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Energy and Natural Resources Finance Group

● Message from the Global Head of the Group



As Japan depends on overseas sources for most of its natural resources, the stable procurement of energy resources, such as oil and natural gas and mineral resources from overseas is indispensable for maintaining and strengthening the stable lives of Japanese citizens and the country's industrial infrastructure. The Energy and Natural Resources Finance Group is responsible for promoting the development and acquisition of overseas natural resources which are essential for Japan.

The global environment surrounding energy and natural resources faces important challenges such as: i) development of financing schemes to respond to the changes in the liquefied natural gas (LNG) market, including diversified LNG pricing mechanisms and contracts, ii) establishment of an energy value chain especially in Asia and iii) securing of strategic natural resources to be used for innovation and of new energy sources to facilitate the transition to a low-carbon society.

JBIC focuses on creating an environment which enables the smooth implementation of projects through active engagement in dialogues with the governments of resource countries and major resource companies in the world. JBIC will continue to contribute to securing a stable supply of natural resources essential for Japan by providing long-term funds, while supplementing private-sector funds.

NISHITANI Tsuyoshi

Managing Executive Officer

Global Head of Energy and Natural Resources Finance Group

Business Environment and Key Challenges

Global energy supply and demand balance is affected by macroeconomic trends and various other factors. At present, energy demand in Asia continues to grow steadily. In particular, Indonesia—one of the leading oil and gas producers in Asia—is exporting less energy resources due to its increasing domestic demand for energy as a result of rapid economic growth. As demonstrated by this trend, demand for oil and natural gas is increasing across the entire Asian region. Under the Paris Agreement adopted at the 21st annual session of the Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change, all participating countries are required to submit greenhouse gas reduction targets. Amid increased interest in global warming, attention is directed to the use of natural gas, which produces less CO₂ compared to other thermal power-generating fuels.

Under these circumstances, the global crude oil supply and demand balance have temporarily loosened in recent years due to increased shale oil production in the U.S. However, the OPEC's (Organization of the Petroleum Exporting Countries) production cut agreement and regional conflicts have pushed oil prices higher, increasing uncertainty over crude oil supply. Over 80% of Japan's crude oil imports come from the Middle East and such imports remain highly exposed to geopolitical risks in the region. Therefore, from the perspective of Japan's energy security, it is important to diversify its crude oil procurement sources to areas other than the Middle East,

while maintaining and strengthening its relationship with oil-producing countries in the region.

The LNG market will continue to have an excess supply over the short and medium terms as the large-scale LNG projects, which have started in the U.S. and Australia, are expected to boost production of LNG. In contrast, on the demand side, China and India are increasing their imports of LNG, and other Asian countries are also moving to commence or increase LNG imports. In view of this trend, Japan is required to create its strategic initiatives in response to global trends in LNG supply and demand, mainly the trends in Asia, in order to ensure Japan's medium- and long-term LNG supply security.

As for mineral resources, which are used for various purposes in Japanese industries, it is increasingly necessary to secure a stable supply of the resources amid growing demand in emerging countries such as China and India, as well as increasing needs for the transition to a low-carbon society and next-generation industries. With regards to iron ore, it is important to secure high-quality iron ore amid the deteriorating quality of that obtained from existing mines, in addition to securing the necessary quantities of iron ore. Furthermore, it is an important challenge to mine high-quality copper ore under current worsening mining conditions such as the development of mining areas which are located in remote, high altitude ranges and deeper underground. While the global supply and demand balance in energy and mineral resources is changing, there

is growing uncertainty about the environment surrounding energy supply such as intensifying trade frictions and increasing geopolitical risks. Under such circumstances, in order to secure a stable supply of resources to Japan, it is highly necessary to support Japanese companies

not only in acquiring interests in and long-term off-take agreements of energy and mineral resources, but also in making additional investments including infrastructure for resource development, with an aim to eliminate major bottlenecks in existing mine operations.

JBIC's Activities

In FY2018, JBIC performed the following activities to secure a stable supply of energy and mineral resources from overseas.

Oil and Natural Gas

The Japanese government set a goal of increasing its self-development ratio of oil and natural gas to 40% or more by 2030 in the Basic Energy Plan approved by the Cabinet on July 3, 2018. To this end, JBIC provides financial support for securing a stable supply of energy to Japan as well as for increasing Japan's self-development ratio of energy.

For example, JBIC provided a loan to a Japanese company to acquire and extend its interests in offshore oilfields in the Emirate of Abu Dhabi (Abu Dhabi), the United Arab Emirates (UAE), which is a vital country in Japan's resource strategy. JBIC signed a loan agreement with INPEX CORPORATION (INPEX). This loan is intended to provide necessary funds for INPEX to acquire a 40-year interest in the Lower Zakum offshore oil field (approximately 450,000 barrels per day). Additionally, JBIC provided a loan to Japan Oil Development Co., Ltd. (JODCO), a subsidiary of INPEX, to finance the extension of interests in the Satah and Umm Al-Dalkh offshore oil fields for 25 years, respectively. Abu Dhabi, which is a vital country in terms of Japan's resource strategy, allows foreign companies to enter the domestic business based on concession agreements. In light of the policy guidelines of the Abu Dhabi Supreme Petroleum Council's, JBIC has so far signed a memorandum of understanding (MOU) for business cooperation with Abu Dhabi National Oil Company (ADNOC) in order to establish a mutual understanding of the importance of acquisition of new interests in oil fields in Abu Dhabi by Japanese companies. Under these MOUs, JBIC has supported these Japanese companies in acquiring their interests in oil fields in Abu Dhabi through loans.

Turning to the LNG field, JBIC participated in the LNG Producer-Consumer Conference, which is held annually

to bring together both LNG producers and consumers in Japan. At the conference, JBIC announced that it had revised its financial framework in order to consider financing LNG projects that will be developed according to the contracts with no destination clauses, provided by Japanese companies develop LNG projects and hold the rights to handle LNG as a product.

In November 2018, JBIC concluded an MOU with Overseas Private Investment Corporation (OPIC), of the U.S., and with the Department of Foreign Affairs and Trade (DFAT) and the Export Finance and Insurance Corporation (Efic), both of Australia, to promote business cooperation for energy infrastructure development in third countries, including those in the Indo-Pacific region. JBIC will consider support for specific projects based on this framework.

Mineral Resources

The Japanese government set a goal of increasing its self-sufficiency ratio for base metals, including iron and copper, to 80% or more by 2030 in the Basic Energy Plan approved by the Cabinet on July 3, 2018. In response to this, JBIC provides financial support for securing a stable supply of mineral resources to Japan.

Japan relies on imports for all of its copper concentrates, a raw material for copper metals, and securing a long-term, stable supply of copper resources is an immediate issue. Copper is used for various applications that include electrical wiring, electrical and electronic equipment, automobiles and construction materials, making this an essential metal resource for the Japanese industry. Global demand for copper is expected to continue expanding on the back of growing demand for infrastructure in emerging countries, especially in China and India, and increasing ownership and use of hybrid and electric vehicles. JBIC signed a loan agreement with Mitsubishi Corporation (Mitsubishi) for the Quellaveco Copper Mine Development Project in Peru. Mitsubishi owns a 40%



Abu Dhabi offshore oil field project (provided by INPEX)



Los Pelambres copper mine expansion project in Chile (provided by Antofagasta Minerals S.A.)

interest in the Quellaveco Copper Mine and will offtake the equivalent proportion of copper ore and supply this to smelters in Japan. JBIC also signed a loan agreement with Chilean corporation Minera Los Pelambres, which is invested by four Japanese companies, to provide funds for building an additional concentrator and desalinated water supply facilities to reinforce the ore processing capacity at the Los Pelambres copper mine.

Strengthening Ties with Resource Countries and Major Global Resource Companies

JBIC continues to hold consultations and dialogues with the governments and governmental agencies of resource countries as well as with major global resource companies in order to encourage Japanese companies to acquire interests in and develop resources in those countries.

Russia

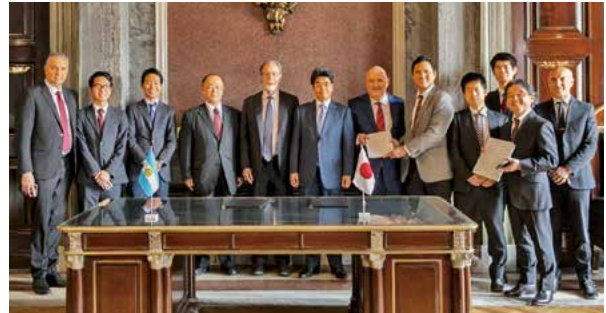
JBIC established an export credit line with Sberbank of Russia (Sberbank), the largest commercial bank in Russia, at the annual International Economic Forum held in St. Petersburg, Russia, in May 2018. There are expected to be numerous business opportunities in Russia, particularly in infrastructure and energy sectors. The purpose of the export credit line is to promote Japanese exports to Russia and its neighboring countries, including the countries of the Commonwealth of Independent States (CIS) and Central Asia.

JBIC also provided a guarantee for yen-denominated foreign bonds issued in the Japanese bond market (Samurai bonds) by Public Joint Stock Company Gazprom (Gazprom). To the present, JBIC and Gazprom have concluded an MOU aimed at building long-term cooperative relationships, while having promoted collaboration in resource and energy fields in Russia through continuous dialogue with the Russian government. The guarantee for the Samurai bonds issued by Gazprom is provided as part of cooperation in "promoting industrial diversification and enhancing productivity in Russia," which is one of the initiatives in the "Eight-point Cooperation Plan" proposed by Japanese Prime Minister ABE Shinzo to Russian President Vladimir Putin during the Japan-Russia Summit in May 2016. This will also help further deepen Japan-Russia economic relationships, which is pursued by the Japanese government.

In addition, at the Eastern Economic Forum in Vladivostok held in September 2018, JBIC concluded MOUs with State Development Corporation VEB.RF (VEB), a Russia's state financial institution, and with the Republic of Sakha, respectively for cooperation on promoting business with Japan. These MOUs are aimed at undertaking discussions on financial support for projects involving Japanese companies that help to improve quality of life mainly in the Far East and Siberia regions and in the Republic of Sakha. This is also expected to contribute to "developing industries and export bases in the Far East," one of the initiatives of the previously mentioned "Eight-point Cooperation Plan," as well as to strengthening relationships with the Republic of Sakha, which is blessed with natural resources.

Argentina

With abundant mineral resources such as copper and lithium, Argentina is an important country for Japan in terms of strengthening relationships. JBIC set an export credit line to Banco de la Nación Argentina (BNA), the largest commercial bank in Argentina, under its "Special Operations¹" at the G20 Leaders' Summit held in Buenos Aires, Argentina in November 2018. There are expected to be numerous business opportunities in Argentina, mainly in infrastructure and energy fields. This export credit line intends to support an expansion of Japanese exports to Argentina and an increase of business transactions between Argentina and Japanese companies with operations in Argentina. JBIC also concluded separate MOUs with BNA and Corporación Andina de Fomento (CAF), respectively, with the aim of promoting the development of natural resources and infrastructure in Argentina. The MOUs help to further increase cooperation between Japan and Argentina, including cooperation on identifying specific projects which are supported under the above-mentioned export credit line.



Signing ceremony with BNA (provided by BNA)

Mexico

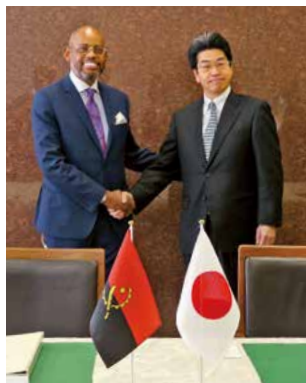
On the occasion of the seventh annual policy dialogue meeting with the Mexican Government, JBIC signed an MOU with Petr6leos Mexicanos (PEMEX) for strengthening cooperative relationship in oil and natural gas, energy-related infrastructure and environment fields. The aim of the MOU is to further strengthen cooperation and partnership with PEMEX through regular consultations, while encouraging Japanese companies to participate in upstream development and the oil refinery improvement projects in Mexico implemented by PEMEX.



Signing ceremony with PEMEX (provided by PEMEX)

Angola

Angola is one of the largest countries in Africa that is well endowed with natural resources such as oil, iron ore and diamonds. JBIC signed loan agreements to finance the Namibe Port container terminal expansion project and the Sacomar Port export terminal rehabilitation project, which are both executed by the government of Angola. The loans will provide necessary funds to export construction materials, equipment and services by Toyota Tsusho Corporation and Toa Corporation. In Angola, acquiring foreign currencies through greater logistics efficiency and the promotion of mineral resource exports is an important issue. Therefore, these port projects are positioned as the highest-priority projects under Angola's public investment plan.



Signing ceremony with the government of Angola

Future Business Strategy

In the natural resources sector, of which market environment is approaching a big turning point, there is concern about a tightening supply and demand balance of resources in the medium to long term. As resource countries are faced with national financial difficulties, they expect foreign companies to promote investment in resources. On the other hand, there is rising uncertainty such as an increase in geopolitical risk. Under these circumstances, capitalizing on its status as Japan's policy-based financial institution, JBIC will contribute to securing the stable supply of natural resources to Japan by proactively supporting Japanese companies which plan to acquire interests in and develop resources overseas.

Structuring Financing Schemes to Respond to the Changing LNG Market

Global supply and demand balance of LNG is forecast to remain loosened for the time being. Also, there is uncertainty over the outlook for LNG demand due to the mix of energy sources in the future and the deregulation of electricity and gas markets. In light of these situations, Japanese electric power and gas companies diversify their supply sources of LNG, seeking flexibility and liquidity in the LNG market such as diversification in pricing mechanism and removal of destination clauses from LNG contracts.

Under this environment, the Japanese government published the Strategy for LNG Market Development in May 2016, highlighting the creation of the LNG market with high liquidity. The Basic Energy Plan approved by the Cabinet on July 3, 2018 also emphasizes the continuing effort to create high liquidity in the LNG market. Against these backdrops, Japan's electric power and gas companies have started new businesses to spur LNG demand in Asian countries. JBIC will consider providing financial support not only to upstream investments and LNG projects by Japanese companies, but also to their new businesses to boost LNG demand in Asia.

Building an Energy Value Chain and Securing New Resources and Energy Sources

To promote resource projects in response to the new market environment, it is important to make investment in growth areas and new fields. In particular, JBIC will support infrastructure development projects, including construction of Gas-to-Power and LNG terminals in order to ensure energy security mainly for the entire Asian region. In addition to conventional resources such as oil, natural gas and mineral resources, JBIC will also support the activities of Japanese companies for securing strategic natural resources to be used for innovation and new energy sources to transform into a low-carbon society. Looking ahead, the Fourth Industrial Revolution driven by robotics and AI, as well as innovation derived from next-generation vehicles, are expected to spur a realignment of the global manufacturing industry and a transformation of the industrial structure. Under such circumstances, JBIC will consider financing projects for increasing productivity through the use of cloud services for data and automated mining operations, as well as projects for securing new strategic resources required to support innovation.

Strengthening Strategies on Economic Frontiers

To diversify resource supply sources, JBIC will proactively provide financing to natural resource development projects particularly in Africa and the South Asia region, that involve Japanese companies for acquiring interests in and purchasing natural resources. These regions are viewed as "The Last Frontiers" for foreign exploration as the regions are expected to be a source of extraction of natural resources-particularly oil, natural gas and minerals. There are countries which have started investing in resource development projects in these regions. Resource development projects especially in Africa contribute not only to job creation and acquisition of foreign currencies by the project host countries, but also to the promotion of related infrastructure and industrial development which drives sustainable growth of Africa. JBIC will support Japanese companies in expanding their business to Africa, including resource development, by proactively taking risk in projects as well as collaborating with international organizations and third countries.

The key to strengthening the relationship with resource countries lies not only in the cooperation in resource development projects, but also in the establishment of comprehensive and sustained partnerships while meeting the needs of these countries in relation to various fields such as: infrastructure development, industrial diversification, employment creation, technology transfer and reduced environmental burden through the use of renewable energy and energy saving technology. JBIC will maintain and strengthen the multi-layered and positive relationships with the governments of resource countries by making comprehensive efforts to support projects in infrastructure development and manufacturing sectors of the resource countries.

1. This is JBIC's financing operations which reinforce its risk-taking mechanism in further supporting Japanese companies in participating in overseas infrastructure projects with higher-risk profiles.

● Message from the Global Head of the Group



The global economy and industrial structure are facing dramatic changes amid the rise of emerging countries, ongoing globalization, the digitization of economies and the progress of innovation. Under these conditions, there continues to be an enormous gap between supply and demand for financing in the global infrastructure field. Due to the SDGs (Sustainable Development Goals¹), there is growing global demand for low carbonization. In order to adequately respond to such a trend, it is important to promote the mobilization of private funds by proactively taking risks in financing, while working on low carbonization and global environmental protection towards reduced environmental burden.

Under such an environment and in accordance with JBIC's Medium-term Business Plan (FY2018–2020) formulated in June 2018, the Infrastructure and Environment Finance Group will collaborate with other financial institutions on identifying and developing the following projects: i) projects that promote innovation of technology, ii) social infrastructure projects such as airports, seaports and railways that are highly important on the policy front, iii) projects for building energy value chains such as for gas and hydrogen and iv) projects for low-carbon infrastructure. Geographically, we will strengthen our business activities in areas such as the Mekong region, South Asia and Africa in addition to regions where many Japanese companies have already expanded.

TANIMOTO Masayuki

Managing Executive Officer
Global Head of Infrastructure and Environment Finance Group

Business Environment and Key Challenges

Toward Enhancing International Competitiveness of Japanese Companies

There is enormous global demand for infrastructure, particularly in emerging countries, and overseas markets are expected to continue expanding in response to rapid urbanization and economic growth. On the other hand, there is concern about a shrinking of the domestic market due to further declines in birthrates and aging of the population, which makes it more important for Japanese companies to expand abroad. Moreover, the business environment surrounding Japanese companies is changing significantly as a result of the emergence of new business models driven by innovation of technologies such as the Internet of Things (IoT), Artificial Intelligence (AI) and Big Data. When looking at climate change measures and the environmental field, it is further required to work towards a sustainable world and a low-carbon society.

In view of this business environment, the Infrastructure and Environment Finance Group will strengthen its activities in the following fields.

(1) Growth areas, new fields

In January 2016, the Japanese government announced “Society 5.0,” an initiative aimed at solving various social issues utilizing the most advanced latest technologies. This initiative aims at creating a society where people can supply power stably based on power demand forecast “achieve local production of energy consumed locally”; “shift

energy supply between regions”; “optimize energy savings at home using supply predictions.” The initiative also states that these objectives can be achieved by analyzing data, using AI, such as the operational status of power stations as well as the discharge/charge status of electric vehicles (EVs) and energy usage of every household. With such new type of infrastructure anticipated to be exported from Japan, it is important to take this changing business environment as an opportunity to respond to innovation of technology in a flexible and appropriate manner.

Benefitting from growth in emerging markets is one of the challenges Japan faces. As Japanese companies are expected to further expand overseas, it will be necessary to strengthen relationships with and cultivate markets in countries in the Mekong region, South Asia and Africa, which are defined as “frontier markets” in our Third Medium-term Business Plan.

(2) Support infrastructure projects that are highly important on the policy front

The “Export Strategy for Infrastructure System” revised in June 2019 emphasizes the importance of encouraging Japanese companies with technological strengths and knowledge to go overseas markets not only by exporting equipment, but also by obtaining more orders for infrastructure as systems including design, construction, operation and management of infrastructure as well as increasing investments in local businesses.

(3) Low-carbonization and global environmental preservation

The Paris Agreement, an international framework for cooperative action on climate change after 2020, was adopted in December 2015. Following this, guidelines for implementing the Paris climate accord were developed in December 2018. Against these backdrops, there is rising demand for low-carbon or carbon-free infrastructure across the entire world, including in developing countries. The developing countries are facing demand for high-quality drinking and industrial water due to the progress of rapid urbanization and that for infrastructure for treating increasing volume of waste. In addition to this, plastic rubbish floating in the seas of the world is recognized as



Gas turbine to be exported to Sharjah Electricity and Water Authority (SEWA) in the UAE

a global issue.

Approach to Identifying and Developing Potential Projects

JBIC will strengthen its business activities in the above-mentioned fields and encourage Japanese companies to participate in infrastructure projects and receive orders of infrastructure system by being proactively engaged in identifying and developing potential projects. In order to achieve these objectives, JBIC will take the following actions:

Responding to various risks: Infrastructure projects are considered to be exposed to various risks as the projects are large in size and also require a long time span from the planning and bidding phases of the project to construction and the recovery of invested funds. For example, infrastructure projects might carry a counterparty risk of central or local government of a host country with a low credit rating, i.e. the risk of failure to perform their contractual obligations, as well as a risk of uncertainty in future demand or sales of products and services delivered by the project. Profits generated by infrastructure projects are denominated in local currencies. However, if the domestic financial market of a host country is not mature enough and if they need to rely on long-term overseas financing sources denominated in foreign currencies, a currency exchange risk is also an issue to be addressed. In this case, the investment appetite of investors who are interested in the project might decline or long-term funds enough to implement the project might not be provided

by financial institutions.

Promoting to develop bankable projects²: In recent years, there has been an increase in infrastructure projects on a public-private partnership (PPP) basis. When it comes to the development of projects in cooperation between public and private sectors such as PPP projects and the Build-Operate-Transfer (BOT) model, especially in developing countries, there are cases where risks associated with the projects might not be properly assessed and shared among project participants, including the government of a host country. This results in private-sector participants being exposed to excessive risk. This situation occurs as a result of: i) a lack of integrity and clarity in the legal system in the host country, ii) a lack of ability and experience of the government agencies or organizations of the host country to organize the project, or iii) an absence of proper feasibility studies on the project. Under these circumstances, PPP projects face difficulty in obtaining funds from the private sector and the projects therefore do not progress in the way the host country's government expects. It is pointed out that it is important to share risk among all involved parties in a PPP project in an appropriate and equitable manner.

Mobilizing a wide range of private-sector funds: Global demand for infrastructure is expected to continue growing at a faster pace than actual investments amid economic and population growth and rapid urbanization, especially in emerging countries. To reduce the global demand-supply gap in infrastructure investment, it is indispensable to address the above-mentioned issues as well as mobilize funds from various private-sector financial organizations including life insurance companies, pension funds or investment funds. Financing from Multilateral Development Banks (MDBs) and public financial institutions alone in each country, such as JBIC, is not enough to meet the global demand for infrastructure investment in terms of quantity.

1. International targets for sustainable development by 2030 that were adopted at the UN Summit in September 2015
2. Projects in which the feasibility, economic performance and the risk burden of involved parties in the relevant project have been confirmed and assured, and the participation of private-sector companies and long-term funding by financial institutions can be expected.

JBIC's Activities

The Infrastructure and Environment Finance Group performed the following activities in FY2018:

(1) Support for building energy value chains

In FY2018, JBIC provided support for a gas-to-power project in West Java, Indonesia, to build a gas power station and related facilities in an integrated manner. This is the first gas-to-power project in Asia supported through project financing³ as well as the first time for JBIC to finance such a project. In this project, JBIC not only provided financing for building the gas power plant, but also made a proposal to establish the entire gas value chain including construction of LNG gas terminals. As this suggests, JBIC facilitates the transition of energy to gas power generation in the host country and contributes to introducing low carbon energy.

(2) Low-carbonization and global environmental preservation

Apart from the above-mentioned project that helps to introduce low carbon energy, we provided support for the Moray East offshore wind power generation project, the largest renewable energy project, in the U.K. JBIC also provided its fifth credit line under its GREEN Operations to Banco Nacional de Desenvolvimento Econômico e Social (BNDES), Brazilian Development Bank, to finance renewable energy projects in Brazil. JBIC also provided its second credit line under its GREEN Operations to the Central American Bank for Economic Integration (CABEI) to support smart energy projects, such as for maintenance and upgrading of electric power transmission and distribution networks in Central America.

In the field of global environmental preservation, JBIC made a loan to a waste treatment plant project in Sweden using methane fermentation technology. This is the first time for JBIC to offer a loan denominated in Swedish krona. The loan in the local currency helps to reduce foreign exchange risks arising from a currency mismatch between project's revenue and expenditure. In addition to this, the project plans to introduce advanced technology of a Japanese company to utilize biogas generated from waste treatment as fuel. This will also help to protect the global environment.

Through financing for environmental projects, JBIC will contribute to responding to various global environmental problems that have an impact on the global economy, such as economic growth in developing countries, reduced greenhouse gas emissions and climate change measures.

(3) Collaboration with other countries and institutions

As for collaboration with institutions of other countries, JBIC regularly holds policy dialogues with the governments of Indonesia and Mexico. Additionally, in accordance with the Japanese



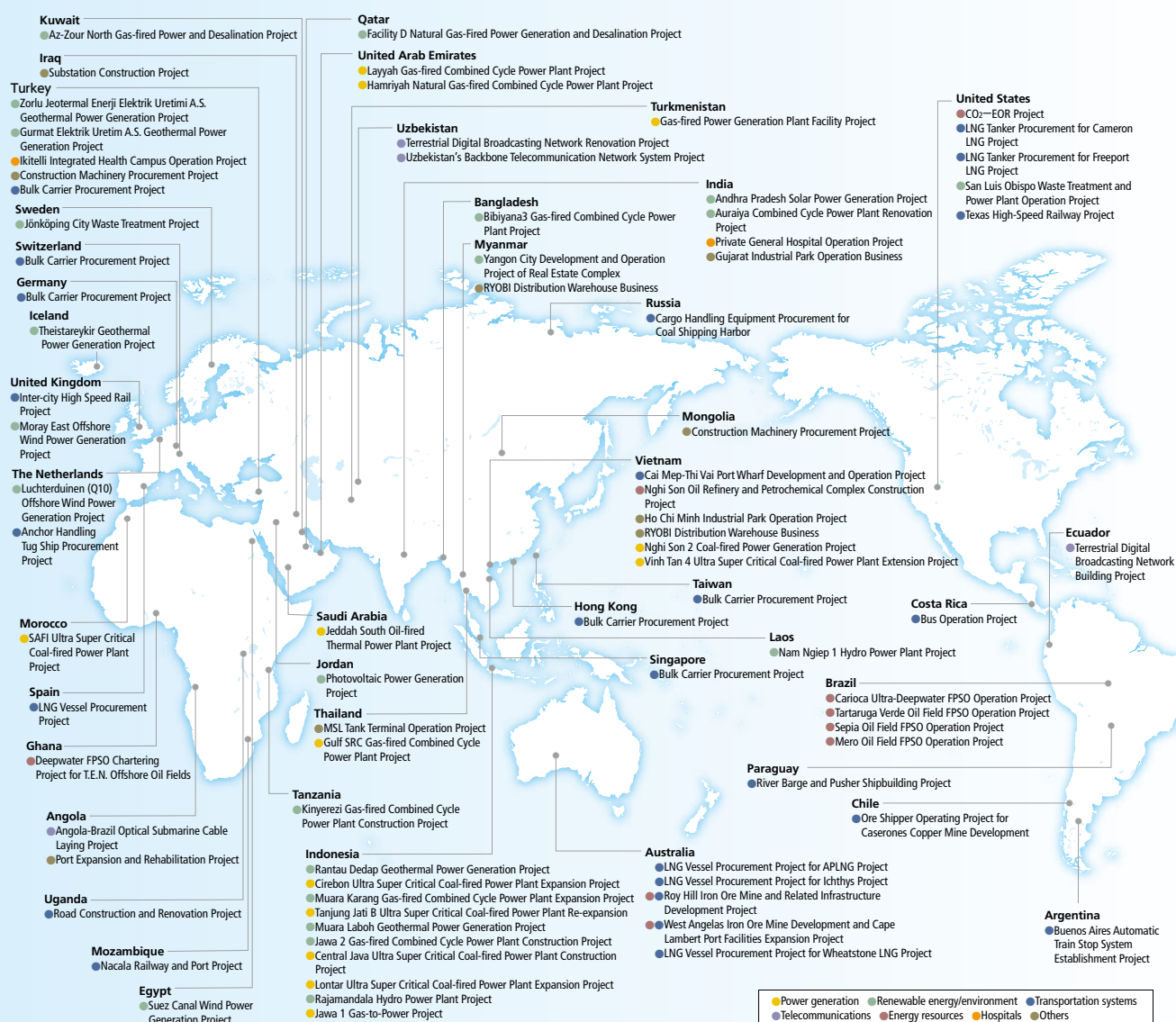
Waste treatment plant in Sweden

government's "Free and Open Indo-Pacific Strategy," JBIC further expanded a cooperate framework established with U.S.-based Overseas Private Investment Corporation (OPIC) and concluded a memorandum of understanding (MOU) for business cooperation with the Department of Foreign Affairs and Trade (DFAT) and the Export Finance and Insurance Corporation (Efic), both of Australia. Based on this MOU, JBIC promotes projects where Japan, the U.S. and Australia can collaborate in third countries including the Indo-Pacific region. JBIC also signed an MOU with the China Development Bank (CDB) to support projects involving both Japanese and Chinese corporations in third countries. Based on this agreement, JBIC identifies potential projects in third countries and develops bankable projects, while providing financial support according to the global standards for lending for infrastructure projects such as openness, transparency, economic efficiency as



Policy dialogue with the government of Mexico

Recent Major Overseas Infrastructure Projects (Loans, equity participations, and guarantees in the last five years)



Note: "Renewable energy/environment" includes solar power, wind power, geothermal power, hydraulic power, power generation from waste, energy conservation, and other projects related to global environmental conservation.

As of the end of June 2019

well as financial soundness.

In "growth areas, new fields," JBIC signed an MOU for business collaboration with the European Investment Bank (EIB), the European Union's (EU) public financial institution, which also designates innovation of technology and environmental protection including low carbonization as priority areas. JBIC will strengthen support for projects utilizing new technologies, while sharing and deepening its knowledge of financing for innovation.

Regarding its activities in countries in frontier markets, JBIC had the opportunity for meetings with governments of countries such as Vietnam, Bangladesh and Egypt to request their support for facilitating business talks with Japanese companies. Furthermore, JBIC makes efforts to

identify potential projects in countries in frontier markets, in collaboration with other institutions, as demonstrated by our continued discussions with the Export Credit Bank of Turkey about potential projects in Africa according to the collaborative framework for businesses in third countries.

3. Project finance is a financing scheme in which repayments for a loan are made solely from the cash flows generated by the project.

● Message from the Global Head of the Group



The Industry Finance Group is composed of four departments and branches namely the Corporate Finance Department, Finance Office for SMEs, Marine and Aerospace Finance Department and Osaka Branch. The Industry Finance Group makes efforts to maintain and increase the international competitiveness of Japanese industries by capitalizing on its various financial instruments for financing projects overseas.

The year 2019 will witness concerns over the impact on the global economy of the trade issues that have continued since the latter half of 2018 and economic developments in emerging countries. Under JBIC's Third Medium-term Business Plan (FY2018–2020), the Industry Finance Group will continue to actively support Japanese companies, including mid-tier enterprises and small and medium-sized enterprises (SMEs) in expanding overseas, and to maintain and increase the international competitiveness of Japanese industries. In order to achieve these objectives, we will take the following actions: i) take strategic action to promote innovation, ii) support Japanese companies in expand into frontier markets, iii) support overseas M&As and iv) enhance its risk-taking capability for financing various projects.

ISOBE Koichi

Managing Executive Officer
Global Head of Industry Finance Group

Business Environment and Key Challenges

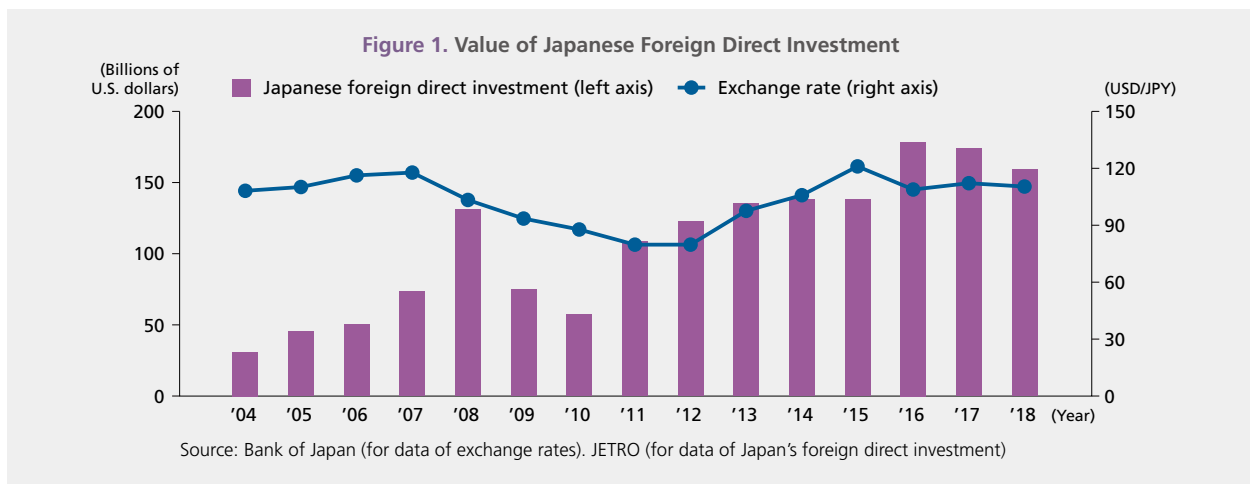
Overseas Business Deployment of Various Industries

Despite the slowdown sparked by the global financial crisis in 2008, foreign direct investment by Japanese companies returned to a level exceeding \$100 billion in 2011. Thereafter, it remained firm, reaching \$159.1 billion in 2018 (Figure 1).

Foreign direct investment by Japanese companies, which remains stable, particularly overseas M&A activity has grown rapidly since 2009 thanks to a stronger yen. This trend continues despite subsequent currency movements, pushing up the number of M&A deals from 672 in 2017

to 777 in 2018. In recent years, Japanese companies have proactively conducted overseas M&As to acquire technologies to survive in international competition as well as develop new markets replacing the shrinking domestic markets. This indicates that the use of M&A continues to be an important strategy for Japanese companies to expand abroad.

Looking at the value of the M&A deals, the value of M&A deals in 2017 fell below ¥8 trillion, decreasing from the levels of 2015 and 2016 when values exceeded ¥10 trillion buoyed by large-scale M&A transactions. Nonetheless, in 2018 there was the largest-ever M&A

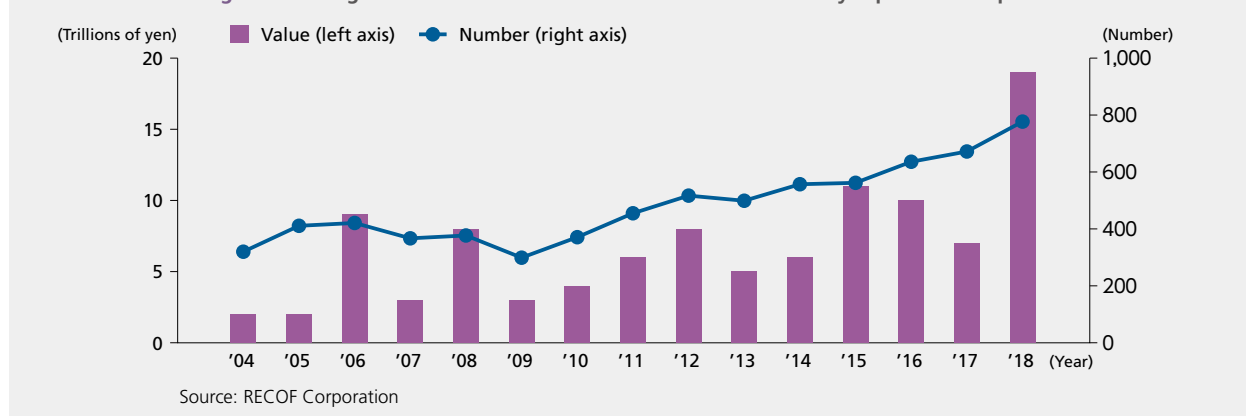


deal by a Japanese company, pushing up the value of M&A deals to around ¥19 trillion, an increase of 2.5 times compared to 2017 (Figure 2).

In order to put the Japanese economy back on a growth trajectory amid structural issues such as a shrinking population and an aging society with a falling

birthrate and to create a much more affluent society, it is indispensable to increase the productivity of the entire economy and strengthen earning power. To this end, it is increasingly necessary to proactively encourage Japanese companies to enter overseas markets for seeking new business opportunities

Figure 2. Changes in the Value and Number of Overseas M&A by Japanese Companies



Value of Japan's Exports in a Recovery Trend

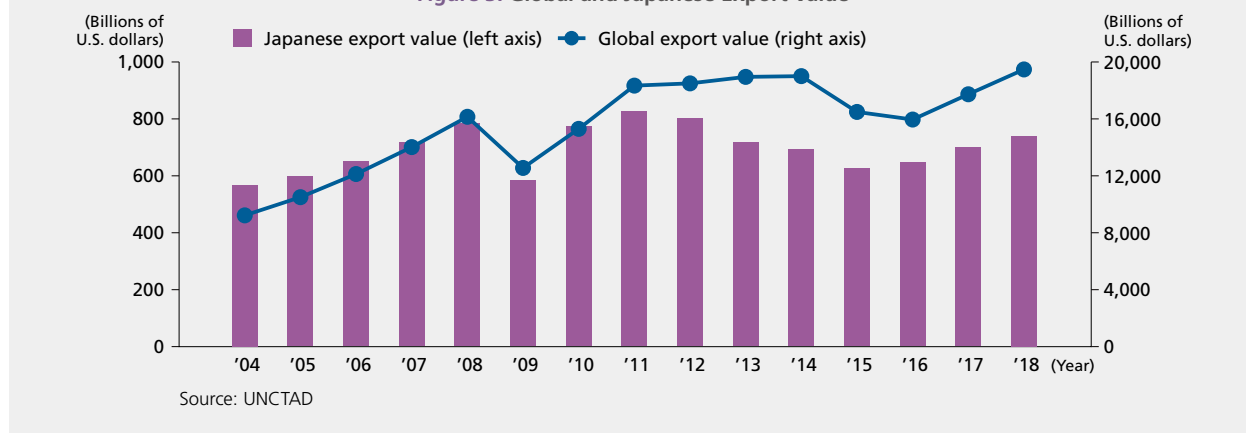
The value of global export transactions rebounded in 2017, the first positive growth in three years, thanks to accelerating growth of the world economy and soaring resource prices. In 2018, global exports decelerated towards the second half of the year, impacted by trade problems, such as U.S.-China trade frictions, and a slowdown of emerging country economies. Despite this, favorable growth in the global exports that had continued from 2017 until the middle of 2018, helped to raise the value of the exports to \$19.4 trillion in 2018, up from \$16.0 trillion in 2016 and \$17.7 trillion in 2017, marking the second consecutive year of increase.

The value of Japan's export transactions also remained firm towards the middle of 2018 on the back of increased demand for automobile-related goods in developed countries and for information-related products in Asian emerging countries. Subsequently, however, growth in export moderated in the latter half of the year due to a

lull in demand for electronic components for smartphones and a slowing global economy. Despite this, the value of Japan's export transactions in 2018 rose to \$738.4 billion, the third straight years of increase (Figure 3).

A downside risk to Japan's export shares in global markets still remains due to the decelerating global economy caused by unstable factors such as trade problems, and the expanding export shares of emerging countries. Amid the diversification of overseas sales channels of Japanese companies which intend to increase their export shares in the world, evaluation of creditworthiness of importers in foreign countries and uncertainties about their business transactions are becoming major concerns for Japanese companies. To ensure that they can cope with business risk in an appropriate manner, JBIC is required to participate in projects from the early stage of the project development process and to supply funding for projects with relatively high-risk profiles by capitalizing on its various financial tools.

Figure 3. Global and Japanese Export Value



Overseas Business Deployment of Mid-tier Enterprises and SMEs

Japanese mid-tier enterprises and SMEs are accelerating their move to seek business opportunities outside Japan by meeting demand in overseas markets as well as responding to the needs of major Japanese manufacturers for local procurement of parts and equipment.

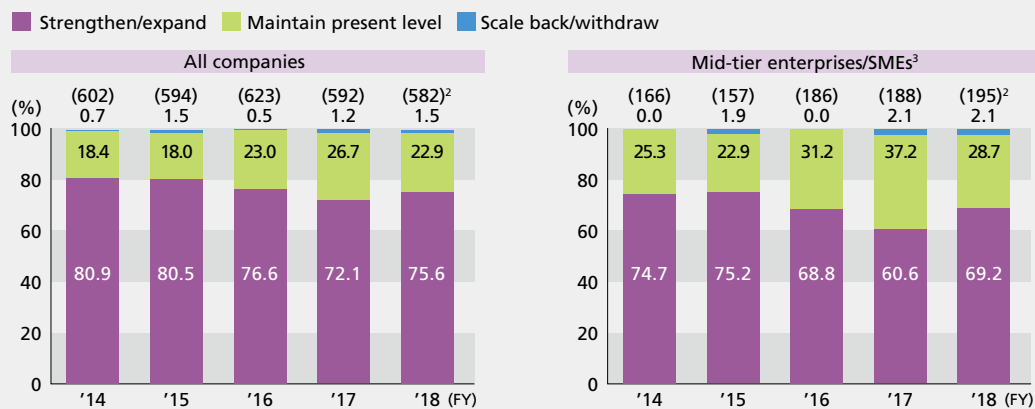
JBIC annually surveys Japanese manufacturers regarding their medium-term prospects for overseas operations in its survey called "Survey Report on Overseas Business Operations by Japanese Manufacturing Companies". In the FY2018 survey, 97.9% of mid-tier enterprises and SMEs which responded to the survey stated that they will "maintain present level" or "strengthen/

expand" their overseas business operations. This suggests that their willingness to conduct overseas operations remains high (Figure 4).

Diversification has been seen in the fields of business invested by Japanese mid-tier enterprises and SMEs, their investment destinations, and funding needs.

Meanwhile, compared with larger companies, mid-tier enterprises and SMEs might face greater constraints on various fronts, such as fund raising and the collection of information about overseas investment. Due to this, it is important that JBIC provides further detailed support to mid-tier enterprises and SMEs, while strengthening partnerships with regional financial institutions which serve as a major financing source for those companies.

Figure 4. Medium-term Prospects (Next Three Years, or So) for Overseas Operations¹



Notes 1. "Overseas Operations" is defined as production, sales, and R&D activities at overseas bases, as well as the outsourcing of manufacturing and procurement overseas.

2. The numbers in the parentheses above the bar graphs indicate the numbers of responses.

3. Mid-tier enterprises/SMEs are companies whose paid-in capital is less than ¥1 billion.

Source: Results of the JBIC FY2018 Survey Report on Overseas Business Operations by Japanese Manufacturing Companies

JBIC's Activities

Supporting Overseas Business Expansion Using Various Financial Instruments

In the Third Medium-term Business Plan (FY2018–2020), JBIC has designated support for the overseas M&A by Japanese companies as one of the priority areas to focus

on. In FY2018, JBIC continued to flexibly provide long-term financing for Japanese companies to carry out M&A activities in various fields, including the tank terminal, pharmaceuticals, healthcare, carbon fiber composite materials, leasing, food and beverage. This funding is



Mixed-use real estate project in Myanmar



FPSO vessel chartering services (same model as FPSO being financed by JBIC (photo provided by MODEC, Inc.))

provided through direct financing from JBIC or indirect financing (two-step loans (TSLs)) utilizing M&A credit lines (credit facilities) established with Japanese private financial institutions.

Apart from support for M&A transactions, JBIC supported the development and operation of a mixed-use real estate project in Myanmar and provided project financing for FPSO (floating production, storage, and offloading) vessel chartering services for developing an offshore oilfield. These loans helped strengthen the international competitiveness of Japanese companies.

Additionally, JBIC provided loans in various local currencies such as the Mexican peso, the Chinese renminbi, the Russian ruble and the Indian rupee in order to further encourage Japanese companies to expand abroad.

Supporting the Exports of Japanese Companies

JBIC also actively supports the exports of Japanese companies. In FY2018, JBIC provided a buyer's credit to an Indonesian company to purchase a whole set of polyethylene manufacturing plant facilities from a Japanese company. Indonesia faces increasing demand for petrochemical products due to high economic growth. Through this support, JBIC contributes to maintaining and increasing the international competitiveness of Japanese industry in Indonesia's petrochemicals sector.

As for the export of ships, JBIC contributed to maintaining and increasing the international competitiveness of Japan's shipbuilding sector by supporting the export of ships manufactured by Japanese shipbuilders. This also plays a significant role in the development of the Japanese regional economy where mid-tier enterprises and SMEs are engaged in manufacturing materials and components for building ships.



Polyethylene manufacturing plant

Supporting Overseas Business Deployment of Mid-tier Enterprises and SMEs

Since FY2012, JBIC has enhanced its capability to assist Japanese mid-tier enterprises and SMEs in expanding abroad through its business units dedicated to this purpose at its Head Office and Osaka branch. In FY2018, the number of loans, equity participations and guarantees to mid-tier enterprises and SMEs totaled 66. JBIC encouraged mid-tier enterprises and SMEs to expand to overseas markets through its loans in U.S. dollars and local currencies such as Thai baht or long-term loans in

foreign currencies provided by Japanese regional financial institutions according to the credit lines (TSLs) offered by JBIC. Especially in FY2018, more than half of commitments for loans, equity participation and guarantees to mid-tier enterprises and SMEs was provided in the form of co-financing with regional financial institutions.

JBIC also proactively responded to the local currency needs of the overseas subsidiaries of Japanese mid-tier enterprises and SMEs by providing loans in local currencies such as Thai baht and Chinese renminbi in addition to U.S. dollars and euro.

Besides support in raising funds, JBIC held seminars and consultation meetings across Japan to provide various information from its overseas representative offices such as on overseas investment environment. JBIC encouraged mid-tier enterprises and SMEs to expand their sales channels by utilizing its broad network of contacts around the world, for example, providing business matching opportunities in cooperation with Japanese regional financial institutions and foreign embassies in Japan.



Business matching seminar for mid-tier enterprises and SMEs.

Meeting the Needs of Japanese Companies

The international economic conditions surrounding Japan, such as political conditions in each country and economic trend in emerging countries, are constantly changing. While responding to these changes accurately, JBIC continues to provide support to maintain and increase the international competitiveness of Japanese industries.

Capitalizing on various financial instruments, the Industry Finance Group will provide further support to Japanese companies which plan to expand overseas. We will also strive to explore and create new business opportunities for Japanese companies that can lead to Japan's sustainable growth particularly in growth areas and new fields, as defined by JBIC's Third Medium-term Business Plan (FY2018–2020), and will continue to play a role in connecting Japan to the world by enhancing its risk-taking capability to finance various projects while responding to the needs of customers in a timely and accurate manner.

● Message from the Global Head of the Group



Since the establishment of the Equity Finance Group in October 2016, JBIC has been working to strengthen its equity financing operations. One of the growth strategies of the Japanese government aims to benefit from overseas growth markets. To achieve the government's growth strategy, it is becoming increasingly significant to supply funding through strengthening risk-taking capability. In light of this, JBIC has enhanced its capability in the area of equity financing, such as by establishing JBIC IG Partners (JBIC IG) to provide advisory services regarding overseas investment funds. JBIC has also financed overseas M&A transactions by Japanese companies in the form of equity participation.

One of the basic policies in JBIC Third Medium-term Business Plan (FY2018–FY2020) announced in 2018 is to enhance its risk-taking capability by capitalizing on its strength and characteristics as a policy-based financial institution. The Medium-term Business Plan also designates "Growth areas, new fields" and "M&A" as priority areas to focus on. We are required to supply funding to investments in those high priority fields by means of equity financing.

Under the Medium-term Business Plan, we will continue to proactively support Japanese companies in expanding overseas through our equity financing capacity.

FUJINO Shinji

Managing Executive Officer
Global Head of Equity Finance Group

Business Environment and Key Challenges

Expansion into Growth Areas, New Fields and Support for Overseas M&A

Amid the progress of innovation, the recent trends of overseas expansion by Japanese companies show a notable move towards utilizing overseas M&A as a way to obtain new technologies and technical know-how from overseas. Japanese industries are going through a major structural shift to the Fourth Industrial Revolution driven by innovation in technology such as IoT and AI. The Japanese government's Future Investment Strategy 2018 (Cabinet decision on June 15, 2018) also states that it is indispensable for Japan's future growth to promote social change through open innovation such as collaboration in the use of technologies, human resources and data across different organizations and sectors.

Looking at global markets, as evidenced by the emergence of IT platformers in the U.S. and China, competition across different industries and that for acquiring the market of new innovative technologies is expected to intensify further. Under such circumstances, it is an immediate need that Japanese industries make strategic efforts towards promoting innovation.

M&A activities by Japanese companies aimed at acquiring overseas markets and meeting their demand become more important because of Japan's structural issues such as a decreasing birthrate and an aging population as well as a shrinking labor force. Amid intense competition for acquiring foreign markets, overseas M&A activity is one of the important means adopted by Japanese companies

for accelerating growth. Under such conditions, overseas M&A activities by Japanese companies in 2018 reached a record high of 777 deals¹. It is important to continue to supply funds in response to the needs of Japanese companies for M&A.

In light of these changes in the external environment, JBIC will support Japanese companies in conducting M&A activities in growth areas, new fields, in the form of equity participation as well as fund investment through JBIC IG Partners.

1. Source: RECOF M&A DATABASE

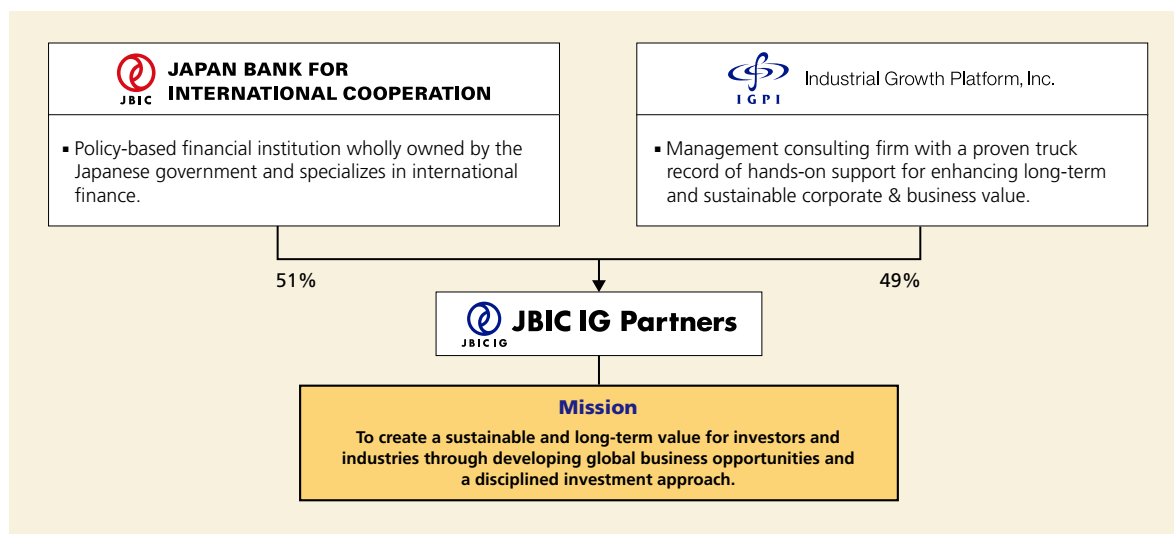
Overview of JBIC IG Partners (JBIC IG)

JBIC IG is an investment advisory firm established in June 2017, by JBIC and Industrial Growth Platform, Inc. (IGPI). JBIC IG applies the respective strengths of JBIC and IGPI as follows: JBIC has knowledge and experience of financing international projects as Japan’s policy-based financial institution; IGPI has the knowledge of

investment business and broad experience in providing companies with hands-on support for long-term, sustainable growth in corporate and business value. JBIC IG aims to create long-term, sustainable value for Japanese investors and industries through the development of global business opportunities and a disciplined investment approach.

About JBIC IG Partners

JBIC IG Partners is an investment advisory firm established by JBIC and IGPI.



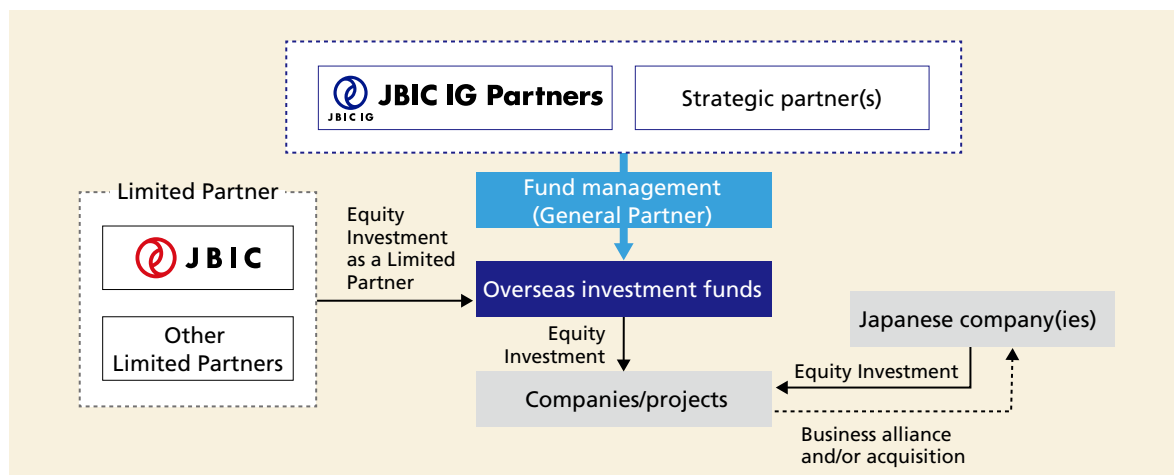
Business Model of JBIC IG

JBIC IG composes overseas funds by partnering with foreign sovereign wealth funds (SWF) and international investors, through investment advisory services to overseas funds. As its first effort, JBIC IG entered into a co-investment framework agreement with the Russian

Direct Investment Fund. In January 2019, JBIC IG established a venture capital fund with AS BaltCap, the largest fund manager in the Baltic region. JBIC IG will continue to provide added value to Japanese industry through the creation of new investment funds.

Overview of JBIC IG Partners' Investment Structure

JBIC makes equity investments in overseas companies through investment in funds that JBIC IG Partners launched in collaboration with overseas partners.



JBIC's Activities

Strengthening JBIC's Capability of Equity Financing

Promoting Open Innovation and Acquiring Overseas Technologies by Japanese Companies

To support open innovation of Japanese companies through investment in funds, JBIC made equity investment in JB Nordic Fund I SCSp (JB Nordic), a venture capital fund investing in early stage start-ups in the Nordic and Baltic region.

The Nordic and Baltic region is establishing itself as one of the world's start-up hubs thanks to the existence of numerous unicorn companies (unlisted companies with corporate value of \$1 billion or higher) and vibrant entrepreneurial spirit in the region. Under such circumstances, JBIC IG launched JB Nordic in cooperation with AS BaltCap, the largest fund manager in the Baltic region. In addition to JBIC, Omron Corporation, Panasonic Corporation² and Honda Motor Co., Ltd. also invest in the Fund. The aim of the Fund is not only to invest in deep-tech companies in the region, but also to create opportunities for those Japanese investors to invest in or form business alliances with local companies in the region.



An event in Helsinki for introducing the fund

JBIC and Dentsu Inc. (Dentsu) made a joint investment in DAZN Group Limited (DAZN, former Perform Group Limited), of the U.K. DAZN is a global market leader in the commercialization of sports content across multiple digital and broadcast platforms. With this investment in DAZN, Dentsu plans to strengthen their international advertisement business using digital technology, as well as their sports business.

JBIC supported JX Nippon Mining & Metals Corporation (JXNMM) by financing part of funds required for purchasing all shares in H.C. Starck Tantalum and Niobium GmbH (HCS TaNb), a German company. HCS TaNb is one of the world's leading companies in the development, production and distribution of tantalum and niobium products (high-purity metal powder), a type of rare metal, which are widely used in the Japanese electronics industry. Through the acquisition of HCS TaNb shares, JXNMM seeks to reinforce its business in the area of advanced materials by utilizing HCS TaNb's competitive technological and marketing capabilities.

Support for Securing Important Resources through Equity Investments

In order to support the overseas business expansion by Japanese companies and secure the supply source of mineral resources to Japan, JBIC made equity participation in Vietnam Rare Elements Chemical Joint Stock Company (VREC), a Vietnam-based company invested by Daiichi Kigenso Kagaku Kogyo Co., Ltd. (DKKK).

DKKK holds the world's top-class share in production of zirconium compounds, a main raw material for ceramic products such as automobile emissions purification catalysts. The purpose of the investment in VREC is to provide necessary funds for DKKK to manufacture zirconium oxychloride used as a raw material of zirconium compounds at a plant of VREC and to export this to Japan.

Support for DKKK to secure their procurement route of zirconium oxychloride helps them expand their business in Vietnam as well as secure the stable supply of zirconium, a strategically important mineral resource for Japan.



VREC's new plant to be built

2. Panasonic Corporation commits to the Fund through its subsidiary.