



Monthly Japanese Industry and Policy News  
January (February 2 – February 29) 2024

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

## **Legislation and Policy News**

### **METI provides Google Cloud free of charge to generative AI development companies**

The Ministry of Economy, Trade and Industry (METI) announced that it will lease cloud services used for data learning and other purposes from Google Cloud in the US and provide them free of charge to a total of seven startup companies and universities. It is for promoting domestic production of generative AI infrastructure, where overseas companies are taking the lead. Foreign-funded cloud services for generative AI have high usage fees, and tight supply and demand conditions have made it difficult for emerging companies to rent. In Japan, the National Institute of Advanced Industrial Science and Technology, which is under the METI, also provides cloud computing, but it lacks computing power. This project is called "GENIAC (Generative AI Accelerator Challenge)," and will support the provision of computational resources for the development of basic models that are the core technology of generative AI, promote collaboration among related parties, and communicate externally. Each of the seven companies will develop a basic model by August.

The METI is also aiming to raise the level of development capabilities. In addition to allowing companies and universities to share development methods, the program will also hold study sessions inviting overseas businesses. In order to smoothly raise funds, it will introduce venture capital (VC) and match with companies seeking to use generative AI. An increasing number of companies are utilizing generative AI in operations such as call centers. The main developers are overseas companies such as Chat GPT, a U.S.-based open AI company. The METI will support the development of domestically produced models that are safe and meet the demands of Japanese companies.

METI website:

[https://www.meti.go.jp/english/policy/mono\\_info\\_service/geniac/index.html](https://www.meti.go.jp/english/policy/mono_info_service/geniac/index.html)

### **METI contributes JP ¥ 45 billion to cutting-edge semiconductors**



The Ministry of Economy, Trade and Industry (METI) announced on February 9 that it will support up to JP ¥ 45 billion for research and development of semiconductors for artificial intelligence (AI). The funds will be donated to domestic research institutions in which Lapidus and others participate. They will research design technology for semiconductors for AI that have fast data processing and low power consumption, and will make it possible to produce them domestically. The project will support the Advanced Semiconductor Technology Center (LSTC), a research institute run by Lapidus, the University of Tokyo, RIKEN, and others. The money will be used for five years of research until 2029.

The center will research semiconductor design technology for “edge AI,” where data is not sent to a server but is processed on the terminal side with AI. The company aims to mass produce the product at Rapidus in the future. Demand for edge AI is increasing because it can reduce processing costs. The METI will also support the research and development of next-generation semiconductors with circuit line widths of 1 nanometer (1/1 billionth of a billionth of a meter). The development results are expected to be released on the market after 2029. In developing the next-generation 1-nanometer product, the company will collaborate with semiconductor manufacturing equipment giants Applied Materials (AMAT) in the US, IBM in the US, and semiconductor research institutes Leti (France) and Imec (Belgium) to develop elemental technologies.

METI YouTube Channel (in Japanese):

<https://www.youtube.com/user/metichannel>

### **Establishment of a specialized organization to examine the safety of AI**

On February 14, the Ministry of Economy, Trade and Industry (METI), announced that the government has established the AI Safety Institute in the Information-technology Promotion Agency, Japan (IPA), an organization that will study safety assessment methods for AI (artificial intelligence). This comes in response to growing international interest in the safety of AI, including the rapidly spreading generative AI. The AI Safety Institute will conduct research on AI safety evaluation, develop standards, and consider evaluation implementation methods. Business content will be continually reviewed in light of changes in society and technology, as well as domestic and international



trends. It is also considering collaborating with related organizations such as the United States and the United Kingdom, which are taking the lead in discussions on the safety of AI. In the future, it will establish a secretariat within IPA and aim to recruit a wide range of human resources, including from the private sector, to grow our organization to several dozen people.

METI website:

[https://www.meti.go.jp/english/press/2024/0214\\_001.html](https://www.meti.go.jp/english/press/2024/0214_001.html)

### **6-month residence status for digital nomads**

The Immigration Services Agency announced on February 2 that it will create a qualification that will make it easier for IT (information technology) engineers working for overseas companies to stay in Japan. A new special status of residence will be created for those who can stay for six months. Capturing demand from highly skilled foreigners who want to work from anywhere through telework while sightseeing in Japan. It is expected to be used primarily by employees and managers of overseas consulting companies, as well as YouTubers who earn advertising revenue from overseas companies. Public comment regarding this system has begun on February 3.

Current qualifications are often used by tourists for short-term stays, and are not qualifications that allow them to work. The length of stay is also short, up to 90 days. The Immigration Bureau will grant you a status of residence based on the following requirements: 1) have an annual income of JP ¥ 10 million or more; 2) have the nationality of approximately 50 countries/regions that allow you to enter Japan without a visa; and 3) enroll in private medical insurance. Sole proprietorships are permitted only when doing business overseas. Currently, there are approximately 35 million digital nomads worldwide, and the number is on the rise. Overseas, systems that allow digital nomads to stay are expanding. If the person meets conditions such as educational background and income, he/she has special qualifications that allow to stay for five years in Thailand, two years in South Korea, and one year or more in Spain. Japan's six-month qualification is extremely short, and there seems to be strong demand for an extension.



e-GOV. Public Comment by the Digital Agency (in Japanese):

<https://public-comment.e-gov.go.jp/servlet/PcmFileDownload?seqNo=0000268158>

### **Azure adopted as computational resource for domestic LLM development project “GENIAC”**

On February 16, the Ministry of Economy, Trade and Industry (METI) announced that Microsoft's Azure will be used as a computing resource for the GENIAC (Generative AI Accelerator Challenge) project, which aims to develop domestic large-scale language models (LLMs). At the same time, METI has started recruiting additional businesses to participate in GENIAC.

GENIAC is a project led by METI that provides support such as securing computational resources for LLM development and subsidizing usage fees, as well as operating a community centered on LLM developers participating in the program. The aim is to accelerate LLM development by Japanese companies by procuring computational resources that are a bottleneck in LLM development and providing some subsidies. Seven companies have already been selected, including Preferred Elements, ABEJA, Stockmark, and the University of Tokyo. The seven existing companies will use Google's Google Cloud.

METI website:

<https://www.meti.go.jp/press/2023/02/20240216004/20240216004.html>

### **Japan-Ukraine economic recovery promotion meeting held in Tokyo**

On the morning of February 19, the government of Japan held the Japan-Ukraine Economic Reconstruction Promotion Council for the first time at the Keidanren Hall in Otemachi, Tokyo, to discuss recovery and reconstruction measures for Ukraine. They have set out a policy of providing focused support in a coordinated manner. A total of 56 cooperation documents were signed by organizations and companies from both countries to provide concrete support. The meeting was attended by approximately 300 people, including Prime Minister Kishida and Ukrainian Prime Minister Denis Shmikhaly, as well as government and business officials from both countries. The aim is to increase momentum for international support ahead of the 24th anniversary of Russia's invasion to Ukraine.



A joint statement was adopted between the two governments stating that “Japan will provide the necessary long-term support to ensure the stability of Ukraine's economy.” The statement includes 1) conclusion of a new tax treaty to promote investment by Japanese companies, 2) relaxation of requirements for issuance of business visas for Ukrainian companies, and 3) establishment of the Japan External Trade Organization (JETRO) office in the capital Kiiv. Additionally, on the same day, the government eased travel restrictions to the capital Kiiv for Japanese companies and organizations involved in the recovery and reconstruction of Ukraine. The Ministry of Foreign Affairs will maintain the highest level of evacuation advisory out of the four levels of danger information, while allowing travel under conditions such as thorough safety measures.

MOFA website:

[https://www.mofa.go.jp/erp/c\\_see/ua/pageite\\_000001\\_00169.html](https://www.mofa.go.jp/erp/c_see/ua/pageite_000001_00169.html)

### **TSMC Kumamoto 2nd Factory will receive up to JP ¥732 billion in subsidy**

According to announcements from major medias, Minister of Economy, Trade and Industry Takeshi Saito announced on February 24 that the Ministry of Economy, Trade and Industry (METI) would pay for maintenance costs for the second factory in Kumamoto of Taiwan Semiconductor Manufacturing Co., Ltd. (TSMC), the world's largest contract manufacturer of semiconductors. The government announced that it would provide up to JP ¥732 billion in subsidies. He made the announcement after the opening ceremony of the company's first factory in Kikuyo Town, Kumamoto Prefecture.

The METI also explained that it had established new requirements regarding subsidies for the construction of the second factory. They requested that production continue for at least 10 years after the start of mass production, and that most of the wafers used for semiconductors be procured from Japanese companies, and that at least 50% of other parts and materials be procured from companies based in Japan. Construction of the second factory is expected to begin in 2024 and be operational by the end of 2027. The plan is to mainly manufacture semiconductors with a circuit line width of 6 nanometers, which is more advanced than the first factory. It will become a domestic mass production base for cutting-edge semiconductors used in autonomous driving and artificial intelligence (AI). TSMC's investment in both plants will exceed \$20 billion



(approximately JP ¥ 3 trillion yen). The METI will provide up to JP ¥ 1.208 trillion in support, including the first factory.

TSMC website:

<https://pr.tsmc.com/japanese/news/3113>

METI YouTube Channel (in Japanese):

<https://www.youtube.com/watch?v=uN7XQQnJceo>

## **Survey and Business Data**

### **124 Japanese companies, including Kao, rated the highest in terms of environmental friendliness**

On February 6, the British environmental NGO CDP released an evaluation of the environmental disclosures and initiatives of companies around the world. There were 124 Japanese companies that received the highest rating of A in at least one of the three areas of climate change, water resource protection, and forest conservation. This is an increase of 36% from the 2022 survey. There are 10 Japanese companies in the world that have received the "Triple A" rating in all fields, with Kao being the second Japanese company to do so, and Sekisui House being the latest to receive the rating.

The 2023 survey evaluated more than 21,000 companies around the world. The number of companies that received the highest score of A was approximately 2%, or approximately 400 companies, an increase of 20% from the previous year. Approximately 2,000 companies responded in Japan, and 109 companies received an A rating for climate change, including Astellas Pharma and Bridgestone. In the area of forest conservation, Shiseido and Toyota Tsusho have newly acquired certification.

CDP surveys global companies once a year. Its influence is growing, with institutional investors and banks using it for investment decisions and ESG ratings. In some cases, financial institutions ask companies to respond to CDP, and in other cases, they ask companies to confirm their score status as a condition of lending.

CDP website:

<https://www.cdp.net/en/articles/companies/scores-press-release-2023>



## **Company & Organization News**

### **Nippon Steel confirms 33% reduction in blast furnace CO2 emissions using hydrogen reduction technology**

On February 6, Nippon Steel Corporation announced that in a development test of its Super COURSE50 technology, which uses heated hydrogen to reduce CO2, it achieved a 33% reduction in CO2 emissions from the blast furnace itself, an update to the world's highest standards. The company plans to further conduct demonstration tests and work to quickly establish Super COURSE50 technology (reducing CO2 emissions by more than 50%) in large blast furnaces.

This development is being carried out by a consortium formed by four companies: Nippon Steel Corporation, JFE Steel Corporation, Kobe Steel, Ltd., and the Metal Materials Research and Development Center. Nippon Steel aims to achieve carbon neutrality by using three ultra-innovative technologies: this time, "blast furnace hydrogen reduction," "high-grade steel production in large electric furnaces," and "reduced iron production using hydrogen."

NIPPON STEEL CORPORATION website (in Japanese):

[https://www.nipponsteel.com/news/20240206\\_100.html](https://www.nipponsteel.com/news/20240206_100.html)

### **Chubu Electric Power invests directly in Dutch offshore wind power company**

Chubu Electric Power announced on February 2 that it will invest 30% in an offshore wind power generation project in the Netherlands. Local energy company Eneco, in which Chubu Electric Power has a 20% stake, has a 40% stake in the project, of which Chubu Electric will purchase 30%. The company will switch from indirect investment to direct investment and dispatch one director and several employees to the operating company.

The wind power generation project in which the company invests has an output of 760,000 kilowatt-hours, which corresponds to approximately 3% of the domestic demand in the Netherlands. Construction is expected to begin in 2024 and commercial operations will begin in 2026. This is the first time for Chubu Electric Power to directly invest in an overseas offshore wind project. As the domestic market peaks out, it will focus on overseas renewable energy business. Once



this stock transfer is completed, British Shell will have a 60% stake in the business, Chubu Electric Power will have a 30% stake, and Eneco will have a 10% stake.

Chubu Electric Power website:

[https://www.chuden.co.jp/english/corporate/releases/pressreleases/1213148\\_5163.html](https://www.chuden.co.jp/english/corporate/releases/pressreleases/1213148_5163.html)

### **Kioxia announces investment in mass production of advanced memory**

Kioxia Holdings, a major semiconductor memory company, and Western Digital (WD) of the US announced on February 6 that they will invest a total of JP¥ 729 billion toward mass production of cutting-edge semiconductor memory products. New production lines will be built at the Yokkaichi Factory in Mie Prefecture and the Kitakami Factory in Iwate Prefecture. Demand for data centers is expected to expand with the spread of generative AI.

The investment period is until April 2029, and the Ministry of Economy, Trade and Industry will provide subsidies of up to JP ¥242.9 billion. First, production lines for cutting-edge NAND flash memory, which stacks semiconductor elements in 218 layers, will be established at two factories, with the aim of shipping in September 2025. NAND's storage capacity increases by stacking semiconductor elements. A mass production line for next-generation products will also be in place by 2029. Kioxia and WD have partnered in semiconductor development and manufacturing for the past 20 years.

KIOXIA Corporation website:

<https://www.kioxia.com/en-jp/about/news/2024/20240206-1.html>

### **Mitsui O.S.K. Lines and JX Oil Exploration collaborate to build CCS value chain between Japan and Australia**

On February 5, Mitsui O.S.K. Lines and JX Oil Exploration announced that they will begin investigating and considering maritime transportation and other options in order to build a CCS value chain between Japan and Australia. In the future, the aim is to transport the CO2 captured in Japan by sea to Australia's Bonython Port, where it will be injected and stored at a storage site. In this collaboration, Mitsui O.S.K. Lines will select a liquefied CO2 vessel type that is





appropriate for the port restrictions in Japan and Australia, the expected CO<sub>2</sub> transportation distance and volume, and calculate the cost of ocean transportation. JX Oil Exploration will calculate the cost of the entire CCS value chain between Japan and Australia.

Mitsui O.S.K. Lines is collaborating with various companies to build a CCS value chain. In October 2023, it signed a memorandum of understanding with Cosmo Oil regarding the investigation and consideration of maritime transportation, etc. Mitsui O.S.K. is aiming to build a CCS value chain consisting of separation/capture, transportation, injection and storage of CO<sub>2</sub> emitted from refineries operated by Cosmo Oil. On the other hand, JX Oil Exploration, in addition to its oil and natural gas development business, positions CCS as an important initiative in its business strategy and is promoting the initiative. In the US state of Texas, commercialization is progressing through the operation of a large-scale CO<sub>2</sub> capture plant.

MOL website:

<https://www.mol.co.jp/en/pr/2024/24019.html>

### **Germany's H2 Global Foundation signs memorandum of understanding on clean hydrogen with JOGMEC and the Tokyo Metropolitan Government**

On February 2, 2024, JOGMEC announced that a memorandum of understanding (MOU) was signed with Germany's H2 Global Foundation (H2 Global), which was established with the purpose of launching an international hydrogen market, to promote cooperation regarding clean hydrogen. JOGMEC and H2 Global will exchange information on policies, systems, technologies, business, supply chains, etc. related to clean hydrogen and its derivatives, and hold workshops and seminars.

H2 Global is a foundation established in 2021 under the "National Hydrogen Strategy" adopted by the German federal government, and aims to foster a hydrogen market not only within Germany but also within the EU and with countries around the world. The foundation has also announced that it will collaborate with the Tokyo Metropolitan Government to launch a hydrogen exchange. The foundation says in the press, "The situation is such that the price of green hydrogen itself does not exist in the first place. Therefore, it is



necessary to create a transparent market. We need to create a new system, and exchanges will play a major role in that".

JOGMEC website:

[https://www.jogmec.go.jp/english/news/release/news\\_08\\_00013.html](https://www.jogmec.go.jp/english/news/release/news_08_00013.html)

**JOGMEC signs a memorandum of cooperation with Brazil's Minas Gerais Economic Development Authority (SEDE) and Development Promotion Corporation (Invest Minas)**

JOGMEC announced on February 7 that it has signed a memorandum of understanding (MOU) in the field of critical minerals with the Economic Development Authority of the Brazilian Federal State of Minas Gerais and the State Development Promotion Corporation (Invest Minas). The Brazilian state of Minas Gerais has long been known as an iron ore producing region, and is a thriving mining state with several Japanese companies investing in iron ore projects. In recent years, lithium exploration has been active and large lithium deposits have been discovered, attracting attention as the Lithium Valley. In addition, tantalum, which is important as a semiconductor material, and niobium, which is important as a stainless-steel material, are also produced, and JOGMEC provides investment support for projects of Japanese companies expanding into the country, diversifying important mineral supply sources to strengthen the supply chain.

JOGMEC website (in Japanese):

[https://www.jogmec.go.jp/news/release/news\\_10\\_00163.html](https://www.jogmec.go.jp/news/release/news_10_00163.html)

**Renesas acquires US semiconductor software development company for JP ¥ 889 billion**

Renesas Electronics announced on February 15 that it will acquire American software company Altium. The acquisition price is AUD 9.1 billion (approximately JP ¥ 889 billion). The company develops and provides software that allows to design printed wiring boards, which are essential for semiconductors, on the cloud. The aim of the acquisition is to speed up the development of electronic components. All shares of Altium will be acquired through procedures under the Companies Act of Australia, where Altium is publicly traded. The acquisition is scheduled to be completed in the second half



of 2024, subject to regulatory approval. By acquiring Altium, Renesas will consolidate the system design and integration on the cloud and create an environment that can efficiently provide services in a short period of time. Altium was founded in Australia in 1987, but is headquartered in California, USA. It has a large market share in printed circuit board design tools.

Renesas Electronics Corporation website:

<https://www.renesas.com/us/en/about/press-room/renesas-acquire-pcb-design-software-leader-altium-make-electronics-design-accessible-broader-market>

### **Toyota and Chiyoda Corporation to jointly develop world's smallest water electrolysis system**

Toyota Motor Corporation and Chiyoda Corporation announced on February 5 that they will jointly develop a large-scale water electrolysis system that will be the world's smallest and achieve highly efficient manufacturing. The target is a 5MW class unit, an installation area of 2.5m x 6m, and a hydrogen production capacity of approximately 100kg/hour. The equipment developed by the two companies will have approximately half the installation space of typical equipment. In addition, while maintaining maintainability, it is possible to reduce transportability, shorten on-site construction periods, and reduce costs for civil engineering and construction work. To realize this device, Toyota will utilize Toyota's production and mass production technology for water electrolysis cell stacks using fuel cell technology, and Chiyoda Corporation's process plant design technology and large-scale plant construction technology. In the future, they will begin installing a water electrolysis system in the hydrogen park at Toyota's main factory in fiscal 2025, expand it to 10MW class. Progress will be published sequentially.

Toyota website:

<https://global.toyota/en/newsroom/corporate/40388622.html>

### **Panasonic Energy procures graphite for EV battery material from Australia**

Panasonic Energy announced on February 9 that it will procure graphite for use as negative electrode material in electric vehicle (EV) batteries from an Australian materials manufacturer's U.S. factory. The proceeds will be used to purchase materials for Panasonic Energy's battery factory in the United States.



Locally procuring materials in North America will help ensure a stable supply of batteries. The products will be procured from a factory in Tennessee, U.S. owned by Australia's Novonix. It is expected to purchase a total of 10,000 tons of graphite over a four-year period starting in 2025. Novonix's strength lies in its technology for producing graphite in a shorter time than conventional manufacturing methods. The amount of energy required for production is small, and carbon dioxide emissions can be reduced. Panasonic Energy operates an EV battery factory in Nevada, US. The new factory currently under construction in Kansas, USA, is scheduled to start operating in 2024. The company plans to further expand battery production in North America, and is establishing a system to stably procure raw materials for batteries in North America.

Panasonic Energy website:

[https://news.panasonic.com/uploads/tmq\\_block\\_page\\_image/file/22011/en240209-6-1.pdf](https://news.panasonic.com/uploads/tmq_block_page_image/file/22011/en240209-6-1.pdf)

### **Toyota Tsusho supports decarbonization of Kenya**

On February 7, Toyota Tsusho signed a memorandum of understanding with the Kenyan government to achieve carbon neutrality. The company aims to develop renewable energy projects, localize the production of high-efficiency transformers, and realize multi-pathways using electric vehicles. Kenya has set a goal of 100% of its electricity generation coming from renewable energy by 2030. In order to contribute to the realization of carbon neutrality in Kenya, the company will promote four initiatives related to building a green energy value chain that connects the fields of "production, transportation, and consumption."

- 1) Business development in renewable energy fields such as geothermal, solar, and wind power, which account for 90% of the country's power generation
- 2) Expand the use of high-efficiency transformers, consider local production of high-efficiency transformers, and develop human resources with the aim of reducing power transmission and distribution losses and improving energy efficiency.
- 3) Developing "multi-pathway (aiming to become carbon-free through multiple routes)" measures using electric vehicles including hybrid vehicles



- 4) Improving the productivity and strengthening the competitiveness of Toyota Tsusho's local companies involved in automobile assembly with the support of the country's National Automobile Policy (NAP)

Toyota Tsusho website:

[https://www.toyota-tsusho.com/english/press/detail/240207\\_006361.html](https://www.toyota-tsusho.com/english/press/detail/240207_006361.html)

### **JAXA, H3 rocket launch successful**

The Japan Aerospace Exploration Agency (JAXA) announced on February 17 that it launched the second next-generation flagship rocket, H3, entered its target orbit, and completed its flight as planned. This is the first successful launch of H3. H3 was launched from Tanegashima Space Center (Kagoshima Prefecture) at 9:22 a.m. on February 17. Five minutes later, the second-stage engine, which had failed on the first plane, was successfully activated. It then ascended to its target orbit and launched two microsatellites.

This is the first successful launch of a completely new large rocket in Japan in 30 years, since the H2 in 1994. It has been 23 years since the current H2A, an improved version of the H2, first flew in 2001. Demand for rocket launches is increasing worldwide due to the increase in the number of communication satellites and security concerns. The number of launches worldwide in 2023 was 212, an 18% increase compared to 2022, and the highest ever. As space development competition intensifies among countries, the focus is on whether Japan can demonstrate its presence with the H3, which is both larger and lower in cost.

JAXA website:

[https://global.jaxa.jp/press/2024/02/20240217-1\\_e.html](https://global.jaxa.jp/press/2024/02/20240217-1_e.html)

### **Marubeni to produce recycled aviation fuel from household waste in Dubai**

Marubeni will manufacture recycled aviation fuel (SAF) in Dubai, United Arab Emirates (UAE). The raw material is general waste such as household garbage. The company aims to complete initial research by the end of 2024 and start commercial production around 2030. The company has signed a memorandum of understanding regarding manufacturing research with two companies:



Emirates National Oil Company, Dubai's state-run oil and gas company, and Basics (Belgium), which handles waste treatment in the country. Marubeni has invested in a company that manufactures SAF derived from general waste in the United States, and will provide its knowledge on SAF manufacturing, including plant construction and operational management. The annual production volume is currently being adjusted, but commercial production of SAF generally exceeds tens of thousands of kiloliters, and it is expected to be about the same amount. The UAE plans to replace 1% of its jet fuel demand with SAF by 2031, and is considering supplying it to airlines such as Emirates.

Marubeni website:

<https://www.marubeni.com/en/news/2024/release/00008.html>

### **Mitsubishi Chemical develops biodegradable resin with more than 60% biomass and turns it into soil in 31 weeks**

The Mitsubishi Chemical Group announced that it has developed a new biodegradable bio polyester resin with a biomass content of over 60% and high flexibility. It is expected to be used in a variety of applications, including food packaging, plastic bags, and agricultural mulch film. The developed resin achieved a high degree of biomass, flexibility, high tear strength, and excellent processability by combining biomass-derived monomers using the group's unique material design technology. Other features include high transparency and impact strength, and excellent compatibility with other biodegradable resins.

Since biodegradable resins are decomposed by microorganisms in nature, they can be expected to reduce the amount of garbage and CO2 emissions generated during incineration. According to the company's disintegration test conducted using compost, it was confirmed that most of the material had decomposed within 31 weeks. Sample work for this bio polyester resin has been carried out in Japan and Europe since January, and technology development is scheduled to begin in the United States in the future.

Mitsubishi Chemical Group website:

[https://www.mcgc.com/english/news\\_release/01842.html](https://www.mcgc.com/english/news_release/01842.html)



### **Idemitsu, ENEOS, Hokuden, one of the largest hydrogen production bases in Japan in Hokkaido**

On February 20, Idemitsu Kosan, ENEOS, and Hokkaido Electric Power Company announced that they will begin consideration for constructing one of Japan's largest green hydrogen production bases in Tomakomai City, Hokkaido. The plan is to build a plant that will produce 10,000 tons of hydrogen per year around 2030. It will supply hydrogen to the surrounding industrial area and support local decarbonization efforts. The production cost of green hydrogen depends on electricity costs, so hydrogen produced in Japan, where there are few suitable areas for renewable energy, is expensive. However, Hokkaido has a limited demand for electricity, and the company determined that using surplus electricity to produce green hydrogen would be profitable.

Idemitsu Kosan website:

<https://www.idemitsu.com/jp/content/100044858.pdf>

### **Five electric power companies transfer plutonium in France to Kyushu Electric and Shikoku Electric**

On February 16, the Federation of Electric Power Companies of Japan announced a plan to process plutonium extracted from spent nuclear fuel into uranium-plutonium mixed oxide (MOX) fuel in France and then consume it. It will be used at the nuclear power plants of Kyushu Electric Power and Shikoku Electric Power from 2027 onwards. Both companies do not have plutonium in France that can be used immediately, and the five electric power companies that own it, including Tokyo Electric Power Company Holdings (HD), will transfer it.

The major electric power companies are expected to have 40.1 tons of fuel by the end of fiscal 2023, and are trying to reduce their holdings by using MOX fuel. There are only four nuclear power plants in Japan that can operate using MOX fuel: Kyushu, Shikoku and Kansai Electric Power. This time, in order to reduce the amount held as soon as possible, companies that are not yet able to use the service cooperated. The Federation of Electric Power Companies of Japan aims to have at least 12 nuclear power plants operating on MOX fuel by 2030. The plan announced on the same day aims to use 2.1 tons of plutonium in fiscal 2027 and approximately 6.6 tons per year by fiscal 2030.



The Federation of Electric Power Companies of Japan website:

[https://www.fepec.or.jp/english/news/message/\\_icsFiles/afieldfile/2024/02/16/press\\_20240216\\_eng\\_1.pdf](https://www.fepec.or.jp/english/news/message/_icsFiles/afieldfile/2024/02/16/press_20240216_eng_1.pdf)

### **SoftBank Group and Saudi government-affiliated company manufacturing industrial robots**

SoftBank Group (SBG) announced on February 20 that it will establish a joint venture with a company affiliated with a Saudi Arabian sovereign wealth fund to manufacture industrial robots. The two companies will invest up to \$150 million to establish a manufacturing base in the capital, Riyadh, with the aim of opening in December. It has entered into a strategic partnership with Alat, a subsidiary of the Public Investment Fund (PIF) led by Saudi Crown Prince Mohammed. Utilizing the intellectual property of SBG and related companies, they aim to manufacture next-generation robots optimized for assembly, manufacturing, and production fields.

SoftBank Group website:

<https://group.softbank/en/news/press/20240220>

### **Chubu Electric Power and others create a roadmap for zero fossil fuels in the Galapagos Islands**

On February 9, Chubu Electric Power announced that it will launch a project to support the creation of a roadmap toward zero fossil fuels in Ecuador's Galapagos Islands. It was commissioned by the Japan International Cooperation Agency (JICA) jointly with the Okinawa Electric Power Group and Nippon Koei. In this project, they will formulate a renewable energy development scenario, examine and propose grid stabilization measures and energy conservation measures in the Galapagos Islands. Specifically, in formulating renewable energy development scenarios, they will conduct potential surveys of solar and wind power generation as well as geothermal power generation.

In the Galapagos Islands, fossil fuel-based thermal power generation, mainly diesel power generation, accounts for the majority of the power source. Furthermore, the demand for electricity is expected to increase significantly in the future due to the population increase associated with the development of





the tourism industry. Under these circumstances, the Ecuadorian government is focusing on environmental conservation in the Galapagos Islands, and is accelerating efforts to curb the use of fossil fuels, such as formulating an energy transition plan for the islands, with the aim of responding to sustainable development.

Chubu Electric Power website:

[https://www.chuden.co.jp/english/corporate/releases/pressreleases/1213187\\_5163.html](https://www.chuden.co.jp/english/corporate/releases/pressreleases/1213187_5163.html)

### **Kawasaki Heavy Industries and French company partner to develop fuel cells for construction machinery**

Kawasaki Heavy Industries and Symbio, a French fuel cell company, announced on February 28 that they have signed a memorandum of understanding for joint development of fuel cell systems for use in construction machinery. The construction equipment industry is increasingly switching from diesel engines to power sources that have a lower environmental impact, and fuel cells are also being considered. Symbio is a joint venture between French tire giant Michelin, European car giant Stellantis, and French auto parts manufacturer Faurecia. It has over 30 years of know-how in developing fuel cell systems. Kawasaki Heavy Industries has been producing hydraulic equipment for construction machinery and parts for fuel cell vehicles (FCVs).

Unlike FCVs, which can be refilled with hydrogen at hydrogen stations in the city, construction machines are often operated at sites where stations are not available, such as in housing development or river construction. Hydrogen supply methods are likely to become a development issue for fuel cell systems for construction machinery. Kawasaki Heavy Industries is working to strengthen its hydrogen business, but this is the first time it has partnered with a fuel cell company. The idea is to put it into practical use as early as 2026.

Kawasaki Heavy Industries website:

[https://global.kawasaki.com/news\\_240228-1e.pdf](https://global.kawasaki.com/news_240228-1e.pdf)

### **Idemitsu, Mitsubishi Corporation, and Swiss companies produce ammonia in North America**



Idemitsu Kosan announced on February 27 that it will participate in an ammonia production project in the U.S. state of Louisiana that is being considered by Mitsubishi Corporation and Swiss methanol major Proman. Approximately 1.2 million tons of "blue ammonia" will be produced annually using CCS, which captures and stores carbon dioxide (CO<sub>2</sub>), and will be exported mainly to Japan. The three companies will produce approximately 1.2 million tons of ammonia annually in Lake Charles, Louisiana, by 2030. Utilizing cutting-edge low-carbon technology from Mitsubishi Heavy Industries and other companies, the company will create products that emit less CO<sub>2</sub> during production than regular ammonia. The ammonia produced will be exported mainly to Japan and used as fuel in power plants. The plan is to use Mitsubishi Corporation's liquefied petroleum gas (LPG) terminal in Ehime Prefecture and Idemitsu's existing infrastructure in Yamaguchi Prefecture as reception centers for transportation. Mitsubishi Corporation signed a memorandum of understanding (MOU) with Proman in September 2023 to build a low-carbon ammonia plant.

Idemitsu Kosan website:

<https://www.idemitsu.com/en/news/2023/240227.html>

### **Kajima invests in Canadian geothermal power generation startup**

Kajima announced on February 19 that it has invested in Eavor Technologies, a Canadian energy company based on geothermal technology. Eavor Technologies has developed Eavor-loop, which combines oil and gas well drilling technology with the company's new proprietary technology. Eavor-loop uses geothermal energy technology to regulate the flow of a circulating liquid, allowing the liquid to store heat and reach higher temperatures during times of low demand, and convert electricity with high efficiency during times of high demand. By utilizing this function, they aim to realize a baseload electricity supply that can flexibly adjust supply and demand, and create a future where clean, reliable, and inexpensive energy is supplied on a global scale.

Eavor Technologies has been operating its Eavor-loop demonstration facility, Eavor Lite, in Canada for over four years, and is currently constructing the world's first commercial closed-loop power generation facility in Geretsried, Germany. Eavor-loop is a closed-loop geothermal power generation system that circulates liquid through high-temperature rock layers to recover heat from



underground rock. The feature of Ever-loop is that it does not have the risk of conventional geothermal power generation, such as not being able to locate geothermal reservoirs. Since it can be applied to areas other than volcanic areas, the area where geothermal energy can be developed will expand. Furthermore, since it is possible to develop geothermal energy in locations where it is difficult to compete with hot springs without extracting steam or hot water, it is expected that smooth consensus building will occur among the parties involved in geothermal development areas.

Kajima Corporation website:

<https://www.kajima.co.jp/english/news/info/pdf/20240219.pdf>

### **Rakuten Symphony and Ukrainian telecommunications carrier “Kyivstar” reach basic agreement on implementation of Open RAN**

Rakuten Symphony, a Rakuten Group company that operates a communications platform business, and Kyivstar, a subsidiary of VEON and a major telecommunications carrier in Ukraine, announced on February 26 that Kyivstar will add to its network in Ukraine. A basic agreement was reached on the introduction of Rakuten Symphony's Open RAN technology. Based on this agreement, both companies will introduce Rakuten Symphony's Open RAN and 5G technologies to Kyivstar's network, and promote efforts to rebuild Ukraine's digital infrastructure and support the country's reconstruction and recovery. The implementation is scheduled to begin in 2024.

Rakuten Groupe website:

[https://global.rakuten.com/corp/news/press/2024/0226\\_04.html?year=2024&month=2&category=mobile](https://global.rakuten.com/corp/news/press/2024/0226_04.html?year=2024&month=2&category=mobile)

### **Rapidus partners with Canadian company to manufacture AI semiconductors**

Rapidus, which aims to mass produce cutting-edge semiconductors, announced on February 27 that it will collaborate with Canadian semiconductor design and development company Tenstorrent on the development of artificial intelligence (AI) semiconductors. With the spread of AI, the demand for specialized semiconductors that perform high-speed calculation processing is increasing, and Rapidus aims to become a source of manufacturing. In early February, the



government announced that it would provide JP ¥28 billion in subsidies to the Advanced Semiconductor Technology Center (LSTC), a research institute run by Rapidus, the University of Tokyo, and others. The National Institute of Advanced Industrial Science and Technology will be involved in the research, and will be responsible for developing semiconductors that will speed up the massive calculations required for AI. Tenstorrent will participate in the development of the central processing unit (CPU) that plays the role of the brain, and Rapidus will be responsible for the production of AI semiconductors. Rapidus aims to mass-produce AI semiconductors developed using this framework around 2029. Regarding AI semiconductors, while manufacturers are increasing production, supply continues to be unable to keep up with expanding demand.

Rapidus website:

[https://www.rapidus.inc/news\\_topics/information/rapidus-to-promote-development-and-manufacturing-of-edge-ai-accelerator-with-tenstorrent-a-collaboration-in-a-project-by-lstc-adopted-by-nedo/](https://www.rapidus.inc/news_topics/information/rapidus-to-promote-development-and-manufacturing-of-edge-ai-accelerator-with-tenstorrent-a-collaboration-in-a-project-by-lstc-adopted-by-nedo/)

### **Itochu investigates synthetic fuel production in Australia**

On February 27, ITOCHU Corporation announced that it will begin an investigation into the production and export of hydrogen-derived synthetic fuel (e-fuel) in Australia. It will work with a subsidiary of U.S. synthetic fuel manufacturer HIF Global, JFE Steel, and Mitsui OSK Lines to investigate costs and see if it can be commercialized. Production is expected to begin by 2030. The plan is to capture the raw material carbon dioxide (CO<sub>2</sub>) in Japan and transport it to Australia to create synthetic fuel. In addition to utilizing CO<sub>2</sub> emitted by industries that are difficult to decarbonize, such as steel manufacturing, it will also use "green hydrogen" produced using renewable energy. ITOCHU will be in charge of overseeing the entire project, while HIF will investigate the manufacturing regions and costs of synthetic fuel. JFE Steel will estimate CO<sub>2</sub> recovery in Japan, and Mitsui O.S.K. Lines will estimate shipping costs. Synthetic fuel has the same chemical structure as gasoline and other fuels, and has the advantage of being able to be used in existing equipment. Since it can also be used in gasoline engines, it has high expectations in the automotive field.



Itochu website:

<https://www.itochu.co.jp/en/news/press/2024/240227.html>

### **Tokyu Land and Renewable Japan jointly acquire Spain's Valdecaretas solar power plant**

Tokyu Land Corporation announced on February 29 that it has jointly acquired the Valdecaretas Solar Power Plant (installed capacity: 37.8MW, hereinafter referred to as the "Power Plant") located in Toro, Zamora Province, Spain, in collaboration with Renewable Japan. This is the company's second acquisition of a Spanish company, and the total installed capacity of Tokyu Land's solar power plants in Spain is approximately 77.7MW. The southern European region, centered on Spain, where they are jointly investing, has a large amount of sunlight and is rich in rolling hills suitable for solar power generation, making it an extremely attractive market for the development of solar power plants. As a result, stable business growth is expected to continue going forward. Tokyu Land Corporation and Renewable Japan aim to develop and own a total of 1GW (=1,000MW) of renewable energy power plants in Southern Europe, mainly Spain and Italy, over the next few years.

Tokyu Land Corporation website (in Japanese):

<https://www.tokyu-land.co.jp/news/2024/001169.html>