

## JAPANESE INDUSTRY AND POLICY NEWS

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## Legislation and Policy News

### **Six Institutes in India Certified as the Japan-India Institutes for Manufacturing (JIMs)**

On April 21, the Ministry of Economy, Trade and Industry (METI) certified six human resource development institutes as Japan-India Institutes for Manufacturing (JIMs). The six newly certified institutes in India were established by the five companies: KOSEI ALUMINUM Co., LTD.; JTEKT Corporation; Kai Corporation; Toyo Ink SC Holdings Co., Ltd., and Suzuki Motor Corporation.

JIMs are certified based on the Manufacturing Skill Transfer Promotion Program, which was agreed to at a Japan-India Summit Meeting in November 2016. The aims of this scheme are to contribute to the development of India's manufacturing industry and strengthen economic ties between India and Japan through public-private collaboration.

The leaders of Japan and India agreed on the Manufacturing Skill Transfer Promotion program in November 2016, in order to work together toward human resource development in India's manufacturing industry. Based on the program, the JIM scheme certifies and supports human resource development institutes were established by Japanese companies in India. Each JIM delivers a curriculum for learning the concepts and skills involved in Japanese-style manufacturing. METI has certified 16 institutes in India as JIM since 2017 and the certification of six new ones brings the total to 22.

METI website:

[https://www.meti.go.jp/english/press/2022/0421\\_004.html](https://www.meti.go.jp/english/press/2022/0421_004.html)



JTEKT-JIM trainee in India from JTEKT website

## Survey and Business Data

### Japan tops the list of travel and tourism competitiveness rankings for the first time

Japan became the first in the 2021 Travel and Tourism Competitiveness Ranking announced by the World Economic Forum (WEF) on May 24. Although it was a special situation of the COVID-19, it was evaluated that the infrastructure for tourists such as hotels and the abundance of tourism resources made it more competitive than other countries. The maintenance status of roads and railroads was also highly evaluated from the previous time. On the other hand, price competitiveness and environmental sustainability were said to have room for improvement. Japan's overall evaluation was 4th in the previous 2019-year survey. The evaluation method has changed, and when calculated using the same criteria, it was second last time.

However, the current Japan continues to adopt peculiar immigration restrictions that are ridiculed as "SAKOKU=isolation policy", and the resumption of the tourism industry is far behind the Western countries that focus on coexistence with the COVID-19. On May 23, the Japan Tourism Agency finally announced the schedule of a demonstration project to resume accepting foreign tourists.

After the second place, Western countries such as the United States, Spain, France, and Germany occupy the top positions. In the Asia-Pacific region, Australia was 7th, Singapore 9th and China 12th.

Europe, Eurasia, and the Asia-Pacific region occupy the top rankings in 2021, but Europe has lost some overwhelming strength and is the only region in the world with the lowest average score since 2019. Sub-Saharan Africa (the region south of the Saharan Desert) has seen significant improvements in the index, but countries in the region need to take further steps to reach global average levels, WEF commented. WEF publishes travel and tourism competitiveness rankings every other year.

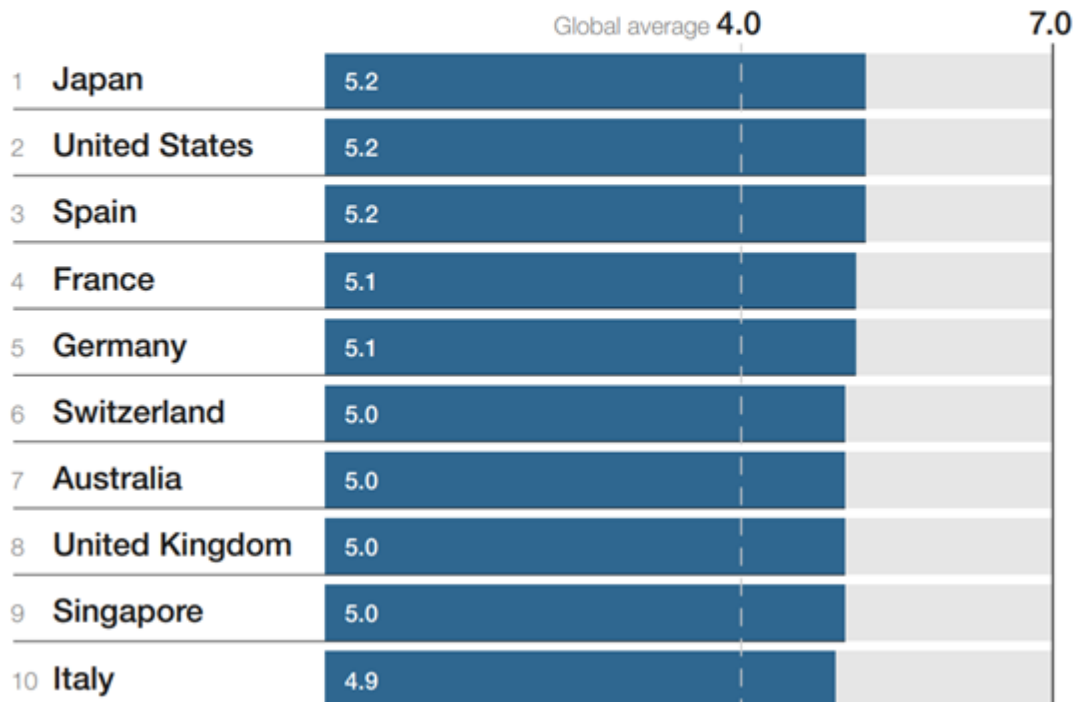
World Economic Forum website:

<https://www.weforum.org/press/2022/05/new-travel-and-tourism-study-shows-need-to-prepare-for-future-headwinds-as-sector-shows-signs-of-recovery>

Travel & Tourism Development Index 2021



## Top 10 economies enabling Travel and Tourism development



From World Economic Forum website

### The population of children has decreased for 41 consecutive years

In Japan, May 5 is a national holiday, Children's Day, which wishes for the health and growth of children. The day before Children's Day, the Ministry of Internal Affairs and Communications released an estimate of the Japanese child population. According to this, the number of children under the age of 15 in Japan, including foreigners, decreased by 250,000 from the previous year to 14.65 million, the 41st consecutive year of decline. Its share of the total population was 11.7%, falling for 48 consecutive years, and both reached record lows since 1950, when comparable statistics remain.

Anxiety about childbirth has spread due to the spread of the COVID-19 infection, and the declining birthrate continues to be unstoppable. The breakdown is 7.51 million for boys and 7.15 million for girls. When divided by 3 years old, the number of 12-14 years old was the highest at 3.23 million, and it decreased as the age

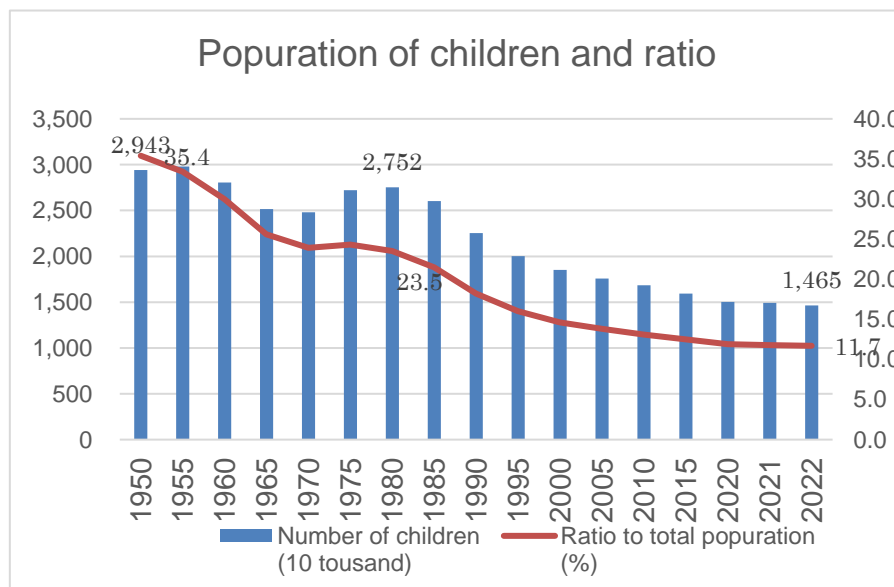
decreased, and the number of 0-2 years old was 2.51 million. Japan's population decline is more pronounced by the number of children, casting a darker shadow on Japan's future.

According to data by prefecture (as of October 1, 2021), the number of children decreased from the previous year in all prefectures for the first time in 22 years since 1999. Akita Prefecture had the lowest proportion of children in the population at 9.5%, followed by Aomori Prefecture at 10.4% and Hokkaido at 10.5%, all in northern Japan. The highest percentage was in Okinawa prefecture at 16.5%, followed by Shiga prefecture at 13.4% and Saga prefecture at 13.3%.

According to the United Nations Demographic Yearbook (2020 edition), the proportion of children in Japan was the lowest among 35 countries with a population of 40 million or more. Although the estimation time differs in each country, South Korea (11.9%) was the second lowest after Japan, followed by Italy (12.9%), Germany (13.8%), and Spain (14.1%). The highest percentage was in the Democratic Republic of the Congo (48.1%), followed by Uganda (44.8%), Tanzania (43.2%), Nigeria (41.8%). Both the United States and China accounted for 18.6%.

MIC website (in Japanese)

<https://www.stat.go.jp/data/jinsui/topics/pdf/topics131.pdf>



Data from MIC

### **The majority of Japanese companies in Russia suspended their business**

On April 25, JETRO announced the results of a business activity questionnaire survey for Japanese companies in Russia. A questionnaire was given to 211 companies from April 15 to 19, and responses were obtained from 111 companies. According to this, 55% of Japanese companies in Russia have partially or completely suspended their Russian business after Russia's military invasion of Ukraine.

Compared to the previous questionnaire on March 24-28, the response rate that the situation was partially or completely suspended increased by 12 points, and it became clear that the business suspension is progressing as the situation in Ukraine continues to be tense. Withdrawal has been completed, or the decision to withdraw was 1%.

86% of the companies evacuated some or all of the expatriates, and 74% of the respondents answered "We don't know or are considering" when the expatriates will return to Russia. About timing of return to Russia, "Half a year after leaving Russia due to evacuation" was 12%, and "We will be treated as returning home" was 4%.

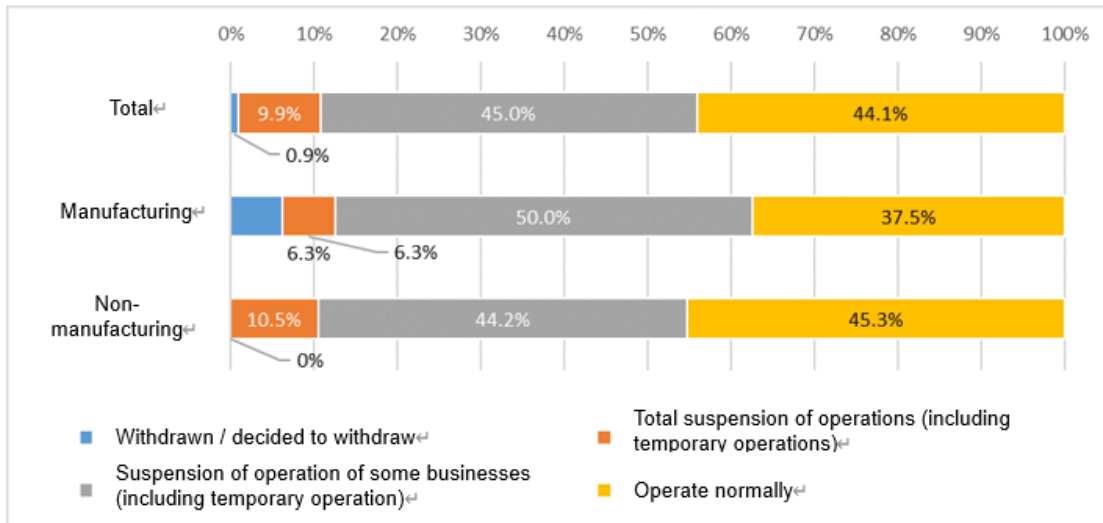
68% of the respondents answered that the expatriates would return to Russia by "reducing the risk level by the Ministry of Foreign Affairs" and 61% answered that they agreed to a ceasefire. In addition, 40% answered "deregulation / abolition by Russia" and 36% answered "deregulation / abolition of sanctions against Russia by Western countries". It seems that a fundamental improvement in the situation will be the decisive factor for returning.

The business outlook for the next six months to a year is 5% for withdrawal, 35% for reduction, 30% for maintaining the status quo, 1% for expansion, and 28% for unknown. In the previous questionnaire, withdrawal was 6% and reduction was 38%. The trend did not change.

JETRO website (in Japanese):

<https://www.jetro.go.jp/news/releases/2022/76045cde7f4f9da0.html>

Business status of Japanese companies in Russia<sup>←</sup>  
(Data from JETRO website)<sup>←</sup>



## Company & Organization News

### Rinnai developed 100% hydrogen combustion household water heater in the world's first

Rinnai Corporation announced on May 30 that it has succeeded in developing the world's first 100% hydrogen combustion technology for household water heaters. A demonstration experiment of a 100% hydrogen combustion water heater is scheduled to start in Australia around the end of 2022.

"Hydrogen", which is attracting attention as a clean fuel with zero CO<sub>2</sub> emissions, has been pointed out as having problems such as "danger of explosion" and "unstable combustion". The company has solved these problems with the combustion technology and fluid control technology accumulated through many years of gas equipment development, and this time, it succeeded in developing a household water heater that uses 100% hydrogen as energy.

The company describes the success of this development as "a major contribution to the realization of carbon neutrality for household water heaters, which account for a large proportion of CO<sub>2</sub> emitting equipment." Currently, gas and electricity are the mainstream of household water heaters in the world including Japan, and the spread of hydrogen infrastructure is a prerequisite for the realization of carbon neutrality for hydrogen combustion water heaters.

Australia, in particular, is in the preparatory stage for using 100% hydrogen as household energy. The company plans to start a demonstration experiment around the end of 2022 to realize this.

Among the company's efforts to reduce CO2 emissions, the issue was that the amount of CO2 emitted when using products was overwhelmingly high at 95%. Before developing energy-saving products such as high-efficiency water heaters, it was a major goal of the company to develop products that do not emit CO2.

Rinnai Corporation website:

<https://www.rinnai.co.jp/en/releases/2022/0530/>



Concept model of water heater equipped with 100% hydrogen combustion technology from Rinnai website

### **MOL participates in FMC for the first time as a Japanese company**

On May 25, at the World Economic Forum (WEF) -organized annual meeting (commonly known as the Davos Conference), MOL announced it will purchase technologies and services that are important for achieving zero emissions by 2030. It was the first Japanese company to participate in the "First Movers



Coalition (FMC)" platform promised by companies.MOL is committed to purchasing at least 50,000 tons of CO2 reduction value derived from atmospheric CO2 removal technology through the "NextGen CDR Facility" announced prior to this participation by 2030.

FMC is a platform for governments and major global companies around the world to work together to bring the technologies needed to achieve 2050 net zero emissions to market and increase cost competitiveness. WEF and the United States launched at COP26 held in November 2021 with the aim of stimulating demand for decarbonization technology. On May 24, the Government of Japan announced that it would participate in the FMC as a strategic partner country.

The US FMC Secretariat announced strategic partner countries at the Davos meeting on May 25. Eight countries, Denmark, India, Italy, Japan, Norway, Singapore, Sweden and the United Kingdom, have joined the United States as strategic partners. These countries are committed to creating an early market for decarbonization technologies. In addition, more than 50 companies are now participating in FMC to decarbonize the heavy industry and long-haul sectors, which account for 30% of global emissions.

President Tsuyoshi Hashimoto of MOL was invited as a panelist to the session "Accelerating Shipping Decarbonization and the Global Transition" hosted by the Global Maritime Forum and Yara International on May 23 at this Davos meeting. He reiterated that he will work with partners in the supply chain to actively introduce clean alternative fuels and work to decarbonize shipping.

This session was the only one held at the Davos Conference on the theme of decarbonization of shipping and John Kerry, US President Special Envoy for Climate Issues took part in the session.

How can the shipping industry proceed with decarbonization by leveraging synergies throughout the value chain and deepening ties with shippers, was discussed.

MOL website (in Japanese):

<https://www.mol.co.jp/pr/2022/22069.html>



Accelerating Shipping Decarbonization and the Global Transition session in the Davos Forum, MOL President Hashimoto (second from right) on stage as a panelist (from MOL website)

### **Obayashi developed concrete using woody biomass and realized long-term CO2 immobilization**

Obayashi Corporation announced on May 18 that it has developed "lignin cleat", which is made by adding woody biomass to concrete. This material can fix CO<sub>2</sub> to concrete structures for a long period of time and contribute to the reduction of environmental load through construction.

By using lignin, one of the main components that accounts for about 30% of the wood generated in the manufacturing process of pulp, as a concrete material, the CO<sub>2</sub> absorbed by trees is fixed to the concrete structure for a long period of time. General concrete emits about 270 kg / m<sup>3</sup> of CO<sub>2</sub> during manufacturing, but when lignin is added, about 240 kg / m<sup>3</sup> of CO<sub>2</sub> can be fixed in the concrete. CO<sub>2</sub> can remain fixed even when it is reused as aggregate during dismantling.

In addition, since part of the sand is replaced with lignin, the amount of sand used as a concrete material can be reduced, contributing to a reduction in the environmental burden. Since it has the same compressive strength and material

properties as ordinary concrete, it can be applied to a wide range of structures, and the company will promote application to highly versatile secondary concrete products and use it for construction of concrete structures. By doing so, CO<sub>2</sub> will be fixed and it will contribute to the reduction of environmental load.

Woody biomass is used as a fuel and CO<sub>2</sub> fixed by decay after disposal returns to the atmosphere, but by mixing it with concrete and fixing CO<sub>2</sub> for a long period of time, the environmental load can be reduced and it is a high-value-added concrete structure.

The company has been the first in Japan to commercialize slope greening using "Chip Cleat ®", which is made by solidifying woody biomass with cement milk, and to make all the main structural parts (pillars, beams, floors, walls) wooden, it has been developing buildings and materials that utilize wood and woody biomass, such as the construction of high-rise pure wooden fireproof buildings.

Obayashi Corporation website (in Japanese):

[https://www.obayashi.co.jp/news/detail/news20220510\\_2.html](https://www.obayashi.co.jp/news/detail/news20220510_2.html)



(Left) Lignin cleat cross section / (Right) Comparison with ordinary concrete  
Image from Obayashi Corporation website

### **ITOCHU expands bio-derived bunker fuel supply business, collaborates with Dutch company**

On May 18, ITOCHU Corporation announced it will collaborate with Good Fuels B.V., a Dutch company that is a supplier of sustainable bioresource-derived bunker fuels (marine fuels, bio bunker), in the oil alternative bio-bunker supply business in the Pacific region and Asia including Singapore and Japan.

As a pioneering supplier of bio bunker, Good Fuels expands its business by utilizing its expertise in raw material procurement and bio bunker manufacturing. In Europe, it has an abundant supply record and customer base. In addition, the bio bunker manufactured by the company can be used as it is in equipment such as existing engines and tanks, reducing GHG emissions on a life cycle assessment basis by approximately 80% to 90% compared to conventional fossil fuels.

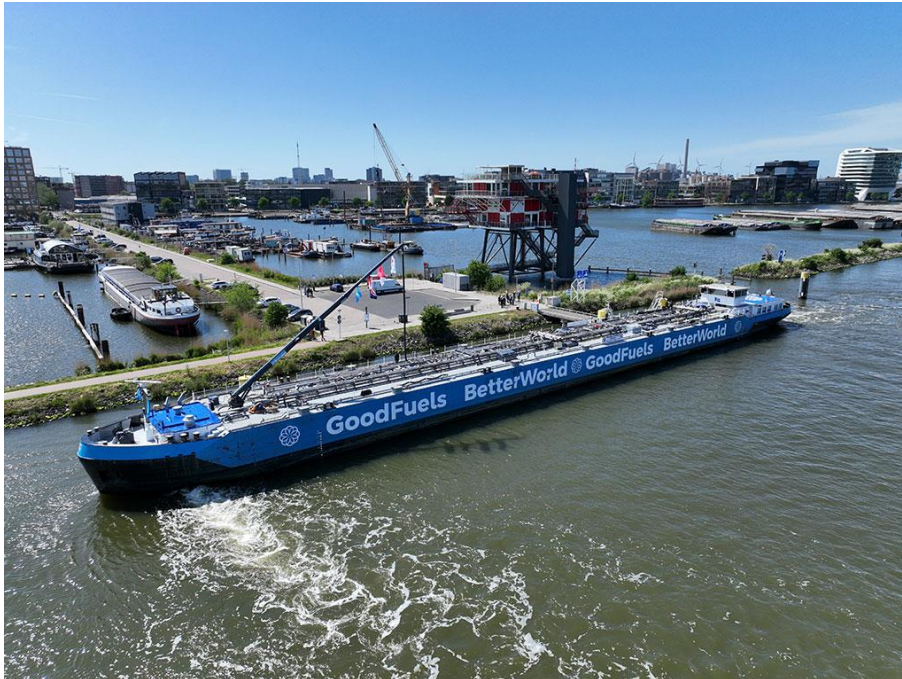
Through this collaboration agreement with Good Fuels in the field of sea shipping, the two companies will collaborate by leveraging their strengths and work to build a system for procuring, manufacturing, supplying and selling raw materials for biobunker.

ITOCHU has been developing the fuel business in Asia for many years. In recent years, it has also focused on biofuel initiatives such as sustainable aviation fuel (SAF) and renewable diesel in the field of land transportation. The company intends to focus on supplying bio-bunker in Singapore first, and then expand to the Asia-Pacific region including Japan to contribute to the realization of decarbonization in the sea shipping field.

The maritime transport sector accounts for about 2% of GHG emissions, and the International Maritime Organization (IMO) has implemented a GHG reduction strategy in 2018 with the aim of reducing GHG emissions to 50% compared to 2008 by 2050. Adopting hydrogen and ammonia are being considered as medium- to long-term decarbonized fuels for ships, but in the short term, bio-bunker that can be used without major changes to existing equipment is attracting attention as an effective alternative fuel.

ITOCHU Corporation website:

<https://www.itochu.co.jp/en/news/press/2022/220518.html>



The world's first dedicated biofuel bunker barge mooring at the GoodFuels HQ office in Amsterdam, Image from GoodFuels website

### **Sumitomo Corporation progresses in Singapore ammonia fuel business, Kawasaki Kisen and others newly participate**

Sumitomo Corporation announced on May 13 Kawasaki Kisen and the Maritime and Port Authority of Singapore (MPA) will join the consortium for the realization of ammonia fuel supply for ships in Singapore as new members. They have signed a memorandum of understanding to accelerate joint discussions.

With this participation, the number of members forming the consortium has increased to eight. In the future, with the cooperation of Kawasaki Kisen, which joined as a new member, and MPA, activities for detailed examination and life cycle assessment of the ammonia supply chain, safety evaluation of ammonia fuel supply for ships, and formulation of operational guidelines. They will proceed with more specific studies and preparations toward the realization of ammonia fuel supply for ships in the latter half of the 2020s.

From March 2021, the consortium jointly started studying the commercialization of ammonia fuel supply for ships in Singapore. Through one-year joint study, they identified candidates for ammonia procurement sites, investigated infrastructure

such as ammonia transport vessels and storage tanks, designed basic designs for ammonia fuel supply vessels, and estimated their costs. On May 6, 2022, as part of business development, they obtained basic design approval (AiP: Approval in Principle) for ammonia fueled vessels from ABS (American Shipbuilding Association),.

The consortium aims to contribute to the decarbonization of the shipping industry by realizing the world's first supply of ammonia fuel, in cooperation with maritime officials and Singapore-related ministries and agencies in Singapore, which is one of the important bases for international shipping.

The members that make up the consortium are as follows. Sumitomo Corporation, A.P. Moller Marsque (Denmark, shipping company), Fleet Management Limited (Hong Kong, ship management company), Keppel O & M (Singapore, shipbuilding company), Maersk Mc-Kinney Moller Center for Zero Carbon Shipping (Denmark, research institute) ) ABS (American Shipbuilding Association) and Kawasaki Kisen, MPA.

Sumitomo corporation website:

<https://www.sumitomocorp.com/en/jp/news/release/2022/group/15790>



Image of Ammonia Bunkering Vessel from Sumitomo Corporation website

## **8 global financial institutions establish carbon credit trading platform**

Sumitomo Mitsui Banking Corporation announced on May 12 that it has participated as a founding member in the carbon credit transaction payment platform "Carbonplace," which is being developed by major global financial institutions.

The platform aims to promote the resolution of climate change issues, utilize voluntary carbon credits, and expand the market. It aims to start operation in December 2022. Founding members are 8 financial institutions; BNP Paribas (France), CIBC (Canada), Itau Unibanco (Brazil), National Australia Bank (Australia), NatWest Group (UK), Standard Chartered Bank (UK), UBS (Switzerland) and Sumitomo Mitsui Banking Corporation. The headquarter is planned to be in the United Kingdom.

Voluntary carbon credits are carbon credits managed by a private certification body. It is mainly used by private companies to voluntarily reduce greenhouse gas emissions. The platform handles voluntary carbon credits issued according to internationally recognized standards. Credit sellers and buyers will be able to buy and sell carbon credits in a reliable and transparent way.

Since the adoption of the Paris Agreement, the global movement toward carbon neutrality has accelerated, and in addition to efforts by companies to reduce greenhouse gas (GHG) emissions, expectations for the use of carbon credits are also rising. Sumitomo Mitsui Banking Corporation has decided to participate in this platform to provide domestic and overseas customers with easy access to high-quality carbon credits.

Sumitomo Mitsui Financial Group (SMBC Group) is developing the "SMBC Group GREEN Innovator", which collectively refers to activities and efforts to provide sustainability-related solutions, develop new services, and accumulate know-how. In April, a "sustainability investment limit" of JP¥ 20 billion was set for the purpose of strengthening relationships with partner companies with advanced technologies while further strengthening it. Participation in this "Carbonplace" is the first project of this sustainability investment limit.

SMBC website:

[https://www.smbc.co.jp/news\\_e/e600662\\_01.html](https://www.smbc.co.jp/news_e/e600662_01.html)

## Founding members

Carbonplace is being developed by eight of the world's largest financial institutions.



From Carbonplace website

### **Mitsui invests in Australian company developing carbon credit business**

Mitsui & Co., Ltd. announced on May 12 that it has acquired a 33.7% stake in Climate Friendly, an Australian company that creates and sells carbon credits through the restoration of vegetation in primeval forests.

Climate Friendly is Australia's largest emission rights developer and develops greenhouse gas (GHG) reduction projects through primary forest regeneration (land use) on farms. The CO<sub>2</sub> in the atmosphere adsorbed by the regenerated virgin forest is sold as emission credits for GHG reduction. As of 2020, it has already achieved a GHG reduction of 20 million tons, and plans to aim for a reduction of 100 million tons by 2025.

The company's primeval forest restoration business is expected to have secondary effects such as not only absorption and fixation of CO<sub>2</sub> in the atmosphere, but also protection of ecosystems and biodiversity, and soil improvement. It plays an important role.

The Australian Government has set up an emissions credit reduction fund with a budget of A \$ 4.55 billion to promote the creation of carbon credits. Since 2015, it has been actively purchasing credits from companies. It is expected that the



demand for credits by companies to reduce emissions will continue to grow steadily.

Based on this acquisition of shares, Mitsui will actively work to create opportunities to reduce GHG emissions of the Group in Australia, and will continue to use clean hydrogen, fuel ammonia, CCS / CCUS (CO2 capture, utilization and storage), and emissions.

Mitsui & Co. website:

[https://www.mitsui.com/jp/en/release/2022/1243456\\_13406.html](https://www.mitsui.com/jp/en/release/2022/1243456_13406.html)



Carbon farming project land where Climate Friendly provides services from Mitsui Co. website

**Shizen Energy started the "floating solar power generation" business of 150 MW, one of the largest in Southeast Asia**

Shizen Energy Inc. (Fukuoka Prefecture) announced on April 22 that it has started an initiative to build a 150 MW floating solar power plant in Malaysia with the Nusa Baiduri Consortium. The project is in collaboration with the Asia Energy Transition Initiative (AETI) promoted by the Government of Japan, and is expected to become one of the largest floating solar power plants in Southeast Asia when completed.

The power plant will be built at Dorian Tunggar Dam in Malacca, and the

generated power will be supplied to Syarikat Air Melaka Bhd. (SAMB). In the future, it will investigate and verify the feasibility for up to one year, and if good results are obtained, it construct a power plant with a total of 150 MW in two stages.

The project will be carried out through a local joint venture, Shizen Malaysia Sdn. Bhd. (Natural Malaysia). Shizen Malaysia was established in August 2019 and is engaged in the development of industrial solar power in Malaysia and Thailand. Supporting the business of renewable power in Southeast Asia, the field and floating solar power projects that have been involved so far exceed 200 MWp.

Shizen Energy website:

[https://www.shizenenergy.net/en/2022/04/22/malaysia-floating-solar\\_mou/](https://www.shizenenergy.net/en/2022/04/22/malaysia-floating-solar_mou/)



Signing ceremony from Shizen Energy website

### **Osaka Gas signed a joint venture for Desert Bloom (Green) Hydrogen Project**

Osaka Gas Co., Ltd. announced on April 12 that it has signed a joint development agreement with AQUA AEREM Pty, an Australian hydrogen-related company, regarding the "Desert Bloom Hydrogen Project" in the Northern Territory of Australia.

This project aims to produce green hydrogen from water recovered from the atmosphere and electricity derived from sunlight that is not connected to the

power grid, and supply it to power plants in Australia or export it overseas. The Northern Territory of Australia has a large amount of solar radiation and is suitable for utilizing sunlight, but it is a dry area and has poor water resources. By recovering water from the atmosphere using the unique technology, it is possible to produce green hydrogen.

In addition, efforts to produce hydrogen using electricity that is not connected to the power grid are very advanced, and this project is one of Australia's most promising hydrogen development projects. In the long term, it aims to build multiple hydrogen production plants to produce a total of about 400,000 tons of hydrogen annually.

Currently, AQUA AEREM is conducting a demonstration test of a "water production unit" that recovers water from the atmosphere together with Sanguine, the company's largest shareholder, and in the future, in collaboration with Osaka Gas, it's planning to produce about 400 tons per year by the end of 2023.

Osaka Gas will utilize the know-how cultivated in the gas manufacturing business and hydrogen-related business to provide technical support for basic plant design (FEED) and construction.

Osaka Gas website:

[https://www.osakagas.co.jp/en/whatsnew/\\_icsFiles/afieldfile/2022/04/12/220412\\_2\\_2.pdf](https://www.osakagas.co.jp/en/whatsnew/_icsFiles/afieldfile/2022/04/12/220412_2_2.pdf)



Image from Osaka Gas website

## Other topics

### **Installed "climate clock" at Shibuya Tourist Information Center, appeal in the city of the youth**

Shibuya Ward Tourism Association (Shibuya Ward, Tokyo) and Shibuya Mirai Design (same) announced on April 15 that the "Climate Clock" will be installed to show the countdown of the climate change in facilities of the ward including the Shibuya Tourist Information Center "SHIBU HACHI BOX".

"Climate Clock" is to show the time left to prevent the temperature rise of 1.5 degrees in a countdown format, and is intended to encourage action against climate change. It was first installed in New York in September 2020, and has since been installed in Glasgow, Seoul, etc. This time, SEAMES (Meguro-ku, Tokyo) and the climate change action team "a (n) action" by young people aged 18 to 20 have started as an initiative in Japan.

This initiative is led by the climate change activist group "a (n) action" and SEAMES, which were formed mainly by four young people, and a crowdfunding company was started from December 2021 to set up a "Climate Clock" in Shibuya. In about a month, it collected support that greatly exceeded the target amount of JP¥ 10 million.

The "Climate Clock" that will appear in Shibuya Ward this time is different from the ones installed all over the world, and many small and medium-sized machines will be produced and installed everywhere in the ward. A QR code is embedded in the watch, which leads to a website where the people can make a "declaration of action against climate change". Every time the declaration exceeds 10,000 times, the Ministry of the Environment can be notified. As the first step of installation support, it was installed at the Shibuya Station Hachikoma Square Tourist Information Center "SHIBU HACHI BOX".

Shibuya Ward Tourism Association website:

<https://note.com/04280707/n/n7aeadd909e03>

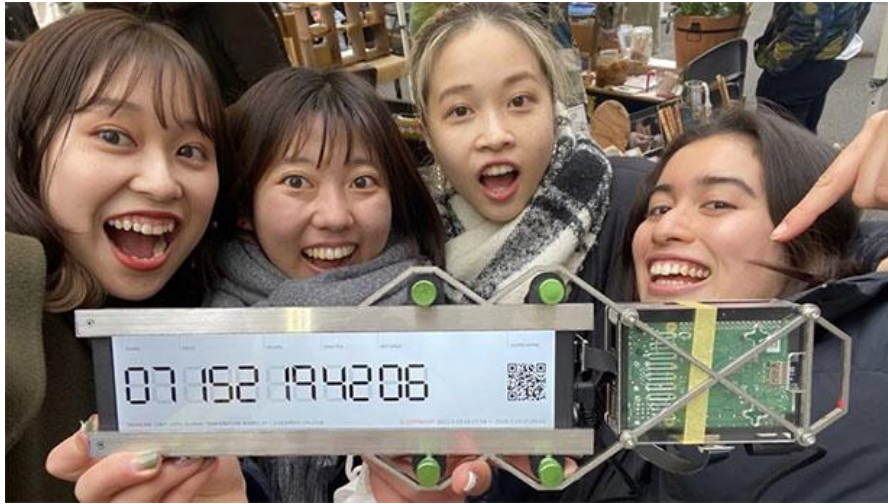


Photo from Shibuya Ward Tourism Association website