



Monthly Japanese Industry and Policy News January (January 5 – February 1) 2024

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

Legislation and Policy News

Ministry of Land, Infrastructure, Transport and Tourism cancels communication of takeoff order following Haneda Airport accident

Following the January 2 collision between Japan Airlines and a Japan Coast Guard aircraft at Haneda Airport, the Ministry of Land, Infrastructure, Transport and Tourism compiled emergency measures on January 9 to prevent a recurrence. When giving instructions to aircraft from air traffic controllers, they will no longer communicate the order of takeoff using things like "number one." The monitoring system for air traffic controllers will also be strengthened, including constant visual inspection of display screens that prevent aircraft from entering the runway incorrectly.

The accident appears to have been caused by a combination of multiple human errors, including a misinterpretation of control instructions by the Japan Coast Guard aircraft. The Ministry of Land, Infrastructure, Transport and Tourism will consider more drastic countermeasures once the cause of the accident is determined. Air traffic control at Haneda Airport has stopped using words to indicate takeoff order since January 8, and the practice will be expanded to all airports in the future. If a pilot makes an inquiry to air traffic control, they will respond individually.

As part of its emergency measures, the ministry has been deploying full-time air traffic controllers to constantly check this function at Haneda Airport since January 6. Similar measures will be taken at six other airports that have the same functionality, including Narita and Kansai International. The accident occurred around 5:50 p.m. on January 2. A JAL plane bound for Haneda from Sapporo entered Runway C for landing and collided with a Japan Coast Guard aircraft on the runway, causing both planes to burst into flames. Five of the six crew members of the Japan Coast Guard aircraft were killed. All 379 passengers and crew on the JAL plane evacuated.



Ministry of Land, Infrastructure, Transport and Tourism website (in Japanese):
<https://www.mlit.go.jp/report/press/content/001716822.pdf>

METI signs memorandum on energy transition with Uzbekistan and Kazakhstan

On January 9, METI Minister Saito held an online meeting with Uzbekistan's Energy Minister Mirzamakhmudov and Kazakhstan's Energy Minister Satkaliev, and signed an intergovernmental memorandum on energy transition. During the meeting with the two countries, opinions were exchanged on bilateral cooperation in the economic and energy fields in order to give concrete form to the discussions in the "Central Asia + Japan Dialogue" and "Economic and Energy Dialogue", which were established in September last year.

The Central Asian region is rich in natural resources such as oil, natural gas, and minerals such as rare metals. There is also a lot of interest from Japanese companies, including trading companies that withdrew from Russian business due to the invasion of Ukraine. In September 2023, METI established a framework for regular dialogue with the five Central Asian countries of Uzbekistan, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan to support cooperation in decarbonization technology. Coordination is currently underway to conclude a similar memorandum of understanding with the remaining three countries.

METI website (in Japanese):

<https://www.meti.go.jp/press/2023/01/20240109005/20240109005.html>

Same as above:

<https://www.meti.go.jp/press/2023/01/20240109006/20240109006.html>

METI signs memorandum on energy transition with Turkmenistan

On January 22, METI Minister Saito held a meeting with Deputy Prime Minister and Minister of Foreign Affairs Meredov of Turkmenistan, and exchanged views on bilateral cooperation in the economic and energy fields. After the meeting, they concluded an intergovernmental memorandum on energy transition, and witnessed the signing of a gas to gasoline (GTG) memorandum between Kawasaki Heavy Industries, Ltd., ITOCHU Corporation, and Turkmenhimiya. Turkmenistan is the third Central Asian country to conclude an intergovernmental memorandum, following Kazakhstan and Uzbekistan in early



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METI website (in Japanese):

<https://www.meti.go.jp/press/2023/01/20240122007/20240122007.html>

Japan and Vietnam hold dialogue on environmental policy

On January 23, the Ministry of the Environment announced the results of the Japan-Vietnam environmental policy dialogue held earlier this month. The direction of future cooperation in areas such as climate change countermeasures, plastic pollution, waste management, and air pollution was confirmed. The two governments have held seven environmental policy dialogues since 2013, and signed memoranda of understanding (MOU) in 2016 and 2020. This time, MOU was updated and the 8th Environmental Policy Dialogue was held.

In terms of climate change countermeasures, they will cooperate by utilizing the Bilateral Credit Mechanism (JCM), which has already been used in more than 40 projects in Vietnam, by utilizing the Paris Agreement Article 6 Implementation Partnership, and by promoting the introduction of early warning systems through public-private partnerships. Japan also called for the early convening of the Japan-Vietnam JCM joint committee.

During the event, a completion ceremony was held for a waste-to-energy facility in Bac Ninh Province, Vietnam, which was attended by Japan's Deputy Minister of the Environment and the implementing company, JFE Engineering. The facility will generate approximately 11.6MW of electricity and will be able to incinerate 500 tons of waste per day. GHG reduction is expected to be approximately 40,000 t-CO₂ per year.

Ministry of the Environment website (in Japanese):

https://www.env.go.jp/press/press_02637.html



METI provides JP¥ 45.2 billion subsidies for NTT's next-generation optical semiconductors

On January 30, the Ministry of Economy, Trade and Industry (METI) officially announced that it would provide up to JP¥ 45.2 billion in subsidies for the development of next-generation semiconductors by companies such as NTT. This technology uses light rather than electricity to transmit information between devices, and if realized, it will lead to faster communication and reduced power consumption. It was determined that this project would help improve Japan's industrial power. Support is provided by a new technology called "photoelectric fusion," which replaces information transmission with light. It will support research and development for five years until 2029. Target companies include NTT, semiconductor substrate manufacturer Shinko Electric Industries, and semiconductor memory manufacturer Kioxia. It will also collaborate with Intel in the US and SK Hynix in South Korea. Optoelectronic convergence is the core technology of NTT's next-generation communications platform, "OWN." It is expected to be used in high-speed communications such as 6G.

METI YouTube Channel:

<https://www.youtube.com/watch?v=mt-sw2K5zb8&list=PLcRmz7bR5W3nuyhPiHG2wBS85BuFeuDsL&index=1>

All-Japan organization starts to formulate UN standards for battery replaceable EVs

On January 24, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) announced it will launch the Carbon Neutral Center to strategically advance the formulation of international rules (UN standards) that incorporate swappable battery electric vehicle (EV) technology, which is being developed and demonstrated in Japan. In order to achieve carbon neutrality for commercial vehicles such as trucks, the aim is to start international discussions on UN standards for EVs with replaceable batteries in 2024. Commercial EVs have a short cruising range and battery charging time, which is an issue. For this reason, automakers and transportation companies are collaborating to develop and demonstrate EVs with replaceable batteries that can be recharged by removing the battery from the vehicle.



Japan actively participates in the United Nations' World Forum for Harmonization of Vehicle Standards (WP.29), and the Ministry has been leading the development of United Nations standards regarding EV safety and other areas. The Carbon Neutral Center that will be launched this time will respond to discussions on WP.29 regarding carbon neutral vehicle technologies such as battery-swappable EVs, collaborate with standardization activities such as the ISO and collaborate with major countries' governments.

MLIT website (in Japanese):

<https://www.mlit.go.jp/report/press/content/001718960.pdf>

Survey and Business Data

Private sector experts recommend ambitious goals for population policy to the government: “Growth potential with 80 million people”

On January 9, the Population Strategy Council, made up of private sector experts, announced the “Population Vision 2100,” a strategy that Japan should take as its population declines. The government expects the population to halve by 2100, to around 63 million people, but the council set a goal of stabilizing it at around 80 million people through measures such as the declining birthrate. It aims to create a society that can grow even as the population decreases. On January 9, Honorary Chairman Mimura of Nippon Steel, who serves as the chairman, met with Prime Minister Kishida at the Prime Minister's Office and handed over his recommendations.

The current proposal points to the fact that the birth rate rose to 1.45 in 2015 and then fell to an all-time low of 1.26 in 2022, stating, “ the government's efforts to combat the declining birthrate have generally been one-off and symptomatic treatments”. According to future population projections published by the government's National Institute of Population and Social Security Research in April 2023, the total population in 2100 will be halved from 126.15 million in 2020. The aging rate has reached 40%, and the population continues to decline. This proposal presents four scenarios, including this case.

The ideal situation is for the birth rate to recover, and the aim is for the population to reach 80 million and the aging rate to be 30%. The birthrate needs to be raised to 1.6 by around 2040 and 1.8 by around 2050. If a society with a



population of 80 million were to become a reality, the real GDP growth rate between 2050 and 2100 could be maintained at around 0.9%. They calculated that per capita GDP would be 2.5 times higher than if no strategy was adopted.

Hokkaido Intellect Tank website = Secretariate of the Population Strategy Council (in Japanese):

https://www.hit-north.or.jp/cms/wp-content/uploads/2024/01/01_teigen.pdf

OECD recommends abolishing retirement age in Japan

On January 11, the Organization for Economic Co-operation and Development (OECD) released the report on its biennial economic review of Japan. It proposed a reform plan to secure workers in Japan, where the population is decreasing. It called for encouraging the employment of older people and women by abolishing the retirement age and reviewing the tax system, which causes people to refrain from working. The number of employed people in Japan will rapidly decline in the future. The OECD estimates that in 2023 there will be around 66 million people, including foreigners. If the birthrate continues at the current level of 1.3, it will be halved to 32 million people in 2100.

The OECD estimates that if reforms such as raising the level of employment for the elderly, women, and foreigners are implemented, 41 million people will be able to work in 2100 even if the birthrate is 1.3. If the birthrate can be improved to the government's target of 1.8, it will be possible to maintain the birthrate at over 52 million. Specific measures for the elderly include abolishing the retirement age, ensuring equal pay for equal work, and raising the age at which people can begin receiving pensions. Of the 38 OECD countries, only Japan and South Korea allow companies to retire at age 60. The United States and some parts of Europe do not recognize retirement age as age discrimination.

OECD website:

<https://www.oecd.org/newsroom/japan-needs-to-rebuild-fiscal-space-address-population-ageing-and-reinvigorate-productivity-growth.htm>

Emissions reduction falls short of government target of 46%

On January 16, the Ministry of Economy, Trade and Industry (METI) announced greenhouse gas emission reduction targets for 372 domestic companies in the



GX (Green Transformation) League, which is comprised of companies working on decarbonization. Combining the target values of each company, emissions in 2030 will be 40% lower than in 2013, falling short of the government's target of 46% reduction. Achieving this goal will require reforming the production processes of material industries that produce large amounts of emissions. The GX League is a framework in which companies voluntarily participate, and currently 568 companies have joined. Of these, targets for 372 companies with complete data have been listed.

Companies in the electronics industry and other industries that have set high goals stand out. On the other hand, many companies in the materials industry, which have large emissions, fall short of the national standards. This is because technology to reduce emissions during the production process has not been established. The combined emissions target for companies with complete data for fiscal 2030 is 480 million tons, which is only a 40% decrease compared to fiscal 2013. The corporate data released by the METI accounts for 53% of total domestic emissions. On the other hand, less than 50% is not covered. The METI will encourage a wide range of companies to participate in the GX League by making participation in the GX League a requirement for receiving government support through GX bonds. Furthermore, given that the difficulty of decarbonization differs depending on the industry, the government plans to set guidelines for emissions reductions by industry from FY2026.

GX league website (in Japanese):

<https://dashboard.gx-league.go.jp/e-learning/>

Inbound visitor spending in 2023 was a record high of over JP¥ 5 trillion, with a total of 25.06 million people

The National Tourism Agency announced on January 17 that the travel spending of visitors to Japan in 2023 was a record high of JP ¥5,292.3 billion. The Japan National Tourism Organization (JNTO) also announced on the same day that the number of visitors to Japan in 2023 was 25.06 million, a recovery to 80% of the pre-COVID-19, 2019 figure. By purpose of consumption, accommodation expenses account for the largest amount, and there is a growing tendency to place more emphasis on experiences than shopping.



Consumption exceeded the government's target of JP ¥5 trillion for the year for the first time. This was supported by the weaker JP ¥ and the increase in the number of overnight stays. By purpose, accommodation expenses were the most common at JP ¥1,828.9 billion, followed by shopping expenses at JP ¥1,395.4 billion. In terms of composition, accommodation expenses increased from 29.4% in 2019 to 34.6% in 2023, and shopping expenses decreased from 34.7% to 26.4%. Rising average room rates (ADR) for hotel companies also pushed up inbound spending.

Japan Tourism Agency website (in Japanese):

<https://www.mlit.go.jp/kankocho/content/001718105.pdf>

Japan National Tourism Organization website (in Japanese):

https://www.jnto.go.jp/statistics/data/20240117_monthly.pdf

Chinese business confidence in 2024 is likely to worsen at 39%, survey by the Japanese Chamber of Commerce in China

On January 15, the Japan Chamber of Commerce in China which is made up of Japanese companies investing in China, announced the results of a survey of its member companies on the economy and business environment. Regarding the economic forecast for 2024, 39% of companies answered that the economic situation would be "deteriorated" or "slightly worse" compared to the previous year, which exceeded the 37% that said "stable" and the 25% that said "improved" or "slightly improved." By industry, there were many negative views in machinery such as automobiles.

The reason behind the cautious investment stance is the delay in economic recovery. Regarding business conditions compared to the previous quarter for the October-December period of 2023, 37% said they were "deteriorating" or "slightly worse," which exceeded the 20% who said "improved" or "slightly improved." Although the Japan Chamber of Commerce in China says there has been a "slight improvement" compared to the previous survey, the overall trend remains severe. On the other hand, 26% of respondents said that the Chinese market was "the most important market," and 25% said that it was "one of the three most important markets."



Regarding future requests to China, 110 requests were made for visa exemption when visiting China. The number of Japanese visitors to Beijing in 2023 was only about 30% of the number in 2019. The survey was conducted from November to December 2023, and received valid responses from 1,713 of the approximately 8,000 Japanese companies operating in China.

Japanese Chamber of Commerce & Industry website (in Japanese):

<https://www.cjcci.org/detail/578/631/4564.html>

Company & Organization News

Asahi Kasei develops high-precision semiconductor that can monitor infant breathing

Asahi Kasei will start mass producing new semiconductor chips as early as October 2024. By incorporating the chip into a sensor, the precision can be increased to the point where it can distinguish minute movements such as infants' breathing, making it effective in reducing accidents where infants are left behind in cars. Starting in 2025, Europe will require vehicles to be equipped with sensors that can detect when children are left behind in the Euro NCAP car safety assessment. In Japan, it is now compulsory for kindergarten buses to be equipped with safety equipment.

Asahi Kasei's new semiconductor was developed by its subsidiary Asahi Kasei Electronics. Millimeter waves, which have short wavelengths, are used to detect objects. Collaborating with Canadian startup PontSense (Toronto) on detection methods. In addition to children, it can also be used to watch over elderly people in residences. The developed semiconductor chip "AK5818" has an improved ability to distinguish between people and objects, and is said to be 75% more accurate than previous products on the market. Its strength lies in its unique frequency control technology, which allows it to detect not only the shape of an object but also the slightest movements such as breathing.

European and American manufacturers have been leading the way in developing semiconductors for detecting items left behind in cars.

Semiconductor giants Infineon Technologies of Germany and Texas Instruments (TI) of the United States are involved in this field, and although Asahi Kasei is a



latecomer, it is entering the market by leveraging its strengths in sensor technology. Regarding abandoned car accidents, in 2023, an accident occurred in Kitakyushu City where a 0-year-old boy died after being left behind in the outdoor parking lot of a large supermarket. There is an urgent need to spread the use of systems that alert those around you through warning sounds and other means, and automakers are expected to increase their adoption in the future.

Asahi Kasei website:

<https://www.asahi-kasei.com/news/2023/e240109.html>

Sony Honda partners with Microsoft to equip EVs with generation AI

Sony Honda Mobility, a joint venture between the Sony Group and Honda, announced on January 8 that it will partner with Microsoft to develop an interactive system using generative AI. It will be installed in the electric vehicle (EV) "AFEELA" currently being developed by Sony Honda.

The announcement was made at a pre-press conference held by Sony G at the CES technology trade show that opened on January 9 in Las Vegas, USA. Utilizing Microsoft's cloud service Azure OpenAI Service, it will be possible to send instructions to the car by talking to AI. Microsoft's Jessica Hawk was also present at the press conference.

Sony Honda also announced that it will utilize AI for advanced driver assistance systems (ADAS). For ADAS that uses cameras, they will consider using LiDAR, which uses laser light to measure the distance and direction to obstacles.

Sony Honda Mobility website:

https://www.shm-afeela.com/en/news/2024-01-08_4/

Mitsui O.S.K. Lines collaborates with fertilizer giant Yara to build ammonia supply chain

Mitsui O.S.K. Lines (MOL) announced on January 5 that it has signed a time charter contract for the ammonia transport vessel "Green Pioneer" with Yara Clean Ammonia Switzerland SA (YCAS), a subsidiary of Norwegian fertilizer giant Yara. The vessel has already been delivered to YCAS and will be used



primarily for transporting ammonia in the Pacific region. MOL and Yara will begin collaborating on decarbonization projects, including ammonia, in 2022. The two companies aim to build an ammonia supply chain by building a long-term partnership in the clean ammonia field.

MOL is currently promoting initiatives with the aim of achieving net zero emissions in 2050. In particular, it has a proven track record of ammonia transportation, including participation in a clean ammonia production and transportation project in Louisiana, USA. Yara is the world's largest nitrogen fertilizer manufacturer, and is also engaged in a variety of initiatives in the production, sales, and marine transportation of ammonia.

MOL website:

<https://www.mol.co.jp/en/pr/2024/24003.html>

Obayashi Corporation begins green hydrogen production demonstration project in New Zealand and Fiji

On January 9, Obayashi Corporation announced that it will begin a demonstration project on the production, transportation, and utilization of green hydrogen in both countries in collaboration with New Zealand's Obayashi Group Halcyon Power Limited and Fiji's energy supplier Fiji Gas Pte Limited. This demonstration project will (1) produce green hydrogen using electricity derived from geothermal power generation at a hydrogen production plant owned by Halcyon Power in Taupo, New Zealand, and (2) transport the hydrogen by sea from the Port of Auckland to the Port of Lautoka, Fiji. And. (3) The hydrogen will be used to generate electricity in a hydrogen/diesel mixed combustion generator installed at Fiji Gas's LPG storage facility, which will be used as electricity within the facility.

In NZ, approximately 86% of the grid electricity (as of 2023) is provided by renewable energy, mainly hydropower and geothermal power, and the goal is to increase this ratio to 100% by 2030. On the other hand, Fiji, which is a destination for the use of green hydrogen, has set a goal of increasing the ratio of renewable energy in power generation to 100% by 2036, and as a Pacific island country, it is facing the effects of rising sea levels due to global warming.



The country is strongly concerned about this and is actively working to introduce renewable energy.

OBAYASHI CORPORATION website:

https://www.obayashi.co.jp/en/news/detail/news20231222_1_en.html

Mitsui & Co. begins methanol production in the U.S. using factory CO2 emissions

Mitsui & Co. announced on January 10 that it has begun manufacturing methanol using industrially derived CO₂ as raw material at its joint venture Fairway Methanol's methanol plant in Texas, USA. The company will purchase CO₂ emitted from surrounding plants as raw material, effectively utilizing up to 180,000 tons of CO₂ per year and increasing methanol production by 130,000 tons per year. This will bring the plant's annual methanol production capacity to 1.63 million tons.

Mitsui & Co. is procuring renewable natural gas via biogas generated from municipal waste in the United States, and produces bio methanol using a mass balance method at Fairway Methanol. Fairway Methanol is a joint venture established in 2013 with Mitsui & Co. and Celanese Corporation, a major U.S. chemical products company. Production of methanol began in 2015 with an annual production capacity of 1.3 million tons. This project utilizes Celanese's existing infrastructure for producing and Mitsui & Co. is selling it in the United States.

Mitsui Website:

https://www.mitsui.com/jp/en/topics/2024/1248163_14380.html

Itochu launches environmentally friendly flooring materials made in France in Japan

On January 11, ITOCHU Corporation announced that it will sell and recycle Desso, an environmentally friendly flooring material manufactured by European building materials manufacturer Tarkett S.A. (France), in the Japanese market, through Lilycolor, which handles the interior and interior wholesale business. Tarkett is a global building materials manufacturer with a history of over 140 years and sales in over 100 countries. The company is actively working on the



development of environmentally friendly products, and has a collaborative relationship with ITOCHU Corporation for sales to Japan.

The flooring material "Desso" that it has just started selling is an environmentally friendly product that is recyclable, as the base material and surface fibers of the flooring material can be separated and recycled. Lilycolor sells and installs "Desso" imported by ITOCHU Corporation for expansion in the Japanese market. The aim is to create a flooring circulation system in which used Desso is collected by Lilicara and returned to the Tarkett factory for recycling.

Itochu website:

<https://www.itochu.co.jp/en/news/press/2024/240111.html>

Mitsui & Co. opens factory in Brazil to mass produce biofuel for ships

On January 16, Mitsui & Co. announced that it has partnered with Suzano, the world's leading pulp company in Brazil, to secure plant-based raw materials and set up a factory in the country in 2026 to produce bio methanol, which is considered the favorite next-generation fuel for ships. The company will start with an annual production capacity of around 20,000 tons and will gradually increase its production capacity to a maximum of 100,000 tons. The investment amount is expected to be JP ¥ 10 billion to 15 billion. The raw material is the waste liquid produced when pulp is made from wood.

While bio methanol can reduce CO2 emissions by more than 60% compared to heavy oil, the problem is that it is up to four times more expensive. The 100,000 tons per year that Mitsui & Co. is planning is enough for a large container ship to make 12 round trips between Europe and Asia, and will be the world's first biofuel supply system for ships. The International Maritime Organization (IMO) has set a goal of reducing CO2 emissions from ships to virtually zero by around 2050. Europe has begun a system from this year to purchase emissions allowances based on the amount of greenhouse gases emitted by ships departing from and arriving within the region. There is an urgent need to decarbonize shipping, and demand for products such as bio methanol is expected to increase to 93 million tons per year worldwide in 2040.



Mitsui website:

https://www.mitsui.com/jp/en/topics/2024/1248263_14380.html

ORIX supplies renewable electricity to Amazon at a fixed price in Europe

Orix announced on January 17 that it will build wind and solar power plants in Europe and supply the generated electricity to Amazon.com at a fixed price for a long period of time. The investment amount is expected to be approximately JP ¥20 billion. Through Elawan Energy, a Spanish renewable energy company that became a wholly owned subsidiary in February 2023, the company will construct two wind power generation sites and four solar power generation sites in Spain. The total power generation capacity is 160,000 kilowatts. The power will be supplied to Amazon through a "corporate PPA" system, in which consumers and power generation companies make direct contracts to purchase clean electricity.

Elawan Energy's installed renewable energy capacity is 1.8 million kilowatts, and approximately 10% of the electricity it generates is sold through corporate PPAs. In Europe, wholesale electricity prices have soared due to rising natural gas prices. The wholesale electricity market is highly volatile and has high risks. Fixed prices have traditionally been seen as expensive, but they are increasingly being used by companies looking to reduce long-term risk factors. ORIX has set a group goal of expanding its renewable energy capacity to 10 million kilowatts by 2030, and is also aiming to supply electricity to the Amazon in Japan and India.

ORIX website:

https://www.orix.co.jp/grp/en/newsrelease/240117_ORIXE.html

Nippon Shokubai and RIKEN develop a new marine biodegradable plastic that easily decomposes in the ocean

Nippon Shokubai and RIKEN announced on January 18 that they have successfully developed a new marine biodegradable plastic. The two parties have focused on polymers with a basic skeleton of polyethylene succinate (PES) and have been proceeding with the structural design and development of new marine biodegradable plastics. PES has high gas barrier properties and is characterized by being biodegradable in soil and rivers.



Nippon Shokubai has manufacturing know-how, having conducted pilot production of PES in the past, but the problem was that PES is difficult to decompose in the ocean. This time, the two researchers discovered that a polymer in which long-chain dicarboxylic acid units have been introduced into PES exhibits marine biodegradability comparable to cellulose, which is easily biodegradable in the ocean. Due to these characteristics, it is expected to be used in a variety of applications, including packaging materials, agricultural materials, and civil engineering and construction materials.

NIPPON SHOKUBAI website:

<https://www.shokubai.co.jp/en/news/2024011813549/>

Mitsubishi Materials launches recycled metal brand tin and lead

On January 16, Mitsubishi Materials announced that it would launch and sell the first recycled metal brand "REMINE," that clearly indicates the content of recycled materials in nonferrous metal products. The new brand will handle non-ferrous metal products that utilize recycling technology, which is the company's strength. The recycled material content was calculated in accordance with the international standard ISO14021 (JIS Q14021) and verified by a third-party organization (SGS Japan).

The first products are electrolytic tin with 100% recycled content and electrolytic lead with over 99.6% recycled content. The Mitsubishi Materials Ikuno Works, which manufactures electrolytic tin, and Hosokura Metal Mining, which manufactures electrolytic lead, are scheduled to run on 100% renewable energy from 2024 onwards. In order to strengthen its recycling business, the company announced in March 2023 that it would invest in Exurban, a major UK metal recycling company.

Mitsubishi Materials website:

<https://www.mmc.co.jp/corporate/en/news/2024/news20240116.html>

Sumitomo Corporation creates CDR credits with Norwegian company

Sumitomo Corporation announced on January 22 that it has invested in Norwegian carbon removal startup Inherit Carbon Solutions AS. Utilizing Inherit's CDR creation know-how, it will expand our CCUS business globally.



CDR stands for Carbon Dioxide Removal and refers to the removal of CO₂ from the atmosphere. Since its establishment in 2021, Inherit has developed its business by leveraging its rich connections with biomethane producers in Northern Europe and the right to use CO₂ reservoirs. The company aims to expand the issuance of CDR-derived credits from 2025, and has already entered into sales agreements with Microsoft and other companies.

According to Sumitomo Corporation, the market for carbon credits issued through the use of negative emissions technologies such as atmospheric CO₂ capture and storage (DACCS) and bioenergy CO₂ capture and storage (BECCS) currently stands at US\$ 2.1 billion. It is estimated that it will grow to US\$ 80 billion by 2030. By combining its global network with Inherit's CO₂ removal know-how, the company will create CDR credits while securing carbon storage interests in Europe, America and Asia, and is expected to see an increase in demand for credits. In addition to selling to the aviation and shipping industries, the company also aims to sell to Japanese companies in the future.

Sumitomo website:

<https://www.sumitomocorp.com/en/jp/news/topics/2024/group/20240122>

Tokyo Gas and Osaka Gas to participate in joint study of e-methane production in UAE

Tokyo Gas and Osaka Gas announced on January 23 that they will participate in a joint study of an e-methane production project in Abu Dhabi, United Arab Emirates (UAE). This project is that INPEX has been working on with Masdar, the UAE's state-owned renewable energy giant, since 2023. In this initiative, they will produce e-methane equivalent to 1% of the annual gas demand of Tokyo Gas and Osaka Gas and evaluate the effect of reducing CO₂ emissions associated with methane production. The two companies aim to replace 1% of annual city gas demand with e-methane by 2030, and further expand its use by 2050 through projects in Japan and abroad. Masdar is a company leading clean energy development in the UAE. Since 2008, the company has been promoting green hydrogen development, with the goal of producing 1 million tons of green hydrogen per year by 2030.



Tokyo gas website:

<https://www.tokyo-gas.co.jp/en/IR/support/pdf/20240123-01e.pdf>

Kawasaki Heavy Industries commercializes platform to support hydrogen distribution

Kawasaki Heavy Industries announced on January 30 that it will begin demonstration experiments on a platform that clearly shows the hydrogen distribution process and supports hydrogen trading. It will be used by companies to prove carbon dioxide (CO₂) emissions during hydrogen production and distribution, ensuring traceability (tracking of production and distribution history). As many companies are disclosing environment-related information, Kawasaki expects that more and more hydrogen businesses will be required to prove CO₂ emissions from hydrogen production and distribution in their transactions. In the future, the company predicts hydrogen supply companies and hydrogen users to be its main customers, and will earn sales through certificate issuance fees.

First, demonstration experiments will begin in April on a project that Obayashi Corporation is undertaking in Oita Prefecture to utilize geothermal-derived hydrogen. The company aims to complete design and development by the end of 2025 and commercialize it around 2028. Hydrogen is being developed as a next-generation energy source, but the construction of a large-scale supply chain is still in progress. The company believes that there will be demand for supply chain management in the future, as manufacturers and manufacturing locations are likely to become more diverse and distribution channels will become more widespread internationally.

Kawasaki website:

https://global.kawasaki.com/en/corp/newsroom/news/detail/?f=20240130_2941

Four companies including NYK Line will complete a ship equipped with ammonia co-combustion engine in 2026

On January 25, NYK Line, Japan Engine Corporation, IHI Power Systems, and Nippon Shipyard announced four companies signed a series of contracts to build the world's first ammonia-fueled ammonia transport ship equipped with a domestically produced engine. Completion is scheduled for November 2026.



Ammonia-fueled DF engines require co-combustion of heavy oil and ammonia as pilot fuel. The ship aims to achieve a GHG reduction rate of over 80% overall, with a maximum ammonia co-firing rate of 95% for the main engine and an 80% co-firing rate for the auxiliary engines.

As a ship optimized for transporting ammonia, they have achieved a design that allows ammonia to be loaded at full capacity. Issues to be resolved in the development of ammonia-fueled ships include "flammability," "treatment of nitrous oxide (N₂O), which is a greenhouse gas," and "toxicity." The consortium has so far developed a prototype that overcomes these issues and designed the ship.

In the future, demand for ammonia production and maritime transportation will increase worldwide, and the ammonia value chain is expected to be established one after another. On the other hand, international rules regarding ships using ammonia as fuel have not yet been established and are currently being considered by the IMO. The consortium also aims to collaborate with the IMO and the Ministry of Land, Infrastructure, Transport and Tourism, utilize the knowledge gained through this project, and contribute to the creation of international rules led by Japan.

NYK website:

https://www.nyk.com/english/news/2024/20240125_02.html

Marubeni strengthens biorefinery business in collaboration with Finnish company

On January 26, Marubeni announced that it will begin collaboration with Nordic Bioproducts Group (NBG), a Finnish company involved in cellulose innovation and bioproduct development, for the advanced utilization of woody biomass. NBG has a patented technology called "AaltoCell™" in lignocellulose raw material hydrolysis method, which is one of the component decomposition methods, in which substances are decomposed by a chemical reaction with water. By utilizing this technology, it is possible to produce high-quality cellulose derivatives, which are essential for manufacturing pharmaceuticals and foods.



The technology can also be used with a variety of raw materials, including cellulose, making it possible to mass produce and reduce production costs. The residue generated during the manufacturing process can be used as biofuel. The CO₂ reduction effect has been evaluated by a third party as approximately 80% compared to existing manufacturing methods. Furthermore, it is now possible to produce resins and fibers from woody biomass that were previously produced using fossil fuels and chemicals.

In the future, the company aims to establish a biorefinery business targeting wood biomass (craft pulp, plantation residue, etc.) produced from wood from plantations (approximately 290,000 hectares) in South Sumatra, Indonesia. NBG is a company that spun off from Finland's national Aalto University in 2019. Leading cellulose development in Northern Europe. It aims to introduce breakthrough technologies and biomaterials that redefine the solution landscape.

Marubeni website:

<https://www.marubeni.com/en/news/2024/info/00002.html>

Honda and GM begin production of fuel cells, reducing manufacturing costs to one-third

Honda announced on January 25 that it has begun production of fuel cell systems with General Motors (GM) of the United States. The company will manufacture products jointly developed by a 50-50 joint venture in the US. The manufacturing cost will be reduced to one third compared to conventional fuel cells, and the product will be sold for use in fuel cell vehicles (FCVs) and other applications. Production has begun at Fuel Cell System Manufacturing (FCSM), a joint venture with GM established in Michigan, in the Midwest of the United States. The fuel cell system is expected to have a wide range of needs, not only for FCVs in automobiles, but also for construction machinery and emergency power generation.

Compared to the fuel cell for Honda's FCV "Honda Clarity Fuel Cell" released in 2019, the manufacturing cost is one-third. GM and Honda kept costs down by jointly procuring materials and reducing the use of expensive precious metals. It is also twice as durable. The factory also adopted methods to increase



productivity, such as incorporating automation in the assembly of fuel cells. Honda has announced that by 2040 all new cars it sells around the world will be "zero-emission vehicles" such as electric vehicles (EVs) and FCVs, which have no exhaust gas.

Honda website:

<https://hondanews.com/en-US/releases/gm-honda-begin-commercial-production-at-industrys-first-hydrogen-fuel-cell-system-manufacturing-joint-venture?from=newslink>

OMRON connects to Catena-X to visualize supply chain GHG emissions

Omron announced on January 29 that it will begin a demonstration experiment with NTT Communications and others to visualize the carbon footprint (CFP) of its product supply chain. In order to understand greenhouse gas (GHG) emissions in the supply chain for each product, it will conduct a demonstration of managing production site data on the cloud, including automatically collected equipment operating status and electricity from each production process. This demonstration assumes inter-company data sharing in accordance with international standards, and will be the first Japanese manufacturing company to connect to the European automotive industry data distribution platform "Catena-X."

Manufacturing companies are required to reduce GHG emissions throughout the product supply chain in order to meet the demands for decarbonization while maintaining quality and productivity. To achieve this, it is necessary to understand not only the GHGs emitted by the company (Scope 1 and Scope 2), but also the GHGs generated outside the company (Scope 3). However, effective collection and analysis methods have not yet been established, and it often takes about a year to calculate the GHG emissions of each product, which poses a major challenge for companies working on decarbonization.

OMRON website:

<https://www.omron.com/global/en/media/2024/01/c0129.html>



Toyota, good and bad

Toyota Motor Corporation announced on January 30 that global new car sales in 2023 for the entire group were 11.23 million units, an increase of 7% compared to 2022, and for Toyota alone, it was 10.3 million units, an increase of 8%. These are all-time highs, and this is the first time a single unit has sold over 10 million units. Both the group total and Toyota alone exceeded Germany's Volkswagen (VW, approximately 9.24 million units), ranking first in the world for the fourth consecutive year.

By power source, global sales of HVs increased by 31% to 3.42 million units. This is the first time that sales have exceeded 3 million units and is the highest ever. The number of electric vehicles (EVs) also increased by about four times compared to the previous year to 104,018 units. EV production has been set at a level of approximately 250,000 units in 2024 and 600,000 units in 2025, and expansion is being accelerated. However, the elements of anxiety are piling up. Compared to the US and Europe, the transition to EVs is delayed, and Quality fraud issues were discovered at group companies Hino Motors in March 2022, Daihatsu in December 2023, and Toyota Industries in January 2024. The impact on future sales and production is inevitable, and the management attitude of the entire group is being questioned.

TOYOTA website:

<https://global.toyota/en/company/profile/production-sales-figures/202312.html>

Other topics

Japanese passport allows to travel to 194 countries and regions without visa

Japan has returned to the top of the "Passport Index," which measures the number of countries and regions to which people can travel without a visa. The announcement was made by British consulting firm Henley & Partners on January 10. When it was last announced in July 2023, it had fallen to third place. Henley & Partners publishes the Passport Index twice each year, which is based on data from the International Air Transport Association (IATA). Japan now ranks first with 194, along with Singapore, Germany, France, Italy, and Spain. It is possible to enter 194 of the world's 227 countries and regions without a visa. South Korea,



Finland and Sweden followed with 193.

Last time, in July 2023, Singapore was the sole leader, and Japan was in third place along with South Korea and others. The index began being published in 2006. The global average has almost doubled from 58 in 2006 to 111. Overall, people are able to travel more freely than before. On the other hand, Afghanistan was at the bottom with only 28 points, and the gap between first and last place was 166, the largest ever.

Henly & Partners website:

<https://www.henleyglobal.com/passport-index/ranking>

Lunar probe successfully transmits data

The Japan Aerospace Exploration Agency (JAXA)'s unmanned spacecraft "SLIM" successfully landed on the moon in the early hours of January 20. This is the first time for Japan and the fifth country in the world to do so. However, the main power source, the solar cells, is not functioning, so the lunar surface observation may be shortened from the originally expected several days to just a few hours. Regarding this, JAXA revealed on January 22 that the power was intentionally turned off after "SLIM" sent image data from the moon landing to Earth. JAXA will analyze the transmitted image data and verify the success or failure of a "pinpoint landing" with an error of less than 100 meters.

The solar cells, which were supposed to be the main power source after landing, were originally supposed to face up to receive sunlight, but they were instead facing west. It appears that the plant was unable to generate electricity due to lack of sunlight. If the spacecraft is positioned on the lunar surface to receive sunlight from the sun, and the solar cells are exposed to sunlight, it may be possible to generate electricity. JAXA is making preparations to restore power generation functions.

"SIIM" was the third Japanese mission to land on the moon. JAXA launched the "Omotenashi" probe in 2022, but communications were lost during the flight to the moon. In 2023, a lander from "iSpace", a private startup aiming to commercialize a cargo transportation service to the moon, attempted to land, but miscalculated its altitude and crashed into the moon's surface.



JAXA website:

https://global.jaxa.jp/press/2024/01/20240120-1_e.html

JAXA's lunar surface probe "SLIM" resumes observations

The Japan Aerospace Exploration Agency (JAXA) announced on January 29 that it has resumed observations using the unmanned probe "SLIM," which was Japan's first successful landing on the moon. During landing, the solar panels did not work due to an abnormal attitude, but the sun's direction changed and they began generating electricity. They succeeded in establishing communication with Slim on the night of January 28, and began scientific observations of the lunar surface using a special camera mounted on the craft. The detailed composition of rocks will be investigated to help elucidate the origin of the moon.

At 12:20 am (JST) on January 20, Slim became the fifth country in the world to land on the moon, following the former Soviet Union, the United States, China, and India. It also succeeded in making a "pinpoint landing" within a radius of 100 meters from the target point. However, just before landing at an altitude of 50 meters, one of the two main engines malfunctioned. The plan should had fallen down on its own and land with the solar cells facing upwards, but it landed upside down with the solar cells facing west, so no power was generated. Immediately after landing, the aircraft operated with a battery mounted on the aircraft, and sent image data and other data from the landing to Earth.

JAXA official X (ex-twitter) :

https://twitter.com/SLIM_JAXA/status/1751766255810556340/photo/1