

JBIC Today

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FY2021
JBIC Survey Report
on Overseas Business
Operations by Japanese
Manufacturing
Companies

Special Feature

Strengthening Logistics and Decarbonization Are Key to Economic Recovery The Post-COVID World as Seen by Japanese Companies

JBIC's Chief Representatives explain the actual situation and prospects of each country's economy

Our Global Challenges - Asahi Glassplant Inc.

Entering the "home" of major pharmaceutical companies with the aim of becoming the top player in the scientific glassware industry

Project Frontline Our People and Their Work

Investment Project for Overseas Integrated Electric Utility Company
Committed to Policy Dialogue with Host Country Government

First Loan for a Startup
Impressed by Enthusiasm of Related Parties in Addressing Social Issues



**JAPAN BANK FOR
INTERNATIONAL COOPERATION**

Strengthening Logistics and Decarbonization Are Key to Economic Recovery

The Post-COVID World as Seen by Japanese Companies

The Japan Bank for International Cooperation (JBIC) conducts an annual questionnaire survey of “Overseas Business Operations by Japanese Manufacturing Companies.” In the latest survey, support for ASEAN in the promising countries/regions rankings fell due to the impact of the COVID-19 pandemic. While responses to logistics bottlenecks and semiconductor shortages are matters of urgency, in the medium-term, Japanese manufacturers are also being pressed to make efforts toward decarbonization. What will be the next moves that Japanese companies with active overseas operations should take?

ASEAN sluggish due to COVID-19

United States shows unusual rapid rise instead

The ratios of overseas production and overseas sales of Japanese companies targeted in this survey are 33.8% and 36.3% respectively. Although a slight recovery from 2020, when the impact of the pandemic was most evident, these figures still fall short of pre-COVID 2018.

According to data by major industry type, the ratio of overseas production in the automobile industry slightly fell from 42.1% in 2019 to 41.4% in 2020. The production ratio in the general machinery industry also slightly fell from 26.3% to 25.2%. In interviews, there was a striking number of comments about the significant impact of semiconductor shortages, reduced production caused by lockdowns associated with the COVID-19 pandemic, and their ripple effects. On the other hand, the overseas production ratio in the chemicals industry plummeted from 30.9% to 26.4% due to the pandemic, while the overseas sales ratio in this industry dipped only slightly as a result of inventory adjustments, etc.

Among the major industry types, the electrical equipment & electronics industry was the only one to show an increase in these two ratios. While not back up to pre-COVID levels, the overseas production ratio increased slightly from 40.6% to 41.8%. Semiconductor-related capital investments in the digital industry and the expansion of production of peripheral devices for personal computers, demand for which expanded during the pandemic, may have influenced this result.

In terms of their stance regarding strengthening/expanding business, the surveyed companies showed a positive stance toward

both domestic and overseas business. However, the extent of the recovery in this stance, at 4.4 percentage points in one year, was relatively small compared with the sharp recovery of 17 percentage points from 65.8% in 2009 to 82.8% in the following year after the global financial crisis (Figure 1). Interview responses indicated that turmoil in logistics networks and semiconductor shortages are still ongoing, which suggests that these situations are continuing to impose uncertainties on operations. Although there are differences by industry type, the recovery of the entire Japanese manufacturing industry looks likely to take longer than it did after the global financial crisis.

Significant recovery in willingness to invest in the United States

For the promising countries/regions ranking, companies surveyed were asked to provide the names of up to 5 countries that they may potentially expand their operations to in the mid-term (next 3 years). The impact of COVID-19 is clearly evident in the responses to this question (Figure 2).

Although China and India retained the No. 1 and No. 2 positions respectively, there were some changes from last year in the rankings below them. Some ASEAN countries were down in the rankings, including Vietnam, Thailand, and Malaysia, which fell from their 2020 positions of 3rd, 4th, and 8th. On the other hand, the United States and Taiwan improved their rankings from

last year, with the United States jumping two places from 5th to 3rd. This is its highest rank in nearly 20 years. With support from companies in the general machinery and chemicals industries, Taiwan returned to the Top 10 after a 10-year absence.

Last summer, when this survey was conducted, plants were shutting down one after another in ASEAN due to the pandemic. This situation appears to have caused major uncertainty in the manufacturing industry, making it difficult for those countries to be voted as promising. While the top two countries, China and India, look solid at first glance, the share of votes for China declined by 0.2% from last year, while India suffered a significant drop of 7.8%. A gap is starting to appear between these two countries.

Third-ranked United States is closing in on India. Because the timing of this survey coincided with the period in which the United States was showing an astonishing recovery from the pandemic, it attracted support from various industries, including the automotive and semiconductor-related sectors. In the medium term as well, despite a temporary slump under the former Trump administration, manufacturers' assessment of the United States has basically been in recovery mode, with its ranking rising for the past two years consecutively. This re-evaluation of the United States appears to be a genuine trend.

Indonesia, in 6th place, and 7th-ranking Philippines held on to their spots on the rankings, although the share of votes received by both countries fell. In particular, Indonesia's share of votes dropped significantly by 7.6 percentage points from the previous year. It scored only slightly higher than 8th-ranked Mexico, so this trend will need to be monitored going forward.

Figure 1. Trends in Stances Toward Strengthening/Expansion of Domestic/Overseas Business (FY2002-2021)

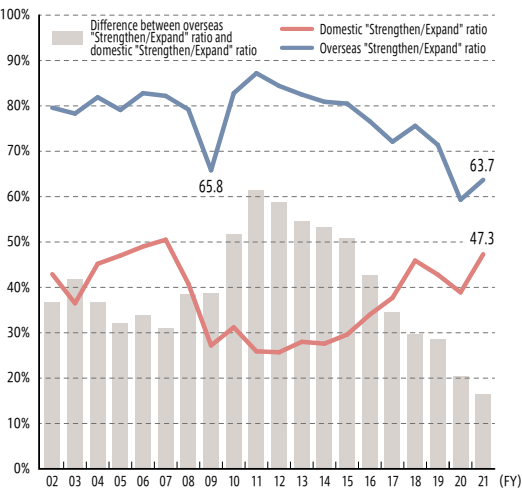


Figure 2. Ranking of Promising Countries/Regions in the Mid-Term (Next 3 Years)

Rank	Country / Region (Total)	Number of respondents		Share of vote (%)	
		2020 (356)	2021 (345)	2020	2021
1	China	168	162	47.2	47.0
2	India	163	131	45.8	38.0
3	United States	98	113	27.5	32.8
4	Vietnam	131	105	36.8	30.4
5	Thailand	111	77	31.2	22.3
6	Indonesia	96	67	27.0	19.4
7	Philippines	37	31	10.4	9.0
8	Mexico	32	30	9.0	8.7
9	Malaysia	34	27	9.6	7.8
10	Taiwan	18	19	5.1	5.5
11	Germany	20	17	5.6	4.9
12	South Korea	12	16	3.4	4.6
13	Brazil	11	13	3.1	3.8
14	Australia	14	12	3.9	3.5
15	Singapore	11	12	3.1	3.5
16	Myanmar	25	10	7.0	2.9
17	Bangladesh	16	10	4.5	2.9
18	Russia	8	10	2.2	2.9
19	Turkey	7	10	2.0	2.9
20	Canada	3	7	0.8	2.0

Note: Countries of equal ranking are listed in order of their rank in the previous survey.

Semiconductor shortage and decarbonization of global concern

Could promotion of decarbonization of supply chains be an advantage for Japanese companies!?

The survey also asked Japanese companies what kinds of news and events they pay attention to when considering their future overseas business strategies (Figure 3). The results show that the topics of highest interest are “semiconductor shortage” in industry trends, “decarbonization” in issues related to supply chains, and “U.S.-China tensions” in current affairs. In industry trends, “shift to electric vehicles (EV shift)” and “digital transformation (DX)” also attracted a high level of interest.

The impact of the semiconductor shortage is extending to many different sectors. In terms of the degree of that impact, 65% of the surveyed companies answered that it “has had or is having some negative impact.” On the other hand, 23% of respondents said that it has “no particular impact” or that it is “irrelevant,” while 9% said that it “has had or is having some positive impact.”

Focus on logistics in response to a question regarding external risks associated with supply chains, the most popular answer was “disruption and pressure on logistics” surpassing “diseases (including the COVID-19 pandemic.” After the severe impact of the blocking of the Suez Canal

and the turmoil in marine transport, maintaining stable logistics is a top priority issue for companies that deploy global supply chains.

Meanwhile, 21% of respondents answered that moves toward decarbonization are “already having an impact.” When combined with the 58% of respondents who said “there has been no particular impact so far but there will be,” this suggests that there is likely to be some kind of impact on around 80% of companies.

One noteworthy point is that a certain number of companies and industries do not necessarily consider the impact of the semiconductor shortage and decarbonization from a negative viewpoint alone, also seeing positives in these situations.

Measures toward semiconductor demand are also key

The issue of semiconductor shortages was viewed negatively by most companies in the automobile industry, which have been forced to make production adjustments because of the

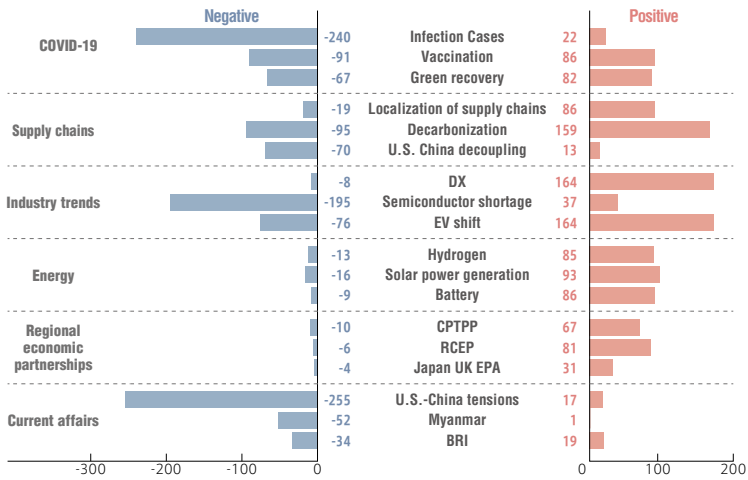
shortages (Figure 4). Automotive semiconductors are basically a general-purpose component, and stability of their supply is a top priority. How to rebuild supply chains disrupted by the COVID-19 pandemic will be a challenge going forward.

There was also a large number of negative responses from electrical equipment & electronics, chemicals, general machinery, and precision machinery industries. On the other hand, 14.9% of surveyed companies in the chemicals industry and 22.6% in the precision machinery industry viewed it favorably. In particular, the semiconductor supply side gave positive comments, such as “Due to the increase in semiconductor-related capital investments, our semiconductor manufacturing equipment-related business performed well” and “Sales of semiconductor materials performed well.”

This is evidence that the semiconductor industry has a broad base and that it affects many industry types in various ways. In Japan, there are many policies that support the supply side with the aim of reviving the semiconductor industry, but it is by meeting demand that the market will become healthier. Policies to ensure a stable supply chain focusing on the demand side should also be considered for the revival of the industry.

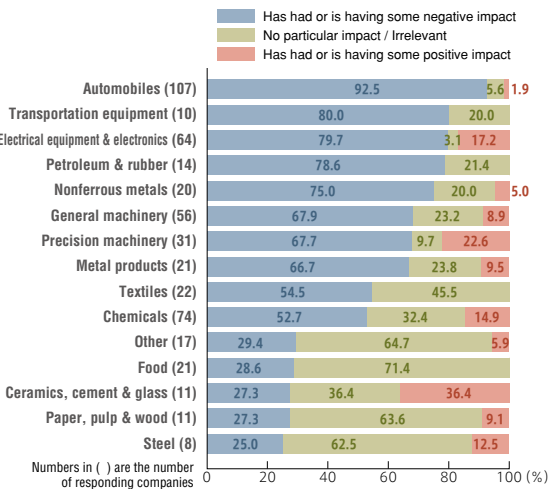
Regarding the other key word, decarbonization, many positive comments were received from companies in the electrical equipment & electronics and general machinery industries. The reason for this is the increase in demand for their own products. On the other

Figure 3. News and Key Words Focused on in Overseas Business Strategies



Note: Definitions of Negative and Positive Positive: Business Opportunity / Negative: Risk·Cost Factor

Figure 4. Impact of Semiconductor Shortage (by Industry)



hand, companies in the automobile and chemicals industries had a more negative view, likely because of its impact in the form of increases in manufacturing costs.

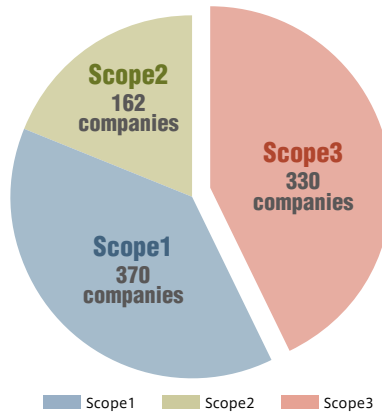
Regarding the positive impacts of decarbonization, “promotion of research and development of new products” received the most responses. On the other hand, “increased manufacturing costs” and “review of suppliers and customers in accordance with their decarbonization efforts” were the highest ranking negative responses. Some concerns were expressed about the rise in energy procurement costs, such as that “increases in the procurement ratio of electricity from natural energy sources will push up costs.” There is a strong possibility that decarbonization efforts will become a dividing point in competitiveness between companies.

The question now is which emission source should be focused on in global supply chains. In

the survey, GHG Protocol Scope 1 (direct emissions from owned or controlled plants) was by far the most frequent response, more than double the response for Scope 2 (indirect emissions from use of heat, electricity, etc. provided by the third parties) (Figure 5).

The total responses for Scope 3 (primarily supply chain emissions), which required respondents to select from 15 categories of emissions, were not that far off the Scope 1 responses. This is an indication of the high level of attention being paid in that area. Some of the most common responses include “emissions associated with purchased goods and services” and “emissions associated with the use of sold products.” These two categories correspond to emissions associated with the transportation of goods and the use and disposal of raw materials and products, so this response could be described as typical for the manufacturing industry.

Figure 5. Emission Sources Focused on in Decarbonization Efforts (by Scope)



Use of advanced text mining to analyze keywords of interest in Japan and the Unites States

Figure 6. Degree of Attention to Individual Topics Paid by News Media Around the World and Comparison with this Survey

	Reports on corporate activities		JBIC survey
	Overseas media	Japanese language media	
Myanmar	0.1%	4.1%	1.9%
Brexit	6.1%	0.0%	1.3%
U.S.-China tensions	0.0%	0.4%	9.8%
RCEP	0.6%	0.9%	3.1%
Battery	12.7%	1.4%	3.4%
Solar power generation	27%	7.0%	3.9%
Ammonia	1.1%	1.7%	1.1%
Hydrogen	14.3%	8.9%	3.5%
Decarbonization	8.5%	17.7%	8.6%
EV shift	8.6%	15.6%	1.8%
Semiconductor shortage	3.1%	5.2%	8.3%
DX	5.2%	15.9%	6.2%
Smart city	1.1%	0.5%	9.1%
Localization of supply chains	0.0%	2.3%	3.8%
Human rights	1.1%	1.8%	2.0%
Vaccination	8.1%	12.7%	6.3%
Infection cases	1.8%	0.4%	9.4%

While Japanese companies focus on the issue of U.S.-China tensions when considering their overseas business strategies, there is little interest in this word overseas. This was the interesting conclusion drawn from this year’s survey.

JBIC used text mining, a technology that derives useful information from large volumes of text strings. There are expectations for the application of this technology in the future as a method for data analysis. JBIC analyzed 41 million articles of Dow Jones Factiva, a global news monitoring and search engine that covers around 200 countries and regions, and 800,000 articles from Japanese business daily, Nihon Keizai Shimbun. It has released the results of this analysis as a supplement to the survey.

Regarding the “U.S.-China tensions” mentioned at the beginning of this article, in the JBIC questionnaire survey, 9.8% of respondents expressed an interest. The phrase was found in 0.4% of Japanese media articles, but in virtually zero of overseas media articles (Figure 6). “Brexit” appears to be of little interest in Japan, while a high 6.1% of overseas media articles mentioned it.

In this way, one advantage of text mining is that it makes it possible to see the differences between Japan and overseas from different angles from existing research methods.

There was also a remarkable difference in the results for keywords related to renewable energy. “decarbonization” was mentioned in 17.7% of Japanese media, but only around half—8.5%— of overseas media articles. “shift to electric vehicles (EV shift)” was also covered by 15.6% of Japanese media articles but only

8.6% of overseas media articles. Words such as “solar power generation,” “hydrogen,” and “battery” ranked high in overseas media. In other words, while interest in “decarbonization” and “shift to electric vehicles (EV shift)” per se is high in Japan, in other countries, there is more talk about solutions that are directly linked to decarbonization and greenhouse gas emissions reduction.

The analysis results for the data of 40,000 companies disclosed on EDGAR (US) and EDINET (Japan) also proved interesting (Figure

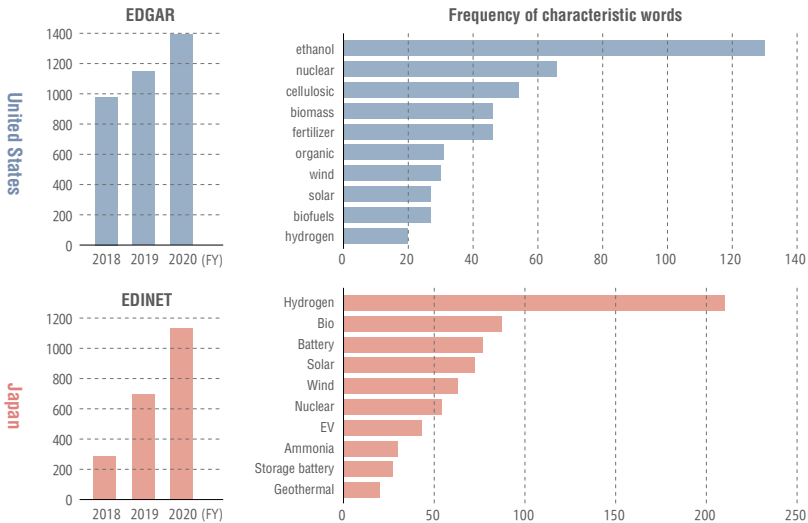
7). While listed companies in the United States have consistently increased their efforts related to decarbonization and climate change, Japan appears to be in the midst of a “boom,” with the efforts of listed companies in Japan having risen sharply in recent years.

There was also a clear difference between Japan and the United States regarding words that frequently appear in their disclosed materials. Companies in the United States show high interest in alternative fuels, such as “cellulosic,” “ethanol,” and “biofuel.” In the area of renewable energies, words such as “biomass” and “wind,” as well as agricultural-related words such as “fertilizer” and “organic” were frequently used.

In Japanese companies, “hydrogen” appears most frequently, followed by “bio” in ESG contexts such as fuels and plastics. In renewable energy, in addition to “solar power” and “wind power,” “geothermal power” appears, which is a typically Japanese trend. Another unique feature of the Japan data was the entry of “EV” and “storage battery” in the top ten keywords. In 11th place and below, there are also references to the construction field, such as “smart construction” and “cement.”

These results suggest that, even regarding the same area of climate change, company strategies differ from country to country. There is much to be learned from these differences, which could also be seen as the strengths of one’s own country. For more details of this analysis, please refer to the full report on the JBIC questionnaire survey.

Figure 7. Japan-U.S. Comparison: Trend in Frequency of Characteristic Words Related to Decarbonization/Climate Change in Company Annual Reports, etc.



JBIC Survey Report on Overseas Business Operations by Japanese Manufacturing Companies can be found from the following website. <https://www.jbic.go.jp/en/information/research.html>



JBIC’s Chief Representatives explain the actual situation and prospects of each country's economy

With representative offices in 18 cities around the world, JBIC is at the forefront of international business. The head expats in each country explain in an easy-to-understand manner the changes in the situation that they felt in their daily work and the trend of Japanese companies entering the market. We will report the local situation in the COVID-19 pandemic.

China New Business Opportunity in Environmental Area



China

China retained top place in the promising countries and regions rankings. It was the first economy to recover with its Zero COVID policy, achieving USD144.4 billion in total foreign direct investment (FDI) in 2020 (up 4.5% year-on-year). FDI in China (preliminary figures) in 2021 also rose to USD173.5 billion. Along with the Chinese economy’s growing international presence, this trend was likely precipitated by the concentration of demand in China as “the manufacturing base of the world” as other countries have struggled to contain transmission of the virus.

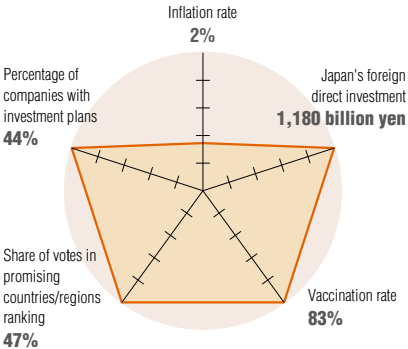
According to the substantive by-country rankings of FDI in China for 2020, Singapore, which accounts for many government-led projects, was the top investor, followed by South Korea, centered on semiconductors, in 2nd place ahead of 3rd-placed Japan with a slight margin. Looking at the amount of FDI in China from the world, the service industry accounted for 61% and the manufacturing industry 21%, while in investments from Japan, those figures are reversed, with the service industry accounting for 15% and the manufacturing industry 65%.

The 14th Five-Year Plan (2021-2025) approved by the National People's Congress (NPC) in March 2021 declared that China would establish a well-off society and shift its economic development stage from a priority on quantity to a priority on quality. The sectors in which China will lead the world in strengthening its investments include clean energy and environment areas. This is likely to bring about



Chief Representative KITAGAWA, Representative Office in Beijing (front row, 2nd from the right). Exchange of views with Chinese Academy of Social Sciences

new business opportunities. It is worthy of special note that this is the first time that China has indicated a policy of attracting foreign investment, in the form of a development plan for the introduction of foreign capital. The 14th Five-Year Plan declares the promotion of the opening of relevant businesses in the fields of telecommunications, internet, education, culture, medical care, and finance, easing of restrictions on foreign capital, encouragement of foreign investment, and strengthening of competitive advantage with RCEP member countries. The Chinese government also emphasizes the importance of foreign capital as a “bridge between the domestic-international dual circulation.”



On the other hand, Japanese expatriates who are, for China, working for foreign-capital companies are concerned that China has become a seemingly close yet distant country, as they are subject to a mandatory three weeks in quarantine upon entering China under the Zero COVID policy. When will people ever be able to come and go between the two countries easily? (KITAGAWA Yoshihiko, Chief Representative, Representative Office in Beijing)

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India How Effective are Measures to Attract Foreign Companies?



India

India has held on firmly to its leading position as a target for long-term promising business development, but remained in 2nd place as a promising target in the mid-term. The impact of COVID-19 in India has been severe, with over 470,000 lives lost, and its real GDP growth rate in FY2020 fell by 7.3%, the first negative growth in 40 years.

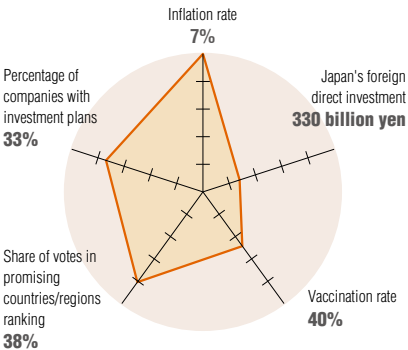
However, India's real GDP growth rate is recovering steadily and is expected to increase by 9.2% year-on-year in fiscal 2021. With corporate tax cuts in 2019 and aggressive investment incentives such as the Production Linked Incentive (PLI) Schemes and the Delhi–Mumbai Industrial Corridor Project (DMIC), foreign direct investment (FDI) has been increasing consistently, even during the COVID-19 pandemic. In fiscal 2020, FDI in India increased by 13% to USD80 billion, making India the third largest recipient of FDI in the world after China (USD163 billion) and the United States (USD134 billion).

The United States is the largest investor in India, investing USD4.2 billion in FY2019 and USD13.8 billion in FY2020, primarily in the tech sector. This amount is greater than its total investment in the whole of Southeast Asia.

Investment by Japanese companies slowed down temporarily due to COVID-19, but is expected to accelerate again going forward. The sectors attracting attention are, naturally, decarbonization-related fields, and it is expected that Japanese



(Left) Chief Representative KURIHARA, Representative Office in New Delhi with Arti Kanwar, Resident Commissioner from the Government of Gujarat, Prime Minister Modi's home state, which has close ties with Japanese companies



large-scale investments one after another. In recent years, business opportunities have been expanding in various fields, including the astounding momentum of startups. The focus on economic inclusion-related businesses, which aim to raise the standard of living in rural areas that are home to as many as 1 billion people. (KURIHARA Toshihiko, Chief Representative, Representative Office in New Delhi)

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Increasingly Attractive Destination for Supply Chain Restructuring

In 2021, Vietnam, like other countries, suffered the impact of the COVID-19 pandemic, but with the government's change in policy to one of "living with COVID," it achieved economic growth in the mid 2% range for two consecutive years. Although new FDI fell due to entry restrictions for overseas visitors and other factors, investment expansion of existing FDI companies has remained steady. Japan ranked 2nd in the number of projects among investor countries and 3rd in total investment amount.

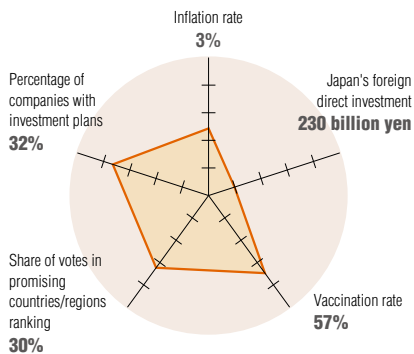
Membership of the Japanese Chamber of Commerce and Industry in Vietnam increased to 1,973, exceeding the membership numbers of the corresponding organizations in Thailand and Indonesia. According to JBIC survey to Japanese manufacturers, Vietnam retained top ranking as promising countries and regions among the ASEAN countries. The country rated well in the categories of "qualified human resources," "stability of social/political situation," and "good for risk diversification to other countries." Vietnamese population is young with the average age being 31, and are known for their fine motor skills and diligence, and there are many people who can speak Japanese. Under the leadership of the Communist Party, policy coherence is maintained, public safety is secured, and Japan-Vietnam relations are excellent. Expectations of further growth of the domestic consumer market with a population of about 98 million people, the increasing geo-economic importance of the country due to the U.S.-China conflict, and other factors have further raised Vietnam's profile.



(Left) AGUIN Toru, Chief Representative, Representative Office in Hanoi, and (Front right) Do Nhat Hoang, Director General of Vietnam's Foreign Investment Agency, Ministry of Planning and Investment. Discussion on a study of policies for the attraction of high-quality FDI

In addition to export processing, consumer goods and services, and other domestic-demand sectors, Japanese investments in Vietnam have diversified to include the relocation of production from China etc., and "Vietnam + 1," referring to entry into multiple regional provinces within Vietnam. JBIC financing for Japanese-invested SME projects in Vietnam has increased to more than 20 projects since the pandemic began. Vietnam is also attracting attention as a key destination for supply chain restructuring, with more than 40% of projects under the Japanese government's "Overseas Supply Chain Diversification Support Project" for ASEAN directed toward Vietnam.

Despite challenges in investment environment such as uncertainty in its legal frameworks, the Vietnamese government is actively engaged in



dialogue with foreign companies, which is an encouraging point. As a chair of the energy working team of the Vietnam-Japan Joint Initiative launched in 2003, I am committed to continuous and constructive policy dialogue. At the request of the Vietnamese side, the JBIC Representative Office in Hanoi has recently worked on FDI policy recommendations for the government and party, with a view to improving the investment environment.

(AGUIN Toru, Chief Representative, Representative Office in Hanoi)

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Radar chart items for each country

The radar chart provides a relative evaluation based on the maximum values of the following items.

Inflation rate: 7%
Japan's foreign direct investment: JPY1,180 billion
Vaccination rate: 83%
Share of votes in promising countries/regions ranking: 47%
Percentage of companies with investment plans: 44%

Inflation rate: Inflation rate in 2020 (Source: World Bank)
Japan's foreign direct investment: Average amount of Japan's foreign direct investment in the past five years (2016-2020) (Source: Bank of Japan)
Vaccination rate: Percentage of population who have completed the prescribed number of vaccine doses (As of December 23, 2021) (Source: Our World in Data)
Share of votes in promising countries/regions ranking: Percentage of companies that indicated the country/region in question as a "promising business development target in the mid-term" in the FY2021 survey.
Percentage of companies with investment plans: Percentage of companies that answered "Have plans for new or additional investments" in the country/region indicated as a promising business development target in the mid-term in the FY2021 survey.



Growth Continuing with Strong Consumer Spending

Indonesia accounts for around 40% of ASEAN's population, land area, and nominal GDP. Its economy is mainly driven by domestic demand, and with strong consumer spending and a demographic dividend that will last until around 2035, future market growth in this country is largely expected. Indonesia has placed 6th in the promising countries/regions ranking for the past two years running.

Real GDP growth rate last year was up 3.69% from the same period previous year. The economy of Indonesia is on track to recovery. Although GDP was -0.74% in the first quarter, it reverted to positive figures in the second quarter for the first time in 15 months to 7.07%. This was followed by 3.51% positive growth in the third quarter, despite growth being slowed down due to the spread of the Delta variant, and 5.02% growth in the fourth quarter. In the center of Jakarta, there are traffic jams in the morning and evening and shopping malls and restaurants are coming back to life. Whether the economy will recover even further in the future will depend on the response to COVID-19 and the recovery of domestic demand, particularly consumer spending, which accounts for 50% of GDP.

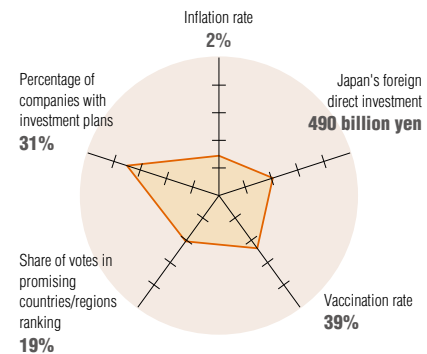
Since 2016, foreign direct investment from Japan to Indonesia has been waning, with Indonesia placing 4th in the most recent rankings behind Singapore, China, and Hong Kong. In the first half of the 2010s, an investment boom by automobile- and motorcycle-related companies ran its course, and investment in large-scale power plants also slowed down, but investment in other diverse fields, such as



"Jakarta, the world-leading mega city. Leaving the mega city named after 'Jaya-Karta (City of Victory)' behind, what future can be expected in the new capital city, 'Nusantara (Archipelago)'?" TSUTSUMI Masaki, Chief Representative, Representative Office in Jakarta

urban development and chemicals, has been progressing. On the other hand, China is increasing its presence with large-scale investments such as high-speed rail projects and nickel refineries, and South Korea is also aiming to change the game in the market with EV-related investments.

Regarding employment, with the enforcement of the Omnibus Law on Job Creation in February last year, deregulation of the investment and labor sectors is expected. However, in November, Indonesia's constitutional court ruled that the law as unconstitutional in terms of the legislative process and ordered that amendments be made to the law within 2 years. In addition, the decisions of the national and state governments on minimum wage



increase rates announced under the law have been inconsistent. The uncertainty in the implementation of legislation of this country will need to be monitored.

Indonesia assumed the presidency of the G20 in 2020 and will take up the chair of ASEAN in 2023. A presidential election also is scheduled in 2024. As such, the next two years will be critical ones for this country.

(TSUTSUMI Masaki, Chief Representative, Representative Office in Jakarta)

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Promotion of Direct Investment as RCEP Comes into Force

Japanese FDI into Thailand has been ongoing since the 1980s, mainly in the automotive and other manufacturing industries. With a local sourcing ratio of 60-70%, the number of automobiles produced in Thailand was around 2 million before the COVID-19 pandemic, the highest in ASEAN and 11th highest in the world. Although replacement investments, such as on facility modifications, have been more prevalent than new investment in recent years, there were 125 cases of Japanese FDI in Thailand from January to September, 2021, totaling THB67.8 billion (BOI of Thailand: application basis). Ranking at the top in both scale and number of projects, Japan continues to show a stronger presence than other countries.

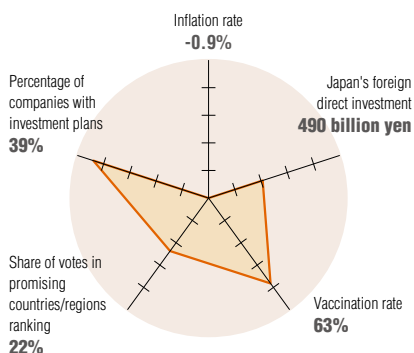
On the other hand, Thailand dropped from 4th to 5th place in the 2021 survey's promising countries/regions rankings. There has been talk for some time that, with Thailand's sharply rising wages, its advantage in terms of securing a low-wage labor force has started to fade. The percentage of companies that cited this point rose from about 20% in the FY2007 survey to about 38% in FY2021. Some companies have also expressed the need for the development of highly skilled human resources and the appropriate operation of the tax system. Aware of the importance of investment promotion policy, Thailand's government is working on the steady implementation of the growth strategy, "Thailand 4.0," the further advancement of skilled human resources, and the highly transparent operation of the tax system.



"We are very happy to provide Japanese companies with support for business development. Please feel free to contact us." KUCHIKI Takahiro, Chief Representative, Representative Office in Bangkok

There are other positive factors. In January 2022, the Regional Comprehensive Economic Partnership (RCEP) first entered into force in 10 countries, one of which was Thailand. In Thailand, where exports account for 50% of GDP, 40,000 categories will benefit from the RCEP. In particular, tariffs on 30,000 product categories are expected to be removed immediately. There are hopes that the RCEP will advantage Thailand, with its function as a local production base.

Measures to promote FDI take time to show an



effect, so continuity is key. All eyes will be on Thailand to see if it can maintain its advantage as an investment destination in the future.

(KUCHIKI Takahiro, Chief Representative, Representative Office in Bangkok)

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Telephone No.: +66-2-252-5050
Countries and Regions in Charge: Thailand, Myanmar, Cambodia, and Laos



Large Investments by Japanese Companies Continue

Philippines retained its position in 7th place in the promising countries/regions ranking from last year. It also kept its ranking in its key industry of electrical equipment & electronics, but the number of companies that cited the Philippines as promising fell from 11 to 6. This may be because of the removal of tax incentives for export companies with the enforcement of the Corporate Recovery and Tax Incentives for Enterprises (CREATE) Act.

On the other hand, under the CREATE Act, corporate income tax rates as a whole are reduced, which serves to attract foreign companies. Japanese companies have particularly demonstrated their presence. JERA Co., Inc. (JERA) has invested approximately USD1.58 billion in a major power utility in the Philippines. This large-scale investment was made in consideration of the global trend of decarbonization of electric power, more than half of which comes from coal-fired power generation. Taiheyo Cement Corporation considered the infrastructure development plan led by Philippine president, Rodrigo Duterte, as an opportunity to expand demand for building materials and invested approximately JPY30 billion. JBIC provided loans for both projects.

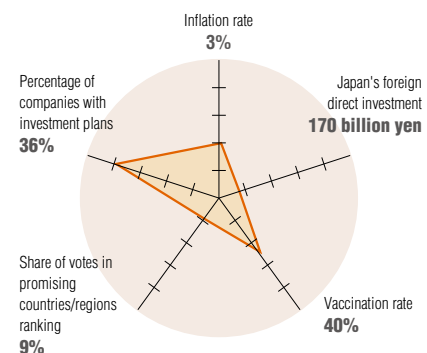
The Philippines has strength in business process operations (BPO) such as call centers. The economy of the Philippines is driven by domestic demand, with remittances from Philippine nationals working abroad amounting to around 10% of GDP and those funds being spent within the country. GDP growth of the Philippines in 2020 showed the largest drop



"We support companies to enter the local market, using the survey materials also. Please feel free to visit our office." KISHIOKA Masashi, Chief Representative, Representative Office in Manila

among major ASEAN countries due to the COVID-19 pandemic, but with the recovery of consumption in 2021 thanks to vaccines and the easing of restrictions on activities, full-year economic growth of 5.6% was achieved. The Asian Development Bank is forecasting economic growth of 6.0% for the Philippines in 2022, a high level similar to pre-pandemic levels.

The current Duterte government has been working on the improvement of public security and the establishment of infrastructure and is still very popular with the Philippine nationals in his last year



in office. A new president will be elected in May this year according to regulations. How will the new president guide this young and vibrant country onto a new path of economic growth? We will need to keep a close eye on the Philippines in 2022.

(KISHIOKA Masashi, Chief Representative, Representative Office in Manila)

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Countries and Regions in Charge: Philippines

Entering the “home” of major pharmaceutical companies with the aim of becoming the top player in the scientific glassware industry

Asahi Glassplant Inc.

Scientific glassware manufacturer, Asahi Glassplant Inc. (AGI) does business with chemical and pharmaceutical manufacturers around the world, assisting the research and production of advanced chemical products and chemicals.

Using the acquisition of glassware manufacturers in Switzerland, the United States, and the United Kingdom, where many of the world’s major pharmaceutical manufacturers are based, as an opportunity, this company hopes to further expand sales in the global market.

Delivering products to chemical and pharmaceutical manufacturers in the world Contributing to production efficiency improvement with proprietary technologies

“By pursuing M&As and joint ventures, we aim to become the world’s leading manufacturer in the processing scientific glassware industry by the fiscal year ending September 30, 2024.” AGI CEO, IKEDA Yasuyuki, talked passionately about the company’s goals.

The company manufactures ingeniously designed glassware used for reaction, synthesis, concentration, evaporation, and other applications in the R&D and production operations of chemical and pharmaceutical manufacturers. AGI’s strength lies in the excellence of its glass processing engineering, an example of which is the manufacture of the AGI Rotary Evaporator, whose 200-liter capacity makes it the world’s largest rotary evaporator. With five locations in Japan, including company headquarters in Kumamoto Prefecture, and five production sites overseas, AGI engages in business with the top ten chemical manufacturers in Japan and the world’s top 20

pharmaceutical companies. The company supports the research and production of many advanced chemical products and chemicals worldwide, delivering to a total of 102 countries to date.

The company was founded in 1950. IKEDA Yutaka, Yasuyuki’s grandfather, founded the company after resigning from his job as a glass processing worker at a major chemical manufacturer and started producing small scientific glassware, such as flasks and beakers. In line with the growth of the petrochemical industry during Japan’s economic boom, the company expanded its glassware business to accommodate larger-capacity equipment. While manufacturing tailor-made products to customer companies’ specifications, the company also started to market standardized packaging products at attractive prices in the 2010s, which enabled the company to grow significantly. Currently, about 35 members of the design and development team who engage in chemical engineering, mechanical design, electrical design, etc., and about 95 members of the glass manufacturing team work together to design and manufacture scientific glassware that meets the advanced needs of customer companies.

Glass reaction systems, which account for the largest volume of shipments in Japan, are the company’s major product line. These systems, which consist of a reaction vessel, a condenser, a dropping funnel, and other components, are used to cause chemical reactions, etc. With capacities ranging from 300 ml to 100 liters, these systems can accommodate reactions of various substances. Mr. Ikeda said that their reaction vessels, which are the core of the system and have significant impact on the performance, have a unique shape that “cannot be copied by other companies.” They have a unique “baffle” structure which divides the jacket covering the vessel into small ring-shaped chambers (Ring Baffles). Vacuum jacketed triple-walled vessels are also available. This structure enables the process temperature in the vessel to be controlled quickly and precisely, which contributes to high yields and to chemical synthesis and production efficiency.

“Since our foundation, we have continued to invest steadily in our main business, even if we were struggling with poor business performance. Such investments include the introduction of machinery and equipment, as well as recruiting and nurturing human resources. We also have in-house designed machinery and equipment, such as lathes for machining. It is precisely because of these steady efforts to establish and pass on our technologies that we are able to continue creating and manufacturing complicated products such as Ring Baffles,” Ikeda explained.



IKEDA Yasuyuki
CEO

Acquiring overseas glass manufacturers integrating the “core” of Japanese manufacturing with locally produced parts

Asahi Glassplant first expanded overseas in 2004. With Ikeda’s aspiring “to test our technologies in the world,” the company established an overseas business department and started selling its glassware to Asian markets, such as India, China, and South Korea. However, as Ikeda explained, “we were unable to compete on price, losing to our competitors time and again.” Then, in 2008, the company established a joint venture company, ATR ASAHI Glass Process Systems Pvt. Ltd., in India and built a “hybrid system,” in which only the “core parts,” such as reaction vessels, were manufactured in Japan, and the remaining components were produced locally. This system worked well, and their business was finally on track.

In 2014, AGI acquired GlasKeller Basel AG, a long-established Swiss glass processing company. “The glass industry is a small world, and executives of the major companies all know each other. I was having dinner with the owner of GlasKeller, when I happened to hear the owner say, ‘I think it’s about time for me to retire, but I have no successor to pass my business on to,’ so I asked him to join our group.” Albeit a coincidence, this acquisition has significant meaning for AGI’s overseas business. At that time, the company had an overseas expansion strategy to establish production and sales locations in countries and regions where the headquarters of the world’s leading pharmaceutical companies are located. This acquisition enabled AGI to establish offices in Basel, Switzerland, where two pharmaceutical giants, Novartis and Roche, have their corporate headquarters.

This strategy of establishing business locations in the hometowns of leading pharmaceutical manufacturers is based on Mr. Ikeda’s experience of overseas sales. “I made sales visits to labs and production sites in the Asian market that are run by major pharmaceutical manufacturers, but in many cases, the scientific glassware they use is the same as that used by their headquarters plants, as instructed by the headquarters, regardless of the performance and quality of products. I found this very frustrating. I realized then that creating a track record of sales to the headquarters of individual pharmaceutical manufacturers would be key to convincing these labs and plants to adopt many more of our products. Establishing offices close to the headquarters of customer companies has enabled us to conduct production and sales in accordance with local standards, as well as providing meticulous responses to various needs, such as repair and amendment, after delivery of the products. In doing so, I believe we can gain the confidence of pharmaceutical manufacturers who want to use products longer with peace of mind.” Under this strategy, in 2019, Asahi Glassplant acquired two glass manufacturers, H. S. Martin of the United States and Cambridge Glassblowing of the United Kingdom, in quick succession, and it is now striving to expand sales with its hybrid system.

AGI is currently working to establish a “Virtual One Factory” by 2025. Under this concept, while global production sites will operate



Exterior of Asahi Glassplant UK Ltd. (UK)



Inside Asahi Glassplant UK Ltd. (UK)



Inside AGI North America, Inc. (US)



Exterior of GlasKeller Basel AG (Switzerland)

independently, in cases where there is a mismatch of supply and demand, the production capability of the individual sites will be used effectively as if they are single factory. The aim of this concept is to curb losses of sales opportunities due to failure to meet deadlines.

In March 2020, Asahi Glassplant received a syndicated loan from JBIC and Higo Bank for the acquisition of H.S. Martin. In 2021, the company concluded loan agreements with its overseas affiliated companies in the United States, Switzerland, and the United Kingdom respectively through a syndicated loan from JBIC and private financial institutions for the manufacture and sales of scientific glassware and equipment. “Thanks to the introduction by Higo Bank, we started dealing with JBIC, which has abundant experience and expertise in overseas projects. In 2021, JBIC provided a direct loan to our overseas affiliated companies, which was very useful for improving management awareness at the individual companies. Going forward, we hope JBIC will continue to support us in the expansion of our overseas business. We expect that there will be more opportunities if there are more plans for developed countries,” commented Director, IKEDA Toyoharu.

By integrating its world-class glass processing technologies and the strengths of its group companies, Asahi Glassplant will continue its efforts to build business systems that deliver attractive products to customers around the world with attractive specifications, prices, and lead times. The CEO spoke enthusiastically about the company’s plans for the future. “We aim to become a ‘transnational company,’ in which both corporate headquarters and our overseas affiliated companies are equipped with high expertise and will grow together, making use of their individual strength to compete in the global market.”

Asahi Glassplant Inc.

Head Office	1978 Takahama, Arai, Kumamoto
URL	https://www.theglassplant.com/
Founded	April 1950 (Asahi Seisakusho Inc.)
Capital	JPY100 million
Sales Volume	JPY7,590 million (Year Ended September 2021)
CEO	IKEDA Yasuyuki
Employees	Asahi Glassplant Inc.: 270 (AGI Group Japan: Approx. 700 / Overseas: Approx. 200)
Business	Sales and manufacture of scientific glassware, sales and manufacturing of quartz products, equipment leasing, design, fabrication, and maintenance of glassware plant

Investment Project for Overseas Integrated Electric Utility Company Committed to Policy Dialogue with Host Country Government



Director, Division 1,
Equity Investment Department

SATO Taishi

I was engaged in the negotiations for the share purchase agreement and the shareholders' agreement for a joint investment with the Chugoku Electric Power Company, Inc. (Chugoku) in Energy Fiji Limited (EFL), a vertically integrated electric utility that generates, transmits, and distributes electricity throughout Fiji.

EFL is a Fijian government-owned enterprise that was considering the introduction of private-sector vitality with the aims of improving the stability and efficiency of its power supply and responding to renewable

energy. Fiji, an island country located in the middle of the South Pacific, relies on hydropower for about half of its electricity generation. Chugoku, which has as many as 90 hydroelectric power plants in Japan, has a track record of participation in hydroelectric power projects in Indonesia and Taiwan and engages in renewable energy projects in Japan. These strong background makes Chugoku an attractive partner from the Fijian perspective, which led to the investment negotiations.

Going forward, EFL has committed to promote renewable energy projects such as hydropower and solar power projects to achieve the targets and objectives set under the National Development Plan. Chugoku's aims are to pursue investment opportunities for overseas renewable energy projects and participate in new power-related business. The investment in EFL will be Chugoku's first involvement in the operation of an overseas vertically integrated electric utility that generates, transmits, and distributes electricity. It plans to further expand its business overseas by leveraging its know-how and technology cultivated through its domestic electricity business. This investment project also has great significance for JBIC, because it will help support the overseas expansion of the Japanese electric utility company and contribute to promoting the introduction of renewable energy.

In this project, the key roles expected of JBIC include policy dialogue with the Fijian government. Power supply is an important infrastructure that supports the economic and social activities of a country. Therefore, in any country, the electric power business is subject to various influences and regulations under national policies. In other words, the electric power business carries a risk of changes

in those national policies causing major changes in the business environment. As an investor, Chugoku wanted to mitigate such risk. As a policy-based financial institution, JBIC is expected to participate in this project and make dialogues with the Fijian government intensively from the above-mentioned perspective, including securing no unilateral policy changes.

It is only natural that a national government should have control over its own policies, so it is understandable that they would be reluctant to accept requests about policies from foreign institutions such as JBIC. However, if the design of electricity tariff systems were to change significantly in the future, the stability of the electric power business could not be guaranteed. The discussions were difficult, but eventually, they understood our message that policy stability is a prerequisite for the introduction of funds and technologies from overseas, and an agreement that satisfied all parties concerned was reached. Participating in negotiations of this nature was an invaluable experience for me. There is something truly special about work that could only be experienced in a policy-based financial institution.

Fiji is one of the leaders of the Pacific Island countries. It has strong potential for growth. It is attracting a great deal of attention from the United States and Australia as well, giving it a very important position for Japan both economically and geopolitically. Taking the opportunity of this agreement, we will work to support the steady introduction of renewable energy in Fiji and the Pacific Island nations by collaborating with relevant organizations from Japan, the United States, and Australia, as well as international institutions.

First Loan for a Startup Impressed by Enthusiasm of Related Parties in Addressing Social Issues

I was engaged in a co-financing project to support the synthetic structural protein material manufacturing business of a US subsidiary of Spiber Inc. (Spiber), one of Japan's leading biotechnology startups. This is the first time that JBIC has extended a loan to a startup.

Spiber was established in September, 2007 after the successful artificial synthesis of spider silk fiber at the laboratory level in the Institute for Advanced Biosciences, Keio University in Tsuruoka City, Yamagata Prefecture. Spiber's synthetic structural protein materials, Brewed Protein™, are produced through a microbial fermentation process that uses plant-derived sugars as the primary raw material. Research and development for the commercialization of the product are currently in progress. Potential uses include spun yarns resembling cashmere or wool, animal-free fur and leather, and resin materials similar to tortoiseshell and buffalo horn. Brewed Protein™ does not rely on petroleum and other fossil fuels as raw materials, and neither does it generate microplastics that stay around in the environment, thus imposing little impact on marine pollution. There are also

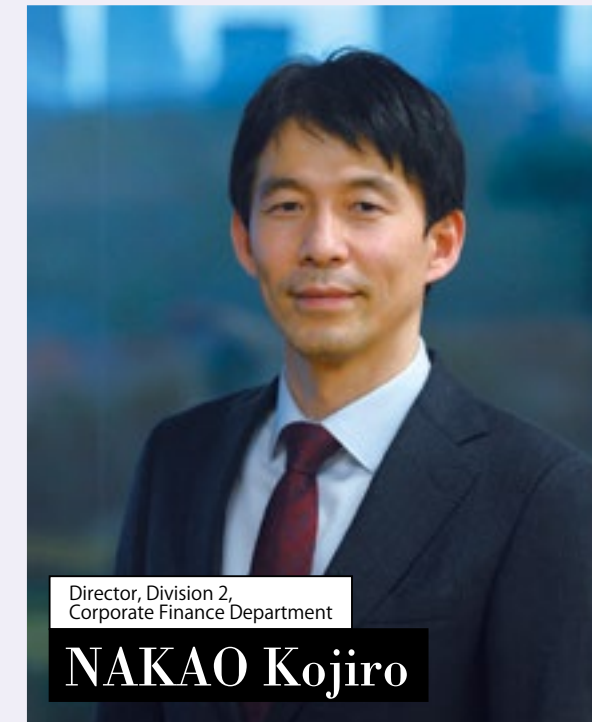
no concerns in terms of animal ethics. With these characteristics, it is expected to become a key next-generation material that meets the needs of various industries, including the apparel industry, such as the move away from a dependence on petroleum. Spiber aims to establish a mass-production plant for its synthetic structural protein materials. The plant in the United States this JBIC financing is for is scheduled to be constructed to start operating in 2023 at the earliest. It will be Spiber's second mass production plant, following on from its Rayong plant in Thailand (launched in March 2021).

As I listened to Spiber's description of its business and its vision for the realization of a sustainable society, I recognized its potential to contribute to the maintenance and improvement of global competitiveness of Japanese companies and the solution of social issues. As such, I felt that it was in line with JBIC's mission and the key focus areas in the Fourth Medium-term Business Plan announced in June 2021. This made me want to support the company and I started deliberating on the loan.

On the other hand, not only was there no precedent for JBIC extending finance to a startup, but Spiber had also only just reached the phase of launching commercial production after many years of research and development, so they did not have any actual products for sale. For this reason, we had to gather together a range of materials to assess the company's creditworthiness, while investigating various matters such as the future potential of the business, the abundance of intellectual property



"I hope that this project will inspire startups aiming to make the leap to the global stage to learn about JBIC's various initiatives," said FUKUDOME Keisuke, then Deputy Director, Division 2 (left). "It was a difficult project with no precedents, but Director NAKAO kept us pointed toward the goals of our work, from creating internal consensus to preparing detailed resources, which gave us the reassurance to keep moving forward with the project," added KIKUCHI Aoi, team member of Division 2 (right).



Director, Division 2,
Corporate Finance Department

NAKAO Kojiro

in its possession, and the evaluation and reputation of its business partners. Although some quite challenging issues emerged, our four-member team, including myself, united as one and overcame these issues one by one while obtaining ideas from other relevant people in JBIC. I am delighted that we were able to share such strong enthusiasm and collaborate with others to materialize this loan.

Through this project, I communicated with many related parties, including Spiber's management team, the people who have been involved in development since the company's foundation, its business partners, and the people who are working on the front lines toward future mass production. Having been encountering at first hand the strong passion of these parties for finding solutions to global-scale social issues, we were able to accumulate valuable knowledge and insights that can be put toward structuring loans for startups. Leveraging the experience I have gained in this project, I will continue working hard to support ambitious projects that open up the future.

Equity Participation in Energy Fiji Limited Supporting Overseas Business Expansion of Japanese Company

In March 2021, JBIC signed a shareholders' agreement for a joint investment with the Chugoku Electric Power Co., Ltd. (Chugoku) in Energy Fiji Limited (EFL). EFL is a vertically integrated electric utility that generates, transmits, and distributes electricity throughout Fiji. Chugoku, through its investment in EFL, plans to further expand its business overseas by leveraging its know-how and technology cultivated through its domestic and overseas electricity business. JBIC's investment in EFL will support overseas business developments by Chugoku and contribute to the maintenance and improvement of the international competitiveness of Japanese industry.



An online signing ceremony was conducted by Josaia Voreqe Bainimarama, Prime Minister of Fiji, Hasnukh Patel, CEO of EFL, SHIMIZU Mareshige, President & CEO of the Chugoku Electric Power Co., Inc., and MAEDA Tadashi, Governor of JBIC.



<https://www.jbic.go.jp/en/information/press/press-2020/0326-014423.html>

Loan for Synthetic Structural Protein Material Manufacturing Business of US Subsidiary of Spiber Inc. Supporting Overseas Business Expansion of Japanese Startup

In October 2021, JBIC signed a loan agreement amounting to JPY5.0 billion (JBIC portion) to support the synthetic structural protein material manufacturing business of Spiber America LLC, a US subsidiary of Spiber Inc. The loan is co-financed with MUFG Bank, Ltd., bringing the total co-financing amount to JPY10 billion. The loan financially supports Spiber's overseas business development, thereby contributing toward maintaining and improving the international competitiveness of Japanese industry and the resolution of social issues.



Synthetic structural protein materials, "Brewed Protein™" is produced with the use of plant-derived raw materials.



Pilot plant in Headquarters in Tsuruoka City, Yamagata Prefecture



<https://www.jbic.go.jp/en/information/press/press-2021/1029-015375.html>

JBIC has developed its ESG Policy and Green Bond Framework toward realizing the sustainable development of the world

ESG Policy to pursue net zero emissions in its finance portfolio

The Japan Bank for International Cooperation (JBIC) has developed its own ESG Policy and JBIC Green Bond Framework toward realizing sustainability.

JBIC released the ESG Policy in advance of the United Nations Climate Change Conference (COP26) that was held in autumn 2021. Climate change is one of the most urgent challenges facing the world's economies. JBIC is committed to pursuing ambitious and accelerated efforts to reduce its operational emissions to net zero by 2030, and to achieve net zero emissions in its finance portfolio by 2050 toward the global implementation of the Paris Agreement. The main pillars of the Policy are (1) strengthening climate change-related finance, (2) promoting climate-related financial disclosures pursuant to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), and (3) promoting environmentally and socially conscious financing and investments.

By harnessing its risk-assuming function as a policy-based financial institution as well as its negotiation leverage, JBIC will take the lead in global decarbonization, enhance its information disclosure, and promote business development with consideration for environmental and social impacts.

Development of JBIC Green Bond Framework from a global perspective

In the JBIC Green Bond Framework, JBIC summarizes its policy pertaining to, among other matters, the four core components defined in the Green Bond Principles 2021 published by the International Capital Market Association. These are: (1) Use of Proceeds, (2) Project Evaluation and Selection Process, (3) Management of the Proceeds, and (4) Reporting. Based on the Framework, in January 2022, JBIC issued first Green Bonds to raise the necessary funds for green finance.

In the Fourth Medium-term Business Plan released in June 2021, JBIC announced that it would "address global issues toward realizing sustainable development for the global economy and society" as a key focus area. JBIC aims to contribute toward the formation of a new ecosystem, with a view towards reducing greenhouse gases worldwide and realizing the decarbonization of Japan.

*1 Greenhouse gases such as CO2 and methane



Visit the address below for press releases about these matters

■ JBIC ESG Policy

<https://www.jbic.go.jp/en/information/press/press-2021/1028-015365.html>

■ Development of JBIC Green Bond Framework

<https://www.jbic.go.jp/en/information/press/press-2021/1029-015355.html>



JBIC ESG Policy



Development of JBIC Green Bond Framework

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