The ANA Group's transition strategy for achieving carbon neutrality in 2050 includes "Improvements in operations and technological innovation of aircraft", "Low carbonization of aviation fuel such as utilization of SAF", "Utilization of emissions trading system" and "Utilization of negative emission technology". DAC technology handled by 1PointFive is one of the negative emission technologies in the transition strategy, and it is a means to "remove" residual emissions that cannot be "reduced" by operational improvements, technological innovations such as aircraft, and the use of SAF. ANA sees this as an essential approach that will diversify important means in achieving carbon neutrality in the aviation industry.

ANA Holdings website:
https://www.anahd.co.jp/group/en/pr/202308/20230801.html?_gl=1*7xwbhr*_ga*MjA3NDg5NjI0OS4xNjkxMDYwMzQ0*_ga_32F297W9WL*MTY5MTA2MDQ0OS4xLjEuMTY5MTA2MDQ4OS4yMC4wLjA.

Sojitz begins manufacturing from CO2 and H2 using Hydrogen Bacteria as law materials

On August 4, Sojitz announced that it has started developing manufacturing technology together with the Central Research Institute of Electric Power Industry and others, with the support of the New Energy and Industrial Technology Development Organization (NEDO). It is an innovative manufacturing technology by hydrogen bacteria-derived CO2 and H2 as raw materials.

This project is working on technological development for producing various chemical products and feed ingredients from CO2 and H2. Bioprocesses, which use CO2 as a raw material to directly produce substances, are a new manufacturing technology that has never been commercialized in the world, and are expected to be one of the options for the realization of a carbon-neutral society.
Hydrogen bacteria, the target of development, are considered to be a type of microorganism with the fastest CO2 fixation rate. By applying genetic recombination while taking advantage of its high CO2 fixation ability, it will create strains that produce useful chemical products with high efficiency.
The chemical products produced are raw materials used in a variety of everyday applications, such as plastics, inks, paints, textiles, and cosmetics.

Sojitz website:
https://www.sojitz.com/en/news/2023/08/20230804.php

Kansai Electric Power participates in barge-type floating wind power generation project in Spain

On August 1, Kansai Electric Power announced it will participate in a barge (flat-bottomed ark) type floating offshore wind power generation project that is being jointly implemented by Saitec Offshore Technologies and RWE Renewables in the port of Bilbao in northern Spain. This "DemoSATH project" aims to start operation in 2023, and has completed the assembly of the floating foundation

and wind turbine at the port, and is preparing for towing to the site.

In this project, a floating facility equipped with a 2,000-kW wind turbine will be constructed at the Port of Bilbao, and will be towed to a demonstration site approximately 3 km offshore before starting operation. Demonstration tests on the power generation equipment will be carried out over a period of about two years.

The Kansai Electric Power Group is working to popularize and expand renewable energy with the goal of 5 million kW of new development in Japan by 2040 and a cumulative total of 9 million kW. In order to achieve this goal, the company will actively accumulate knowledge on various types of floating structures, and will enthusiastically work on the new development of floating offshore wind power plants, which are expected to have high development potential in Japan.

Kansai Electric Power website:
https://www.kepco.co.jp/english/corporate/pr/2023/pdf/aug1_1.pdf

MOL promotes onboard hydrogen production project

Mitsui O.S.K. Lines (MOL) announced on August 3 that it will jointly carry out a project with Kyushu University to produce hydrogen from water onboard using offshore wind energy. This hydrogen production involves a water electrolysis process using pure water, which is of higher quality than drinking water, and how to produce pure water is an important elemental technology.

When producing hydrogen from seawater, the seawater is first filtered to remove impurities such as organic substances (carbon-containing substances, microplastics, etc.), inorganic substances (iron, magnesium, sodium), sludge, etc., and purify the seawater. However, the filters that are commonly used today require frequent replacement, which increases the workload of crew members and places a heavy burden on costs.

In this development, they applied high-precision seawater filtration equipment developed by Kyushu University and RO (reverse osmosis) equipment to develop a long-life, high-durability, and high-performance filter that can remove

even the level of bacteria.

In addition, in this development, through demonstration experiments at Lake Biwa in Shiga Prefecture, they will design a pure water production system that targets not only seawater but also freshwater. By comparing the freshwater and seawater of Lake Biwa, Japan's largest lake, they will verify the know-how of hydrogen production in freshwater and the cost difference between seawater and freshwater hydrogen production.

MOL is working on the "Windhunter" project as a zero-emission business that utilizes wind power and hydrogen. When the wind is strong, the ship will use the wind power to navigate, and the underwater turbine will generate electricity to produce and store hydrogen onboard. When the wind is weak, stored hydrogen is used to generate electricity with a fuel cell and propulsion with a propeller. A demonstration experiment using a yacht has already been completed in Omura Bay, Nagasaki Prefecture. As the next stage, it plans to build a 60-70m class hydrogen production vessel with multiple sails after 2024.

MOL website:
https://www.mol.co.jp/en/pr/2023/23099.html

Shimizu Corporation to test remediation of PFAS-contaminated soil in the U.S.

Shimizu Corporation announced on August 10 that it has begun a demonstration test of a technology to remediate soil contaminated with organic fluorine compounds (PFAS) in the United States. By using technologies such as separation using bubbles in water, the amount of contaminated soil that requires secondary treatment can be reduced, and costs can also be reduced.

The scale and duration are not disclosed. The soil is purified using a classification process that sieves particles according to their size and a foam separation method that separates and collects particles by adhering them to bubbles in water. So far, it has been used to purify soil contaminated with heavy metals and dioxins. The company has cleaned about 3.2 million tons of soil.

PFAS is heat-resistant and repels both water and oil, so it has been used in

coating agents and fire extinguishing foams. However, it is difficult to decompose in the natural world and is also called "eternal chemical substance". It is easy to accumulate in the environment, etc., and there is also a risk of health damage. Manufacture and import of some types of PFAS (PFOS and PFOA) are prohibited.

The company has conducted experiments to purify groundwater contaminated with PFAS. This time, after confirming the soil purification performance, they plan to put it into practical use in the United States, where PFAS regulations are leading the way. In the long term, it aims to develop the technology in Japan.

SHIMIZU CORPORATION website (in Japanese):
https://www.shimz.co.jp/company/about/news-release/2023/2023025.html

Mitsubishi Corporation builds the world's first bio-paraxylene supply chain for PET bottles with 2 other companies

Mitsubishi Corporation announced on August 7 that it has reached an agreement with Suntory Holdings and ENEOS to build a supply chain for sustainable PET bottles made from biomass resources such as used cooking oil. The production of sustainable PET bottles using bio-PX derived from bio-naphtha is the world's first on a commercial scale. By the end of 2023, they plan to manufacture a quantity equivalent to approximately 35 million PET bottles of Bio PX, which will be the cornerstone of this supply chain construction. Ultimately, it will be used as a raw material for Suntory's sustainable PET bottles from 2024.

For the realization of a decarbonized society, it is assumed that bio-recycling of PET bottles will become as important as recycling in the future. Ethylene glycol (MEG), which accounts for 30% of the main raw material of the PET resin used in PET bottles, is being bio-processed, but there is a problem with the bio-production of PTA, which is manufactured from the remaining 70% of PX. In this supply chain, by converting PX, which is the raw material of PTA, into a bio-based product, they can contribute to the resolution of the issues related to the bio-based use of PET resin, and it is expected significantly reduce CO2 emissions compared to conventional petroleum-based products.

Mitsubishi Corporation website:
https://www.mitsubishicorp.com/jp/en/pr/archive/2023/html/0000051845.html

Mitsubishi Heavy Industries to start CO2 recovery test at existing cement plant in Alberta, Canada

On August 17, Mitsubishi Heavy Industries (MHI) announced that it has installed a compact CO2 recovery system, CO2MPACT™, for an existing cement plant in Edmonton, Alberta, Canada, owned by Heidelberg Materials (headquartered in Germany), one of the world's leading cement manufacturers, and that the two companies have started full-scale CO2 recovery demonstration tests using CO2MPACT™.

In this demonstration test, MHI and the Kansai Electric Power jointly developed a proprietary CO2 recovery technology "Advanced KM CDR Process™" and absorption liquid "KS-21™" to test different exhaust gas properties and a wide variety of plant conditions. Various verifications are performed for the operation mode. In Canada, a partnership between Heidelberg Materials, the Government of Canada and the Province of Alberta is planning the world's first full-scale CCUS (Carbon dioxide Capture, Utilization and Storage) solution for the cement industry.

Through this demonstration test, Heidelberg Materials will further solidify its vision of leading the decarbonization of the cement industry. On the other hand, MHI Group will utilize its own CO2 recovery technology to strongly promote the CCUS business and contribute to the reduction of greenhouse gas emissions on a global scale as a solution provider.

MITSUBISHI HEAVY INDUSTRIES (MHI) website:
https://www.mhi.com/news/23081702.html

AIST develops sensing technology to determine freshness of fish meat from odor

The National Institute of Advanced Industrial Science and Technology (AIST) announced on August 21 that it has developed sensing technology that determines the freshness of fish meat from its odor, modeled on yellowtail.

Raw fish such as sushi and sashimi are becoming more popular worldwide, and fresh marine products are air-freighted overseas from Japan in a chilled state. Overseas, there are few craftsmen who are familiar with raw fish, and it is difficult to distinguish between raw fish and cooked fish, so most of the fish are handled by Japanese stores. In order to expand the export volume of Japanese marine products, it is necessary to have an objective quality indicator and its measurement method. K value has been proposed as a freshness index for fresh marine products. However, fish meat must be collected, and chemical measurements to derive the K value require special skills and a certain amount of time.

AIST adopted and developed an odor determination method as a new sensing technology. It is a non-destructive test that does not require the collection of fish meat because it targets fish odors. AIST, in collaboration with the Hokkaido Industrial Technology Center, analyzed the odors of fish meat according to the degree of freshness, and created a simulated freshness index gas based on the results. Using the measurement results of the indicator gas as learning data, machine learning was used to determine the freshness of the actual fish meat based on its odor. It is expected that this sensing technology will be used by overseas importers of Japanese marine products in the future, and will eventually lead to the expansion of exports of Japanese marine products.

AIST website:
https://www.aist.go.jp/aist_e/list/latest_research/2023/20230821/en20230821.html

Famous AI researchers from Google launch new AI company in Tokyo

Major media such as Reuters Japan and Nihon Keizai Shimbun reported on August 18 that two prominent artificial intelligence (AI) researchers from Google had launched a new AI company, “SAKANA AI”, in Tokyo on August 17. Of the two, Llion Jones is one of the authors of the 2017 Google paper "Attention is all you need." The paper is known for introducing a deep learning architecture called “Transformer,” which became the basis of development competition for chat GPT and various generative AIs, and brought about the so-called “generative AI revolution.” After working as a researcher at Google Brain,

Google's AI development division, Jones was the head of research at Stability AI.

According to a Reuters report, he said that “SAKANA AI” will focus on building a new architecture for the base model. Another, David Ha, said it was still one of the ideas for the new company. It would be possible to have a data set and cooperate with each other to solve the problem (Reuters). According to the Nihon Keizai Shimbun, the company name of “SAKANA AI “is derived from the Japanese word for FISH, and the reason for choosing Japan as a place to start a business is the fact that the competition to acquire human resources for generative AI is heating up in the United States. For the moment, there is no official information other than their post on the X (Twitter) .

SAKANA AI X(Twitter):
https://twitter.com/sakanaailabs

Marubeni and Osaka Gas to produce methane in Peru
Marubeni Corporation and Osaka Gas announced on August 21 that they have begun a study to produce 60,000 tons of environmentally friendly synthetic methane (e-methane) per year in Peru. It is equivalent to 1% of city gas supplied by Osaka Gas in one year. They will continue to study the conditions of raw material procurement and the specifications of the manufacturing plant, and aim to sell mainly to Japan from 2030.

e-Methane is made by recovering CO2 emitted during the production of liquefied natural gas (LNG) and synthesizing green hydrogen produced with electricity derived from renewable energy. Based on the survey conducted from 2022, it was determined that there is a possibility that sufficient renewable energy and CO2 necessary for manufacturing can be procured.

It is envisioned that the existing facilities of the Peru LNG plant, in which Marubeni has a stake, will be utilized. Japan plans to increase the ratio of e-methane contained in city gas to 1% in 2030 and 90% in 2050, and demand is expected to increase.

Marubeni website:
https://www.marubeni.com/en/news/2023/release/00087.html

Safe delivery of toxic ammonia fuel between ships

Nippon Yusen (NYK) and TB Global Technologies (TBG) announced on August 17 that they have agreed to jointly develop bunkering boom for ammonia fuel for the first time in Japan. TBG which has the top share in the domestic market for cargo handling equipment for liquids such as crude oil and liquefied natural gas (LNG). By adopting TBG's technology that reliably prevents liquid leakage which is the biggest issue in ammonia fuel supply, it does not emit carbon dioxide (CO2) even when combusted.

A bunkering boom consists of steel pipes and hoses, and is a device that supplies fuel from a fuel supply ship to a ship. As it is a steel pipe, it is highly durable, and the direction can be freely changed by the joints called swivel joints, making it easy to operate. In this development, they adopted TBG's technology to prevent the liquid inside from leaking out when the bunkering boom is urgently separated from the ship due to natural disasters, etc.

NYK line website:
https://www.nyk.com/english/news/2023/20230817.html

Technology development in Japan and Australia for mass transport of liquefied CO2 at low temperature and low pressure

On August 23, five parties, including JX Nippon Oil & Gas Exploration Corporation and an Australian research institute, signed a technology development project contract to verify the technology and feasibility of mass transportation of liquefied CO2 at low temperature and low pressure. In addition to JX Nippon Oil & Gas Exploration, Mitsui O.S.K., Osaka Gas, Future Energy Exports CRC (FEnEx CRC) and Low Emission Technology Australia （LETA）will take part in the project.

Toward the practical use of liquefied CO2 transport ships, currently the mainstream is to study medium temperature and medium pressure specifications (approximately -26°C, 18 bar), but there is the problem of the difficulty of increasing the size of the tank. The adoption of low-temperature, low-pressure specifications (approximately -49°C, 7 bar) has made it possible to

increase the size of the tank, which is expected to significantly reduce the construction and transportation costs per tank capacity. On the other hand, there is still no record of transporting liquefied CO2 under low-temperature and low-pressure conditions, and it is necessary to organize operational risks and increase the accuracy of realization.

JX Nippon Oil & Gas Exploration Corporation website:
https://www.nex.jx-group.co.jp/english/newsrelease/upload_files/20230823EN.pdf

Space Shift and Wegaw form a business alliance for snow accumulation and snow melting monitoring of hydroelectric power generation

Space shift (TOKYO), which develops satellite data analysis systems, announced on August 24 that it has agreed to a business alliance agreement with Wegaw (Lausanne, Switzerland), which has snow accumulation and snowmelt monitoring technology, regarding monitoring of hydroelectric power plants. By providing technology for monitoring snow and water resources to companies that own hydroelectric power plants, they will support optimization of operation and management for the use of renewable energy.

Specifically, with data solutions that contribute to sustainable power generation established by Wegaw, they promote optimal facility operation and maintenance, minimizing financial risks, and improving management efficiency. In the future, they aim to provide solutions with higher value by integrating flood area detection technology, one of Space Shift's disaster monitoring technologies, and Wegaw's digital twin technology for snow and water resources.

SPACE SHIFT website:
https://www.spcsft.com/en/news-en/660/

Osaka Gas and Eneos consider Japan's first large-scale production of synthetic methane

Osaka Gas and Eneos Holdings announced on August 29 that they have begun joint studies on the production of synthetic methane (e-methane) from carbon dioxide (CO2) and renewable energy-derived hydrogen in Osaka Bay. In this

study, green hydrogen produced overseas is converted into methylcyclohexane (MCH), which is a kind of efficient means of storing and transporting hydrogen, and then transported, and carbon dioxide recovered domestically. They aim to build manufacturing facilities and start manufacturing on a scale equivalent to as 60 million m3/year (10,000 Nm3/h, equivalent to about 250,000 ordinary households).

Converting hydrogen to e-methane will expand the spread of hydrogen and contribute to the realization of a hydrogen society. In addition, e-methane leads to the decarbonization of city gas, and the existing city gas infrastructure and consumer equipment can be used as they are, while controlling social costs. Furthermore, by securing an e-methane manufacturing base in Japan, they will contribute to the recycling of CO2 emitted by domestic industries and the stable supply of energy.

ENEOS website (in Japanese):
https://www.eneos.co.jp/newsrelease/upload_pdf/20230829_01_01_0906370.pdf

U.S.-based Sempra to export decarbonized LNG to Japan

Sempra Infrastructure, a major US energy company, will participate in a project to export liquefied natural gas (LNG) to Japan, which emits virtually no greenhouse gases. Mitsubishi Corporation and three major city gas companies are planning a project, and Sempra will be responsible for part of the manufacturing and negotiations with the US government.

The project will use renewable energy to produce "green hydrogen" and utilize carbon dioxide (CO2) captured from factories to produce synthetic methane. Synthetic methane is converted to LNG at the "Cameron" plant in Louisiana in the south of the United States, which Sempra and Mitsubishi Corporation are working on. In 2030, they will export 130,000 tons per year to Japan. This amount is equivalent to 1% of the total demand forecast (as of 2030) of Tokyo Gas, Osaka Gas and Toho Gas, which are participating in this plan.

The scale of the project is expected to be JP¥ several tens of billions, but if the company develops its own renewable energy to produce "green hydrogen," it

will be a large-scale project worth more than JP¥ 100 billion. Synthetic methane emits CO2 when burned, but since CO2 is used as a raw material, emissions are practically zero. However, under the current system, importing and consuming decarbonized LNG, which is liquefied synthetic methane, does not mean that emissions are curtailed. Sempra is also expected to be in charge of negotiating with the US government regarding the handling of emissions control.

MITUBISHI Corporation website (in Japanese):
https://www.mitsubishicorp.com/jp/ja/pr/archive/2023/html/0000051874.html

Kirin develops technology that enables direct printing on PET bottles
Kirin Holdings, a beverage manufacturer, announced on August 29 that the group's Packaging Innovation Research Institute has developed a recyclable PET bottle direct printing technology (RDP technology) that can print directly onto PET bottles. With conventional ink, if printed directly onto PET bottles, the ink will not peel off during the recycling process, leaving color on the PET resin after recycling, and there is a risk of loss of transparency and quality. Therefore, the PET Bottle Recycling Promotion Council even in the established guidelines, direct printing was prohibited.

In response to these technical issues, the new RDP technology uses a release ink developed by Fujifilm and has developed a technology that allows the ink to be removed during the recycling process. As a result, labels and barcodes printed with RDP technology do not peel off when drinking, and can be peeled off and separated during cleaning in the recycling process. Compared to conventional labels, this technology eliminates the need for a resin film as a base material, reducing the amount of plastic used per PET bottle by approximately 8% and reducing GHG emissions from label use by approximately 84%.

Kirin holdings website (in Japanese)
https://www.kirinholdings.com/jp/newsroom/release/2023/0829_01.html