JBIC Today

Special Feature

Creating Harmony between Environment and Economic Society

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Feature

Feature



Climate change is raised and discussed as an urgent challenge that threatens the global economic society. Under such circumstances, JBIC has evolved its operations to the global environment in response to the changing times.

What roles can JBIC and Japanese companies play in achieving continuous sustainable economic growth?

The achievement of sustainable economic growth is a common concern of the world. As part of a global effort to tackle such a concern, implementation of various actions towards climate change including reduction of greenhouse gas (GHG) emissions has been enhanced all over the world. In reaction to the international engagements including the Japanese government to climate change, JBIC contributes to taking global environmental actions by providing policy-based financing. "2010 was a big turning point for JBIC's actions to the global environment," Tsutomu Sato said,



Tsutomu Sato Deputy Director General, New Energy and Power Finance Department II, -And **Director for Global Environment Division** Infrastructure and Environment Finance Group

who serves as Deputy Director General for the New Energy and Power Finance Department II and Director for Global Environment Division of the Infrastructure and Environment Finance Group. Then, in the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP15), which was held in Copenhagen, in December 2009, developed countries agreed to mobilize finance to developing countries with US\$100 billion per year by 2020.

Proactively supporting global environmental preservation

"In the Kyoto Protocol adopted at COP3 in 1997, only developed countries committed to meet national targets of reducing GHG emissions. However, as a matter of fact, developing countries are another GHG emitters as same as developed countries so that the global climate actions should not be successful without involving those developing countries. To change this situation, both developed and developing countries had intense discussions for a new framework agreement at COP15 in 2009. Those countries could not reach a new agreement at COP15, but in the negotiation process, they once again realized that mobilizing a large amount of finance were necessary for developing countries in order to introduce low-carbon technology. In the light of this situation, it was agreed that developed countries will mobilize US\$100 billion per year by 2020 to those developing countries to support their climate actions. After this agreement, developed countries continues to fulfill their commitment to mobilizing finance to developing countries, building a mutual trusting relationship with them. I believe that this effort paved the pathway for adopting the Paris Agreement at COP21 in 2015."

Taking over the Kyoto Protocol, more than 180 countries participated in the Paris Agreement which will commence in 2020. All the participating countries-not only developed but also developing countrieswill make climate actions under a new legally binding agreement.

"In April 2010, JBIC incorporated a new mission of 'preservation of the global environment' in its establishment law. Responding to international climate change policies including the COP discussions, this mission aims to promote actions for protecting the global environment such as preventing global warming. In order to perform this mission, JBIC started a new financing operation called Global action for Reconciling Economic growth and ENvironmental preservation (GREEN)."

Up to that time, JBIC had seen activities in fields that directly benefit the Japanese economy as its main missions, such as securing natural resources and maintaining and improving the international competitiveness of Japanese industries.

"I think that incorporation of 'preservation of the global environment' as one of four missions of JBIC was an important message to state JBIC's intention of contributing to achieving sustainable economic growth in alignment with global climate change."

The purpose of the GREEN operation is to provide loans and equity participations to projects that are expected to reduce GHG emissions, such as renewable energy, highly efficient power generation projects and deployment of energy-saving equipment. Under the GREEN operation, JBIC created its own methodologies called Guidelines for Measurement, Reporting and Verification of GHG Emission Reductions in JBIC's GREEN(J-MRV Guidelines), in consultation with environmental specialists including professors and experts specializing in climate mitigation projects."

Expanding finance in response to client needs: deployment of advanced environmental technology to the world

"Mobilizing finance to developing countries, which was agreed at COP15, was officially adopted at COP16 in Cancun in December 2010. After the adoption of the Cancun agreement, Multilateral Development Banks such as the World Bank started to ratchet up financing operations in the area of climate change. Just on the same time, JBIC commenced its GREEN operation, which was of great significance in spearheading global actions on climate change. After that, ahead of the adoption of the Paris Agreement in 2015, the Japanese government stated "Actions to Cool Earth 2.0(ACE2.0)" to provide public and private climate finance to developing countries amounting to JPY1,300 billion by 2020 which was increased by 1.3 times against the previous commitment. In line with the ACE2.0, JBIC promoted the GREEN operation than before. I think that Japanese companies have highly advanced low-carbon technology and operational knowledge such as geothermal power generation and energy-efficiency projects. JBIC proactively supports those Japanese companies in exporting energy-efficient equipment and participating operation and maintenance in environmental projects overseas through not only GREEN operation but also other financial tools. In addition to project financing to IPP projects, JBIC provides loans and equity participation to M&A deals by Japanese companies, while investing in equity funds for renewable energy, energy efficiency and environmental conservation."

Financing for global environmental projects contributes to achieving a global target of reducing GHG emissions as well as creates new business opportunities in a new market of environmental field amid the international trend of transition to a low-carbon society. In recent years, more diversified advanced technologies are utilized in various projects.

In 2018, JBIC launched its new Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth (QI-ESG) with extending the coverage of the GREEN operation to environmental projects other than GHG emission reduction, such as air pollution prevention, water supply, water pollution prevention and waste energy. In this QI-ESG, JBIC finances a wide array of infrastructure projects aiming for global environment preservation and so far, JBIC financed an offshore wind power generation project in the United Kingdom and a smart energy business (maintenance and upgrading of transmission and distribution networks) in Central America.

Harmonizing between economic growth and environmental preservation

JBIC's activities in the environmental field are not limited to supporting projects aiming for global environmental preservation. Since the mid-1980s, Organization for Economic Cooperation and Development (OECD) and United Nations Environment Programme (UNEP), have shown a growing interest in economic development as well as environmental and social considerations. They added an environmental assessment to evaluate the impact on both natural and social environments as a precondition for implementing a project. Under such circumstances, since the late 1980's, the Export-Import Bank of Japan (JEXIM), the predecessor of JBIC, had enhanced its system to assess if a project operator properly considered environmental and social impacts on the target project. In 1992, JEXIM

established the Global Environment Office inside Project and Corporate Analysis Department. In 1999, upon international trends in the environmental assessment, JEXIM created guidelines for environmental and social consideration, which became later the prototype for JBIC's current guidelines known as "JBIC Guidelines for Confirmation of Environmental and Social Considerations". In accordance to these guidelines, JBIC has strived to ensure that project operations generate no significant adverse effects to the lives of local residents and the natural environment such as ecosys-

"After establishing our environmental guidelines, we revise it as needed by considering international trends on environmental assessment. When revising our guidelines, we emphasize the outcomes of the discussions about environmental safeguard policy in OECD, while collecting a broad range of opinions and views through consultations with our stakeholders from various fields including business community, civil society and academia. All projects financed by JBIC are subject to its environmental guidelines. After screening projects into different categories according to level of impact on environment and society, we evaluate environmental and social aspects of each project based on the criteria in the guidelines . As for a project that is considered to have a significant impact on environment and society, we visit the project site along with specialists in the environmental and social field to gather information directly from relevant agencies of the government in the project's host country or talk to local residents living near the project site."

JBIC examines each project based on the real information obtained from the project site. Sato continued to say, "JBIC has emphasized an approach to carefully evaluate a project by following local laws and regulations, as well as the actual conditions of the project site, while communicating with various stakeholders of the project."

"Even if JBIC's project has a great significance to the development of the country, we must avoid the situation where the project has negative impacts on environment and society. It is a very difficult theme to balance between economic activities and environmental protection, but we will continue to play a role in connecting economic growth with environmental preservation through our careful coordination of opinions with stakeholders in the project site."



Special Feature Creating Harmony between Environment and Economic Society JBIC's projects are expanding into Indonesia, India and Thailand

JBIC is supporting Japanese companies in participating in environmental projects overseas by utilizing its various financial instruments. This section reports on JBIC's representative projects in both developed and developing countries.

Indonesia

Rantau Dedap Geothermal Power Project Providing a loan to a geothermal power project operated by Japanese companies

In Indonesia, electricity demand is surging on the back of stable economic growth. The Indonesian government promotes plan to increase its power generation capacity by 35 GW. In 2014, the government established a new legislation for geothermal power generation to utilize its rich geothermal resources.

In this project, PT Supreme Energy Rantau Dedap (SERD), an Indonesian company

invested in by Marubeni Corporation, Tohoku Electric Power Co., Ltd. and others, will build, own and operate a geothermal power plant with a gross capacity of 98.4 MW in the South Sumatra Province, Indonesia. The electricity generated from this plant will be sold to PT PLN (Persero), a state-owned power utility in Indonesia, for 30 years. Fuji Electric Co., Ltd. also participates in this project as one of the EPC (Engineering, Procurement and Construction) contractors. This is typical of an All-Japan effort to operate and manage a project overseas with advanced Japanese technology over a long period of time.

In March 2018, JBIC signed a loan



Geothermal power plant project in Indonesia

agreement in project financing totaling up to approximately USD188 million (JBIC portion) with SERD for this project. This is the third geothermal IPP (Independent Power Producer) project in Indonesia where JBIC

Muara Laboh geothermal power plant project.

provides project financing, following the

Sarulla geothermal power plant project and

United Kingdom

Moray East Offshore Wind Power Project **Supporting Japanese** companies participating in an offshore wind power project

In European countries, including the U.K., development of large-scale offshore wind farms is accelerating, and the competition for obtaining concessions is intensifying among a number of companies.

In this project, Moray Offshore Windfarm (East) Limited (MOWEL), invested in by Mitsubishi Corporation, Kansai Electric Power Co., Inc. and Mitsubishi UFJ Lease & Finance Company Limited and others, will build, own, and operate an offshore wind farm with the world's largest generation capacity of 950 MW. The wind farm will be built 22 km off the coast of Moray in Scotland. Under the

Contracts for Difference, a U.K. renewable energy subsidy scheme, MOWEL will sell electricity to power retailers for 15 years after the start of its commercial operations.

In November 2018, JBIC signed a loan agreement in project financing totaling up to approximately GBP743 million (JBIC portion) with MOWEL. This project financing is provided under JBIC's "Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth (QI-ESG)." Japanese companies' participation in this offshore wind power project in Europe, which is the most advanced market, will help more Japanese companies enter into a new market for wind power generation.

India

Solar Power Project Meeting increasing electricity demand in India through support for solar power

The Government of India aims to develop 100 GW solar power capacity by 2022 to secure stable power supply and diversify electricity power sources. On September 1, 2014, Japanese Prime Minister Abe and Indian Prime Minister Modi announced the "Japan-India Investment Promotion Partnership," in which Japan will provide JPY3.5 trillion of public and private financing to India over the next five years.

Under this project, SBG Cleantech ProjectCo Private Limited (SBG Cleantech), invested in by SoftBank Group Corp.(SBG), will build, own and operate a solar power generation plant with a total generation capacity of 350MW at the solar park to be built in Kurnool district, the state of Andhra Pradesh in the south of India. SBG Cleantech will sell the generated electricity to NTPC Limited, India's state-owned power generation company, for 25 years.

In September 2017, JBIC signed a loan agreement in project financing with SBG Cleantech for this project. This is the first overseas solar power project for SBG. In India, electricity demand is surging on the back of its rapid economic growth in recent years. JBIC's financial support will contribute not only to

maintaining and enhancing the international competitiveness of Japanese companies but also to reducing greenhouse gas (GHG) emissions in India.

Sweden

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Waste Treatment and Biogas Production Business **Contributing to reduction** of GHG emissions and establishment of a recyclingbased society

Hitachi Zosen Group is a leading company which boasts a world-class track record in a number of EPC (Engineering, Procurement, and Construction) orders for waste treatment and power generation plants. In this project, HZI Jönköping Biogas AB, a Swedish subsidiary of Hitachi Zosen Group will construct a waste treatment plant using methane fermentation technology (annual waste treatment capacity of 40,000 tons; annual biogas production capacity of 35,000 MWh) in the city of Jönköping, Sweden, and sell biogas for 20 years. The biogas sold by HZI Jönköping Biogas AB will be used as fuel for public transport in the city of Jönköping. This plant is expected to contribute to creating a recycling-based society for green mobility.

Hitachi Zosen Group regards this project as an important strategic milestone for further expansion in its overseas business. In March 2019, JBIC signed a loan agreement totaling up to approximately 120 million Swedish krona (JBIC portion) with HZI Jönköping Biogas AB. This loan is provided under JBIC's "Global Facility to Promote Quality Infrastructure In-





Waste treatment and power generation plant in Sweder

vestment for Environmental Preservation and Sustainable Growth (OI-ESG)."

Thailand

Manufacturing of Environmentally-conscious Materials

Utilizing Japanese technology to purify automobile exhaust qasses

In recent years, economic growth and population increases have driven rising automobile demand in Asian countries, particularly in China and the ASEAN region. In response to this growth, emission regulations have been tightened. Under such circumstances, an increase in demand is expected for the ceramics that purify harmful automobile emissions such as hydrocarbon (HC), carbon monoxide (CO), and nitrogen oxide (NOx).

NGK CERAMICS (THAILAND) CO., LTD. (ACTH), a Thai subsidiary of NGK IN-SULATORS, LTD., aims to expand its business in Asia by increasing its manufacturing capabilities for automobile exhaust purifying ceramics for large commercial vehicles. The new manufacturing facilities are to be built in Samut Prakarn Province, Thailand.

In November 2018, JBIC signed a loan agreement totaling up to approximately USD66 million (JBIC portion) with ACTH to support the expansion of their manufacturing capabilities. This loan is also provided under JBIC's "Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth (QI-ESG)."

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fying the reductions in GHG emissions from each project. All projects financed under the GREEN operation were required to measure, report and verify the reduced amount of GHG emissions. Under the QI-ESG facility, this quantitative measurement process is simplified

in order to further promote environmental projects. IBIC made 10 commitments totaling

USD2.9 billion under the QI-ESG facility during 9 months from July 2018 to the end of March 2019. The fields of the projects are wide-ranging, from renewable energy through to gas-fired power generation. Furthermore, the QI-ESG facility offered a loan to a waste treatment project, which is the sector where JBIC had never financed before under the GREEN operation.

"JBIC signed a loan agreement totaling up to 120 million Swedish krona for a waste treatment project. In this project, a Swedish subsidiary of Hitachi Zosen Corporation Group will construct a waste treatment plant using methane fermentation technology and sell biogas for 20 years (see page 5). There are many companies contacting us for more in-

JBIC Interview

Introducing the environmental technology of Japanese companies to developing countries

What is necessary for achieving the goal of the Paris Agreement? -The global roles played by Japanese companies in advanced environmental technology

- The Paris Agreement has set the target of keeping the average global temperature rise to below 2 degrees Celsius compared to the level before the Industrial Revolution. However, aren't there many challenges in balancing this with the economic development of developing countries?

Mr. Hombu: The 2 degrees Celsius target of the Paris Agreement is fairly ambitious. According to the forecast of the International Energy Agency (IEA), even if every country pursues their targets of reducing greenhouse gas (GHG) emissions that they submitted to the United Nations, the goal of 2 degrees is far from being achieved.

This situation tells us that we need to "do all we can do." It is important to take every possible measure to reduce carbon emissions and keep the temperature increases to below 2 degrees. These measures include the use of not only solar and wind resources but also other energy sources in the renewable sector, the introduction of a carbon dioxide capture and storage (CCS) technology and the continued use of nuclear energy.

- In what fields will Japanese companies capitalize on their strengths?

Mr. Hombu: When it comes to power generation, Japanese companies have a competitive edge in the geothermal, water and waste-to-energy power sector. Particularly, manufacturing of high corrosion resistant turbines for geothermal power generation is one of the areas where Japanese companies still have a significant competitive edge. Waste-to-energy power generation is a relatively new field in developing countries, but its demand is expected to rise in large cities

Special Feature Creating Harmony between Environment and Economic Society Launch of JBIC's global environment facility of "QI-ESG"

Feature

In July 2018, JBIC established its new facility of "QI-ESG" in order to support deployments of infrastructure that is expected to help protect the global environment. The accumulated amount of commitments under this facility is about USD2.9 billion as of the end of March 2019.

What is the role of JBIC's new facility of "QI-ESG"?

In July 2018, JBIC launched a new financing facility called "Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth (QI-ESG)." The Japanese government has promoted quality infrastructure investment since 2015 in collaboration with various governments and international organizations according to the initiative of "Partnership for Quality Infrastructure." QI-ESG was established against the backdrop of this initiative



Soichiro Morimoto **Deputy Director Operation Policy and Strategy Coordination** Division of Corporate Planning Department, Corporate Planning Group, JBIC (Then)

as well as the global trend of environmental, social and governance (ESG) investment.

Eligible projects under this facility include not only projects aimed at reducing greenhouse gases (GHG) emissions, but also those that are expected to help preserve the global environment.

Expanding support to water supply, water pollution prevention and waste treatment disposal

What are the features of this new facility? Soichiro Morimoto, then Deputy Director of the Operation Policy and Strategy Coordination Division of the Corporate Planning Department, who was engaged in launching this facility, explains, "We established a framework that allows us to provide a wide range of support to environmentally-friendly projects."

Under the GREEN operation launched in 2010 to perform its new mission of the global environmental preservation, JBIC has financed projects that are expected to help reduce GHG emissions. The range of projects that are eligible for the QI-ESG facility has expanded to projects that contribute to protecting environment, such as air pollution prevention projects, water supply, water pollution prevention and waste treatment, in addition to those for reducing GHG emissions." (Morim-

For example, in the mobility field, only inner-city railway projects were eligible for financing under the GREEN operation. However, the range of projects that are considered for financing under the QI-ESG facility was expanded to inter-cities railways such as highspeed railways contributing to urbanization and enhancement of transportation capabilities.

"Additionally, more diversified financial tools are available through the QI-ESG facility. Under the GREEN operation, financing was provided only in the form of the Untied Loan and the Equity Investment, but the Overseas Investment Loan (hereinafter referred as 'OIL') were added to the QI-ESG facility in addition to those financial instruments. Previously, IBIC made decisions on commitments to OIL based on the degree of involvement of Japanese companies in targeted projects. However, the new facility has enabled JBIC to provide OIL from the viewpoint of enhancing support for projects that help preserve global environment." (Morimoto)

Besides, JBIC reviewed its own guidelines called J-MRV Guidelines, which define the procedures for measuring, reporting and veri-

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formation about financing for environmental projects." (Morimoto)

Amid the global trend of ESG investment, establishing infrastructure using renewable energy sources that contributes to the protection of global environment is becoming increasingly important both in developed and developing countries.

"That is why we intend to provide extended support to Japanese companies which pursue new business opportunities in the environmental field, by utilizing our new facility of QI-ESG." (Morimoto)

Kazuhiko Hombu, Visiting Professor, the Graduate School of Public Policy, ersity of Tokyo as well as Managing Executive Officer of Taisei Corporation



in the ASEAN countries.

In developing countries, in the process of introducing renewable energy amid expanding electricity demand, the needs for natural gas power generation will increase further because power output from natural gas power plants can easily be controlled and GHG emissions can be curbed. On the other hand, countries that have difficulty obtaining natural gases may require high-efficiency coal-fired power generation. In that case, it is important to introduce power plants with as high efficiency as possible. In light of this, developed countries need to provide funds to those developing countries for introducing environmental technology that suits the actual situation of each country.

- What roles do you expect JBIC to play?

Mr. Hombu: To achieve the Paris Agreement, I expect JBIC to utilize its expanded global financing facility of QI-ESG aimed at encouraging Japanese companies with strengths in various fields to participate in environmental projects abroad. Environmental projects are long term and those in developing countries entail a country risk. It is JBIC's role to assume these risks and complement the private sector. Besides, there are some new environmental technologies that the private sector alone cannot support because it is difficult to evaluate the business feasibility due to a lack of track records of those technologies. I believe that JBIC is also expected to contribute to supporting the overseas deployment of environmental technologies to establish proven track records of those technologies and accelerating the spread of the technologies.

Our Global Challenges

A New Product that Captured the Needs in Thailand. **Uplifting Domestic Businesses through Reverse Imports** -DECSYS CORPORATION

DECSYS CORPORATION, a manufacturer of appearance inspection systems using advanced image processing technology, quickly expands into Thailand in anticipation of the local demand for automated inspection process.

Expecting growth in the auto & medical sectors!



Until now, appearance inspection of parts and materials that require high safety and reliability has been performed manually. This type of work requires advanced knowledge and experience, but staff performing inspection duties are aging. DECSYS CORPORATION found a business opportunity in this situation and developed a system to inspect stereoscopic objects using image processing technology.

Through the establishment of its local subsidiary in Thailand in 2017, the company quickly entered the local appearance inspection market, getting off to a good start in their overseas expansion.

Automation of Manual Appearance Inspection Led to Increased Sales

Established in 1998, DECSYS CORPO-RATION initially developed and sold devices specialized in appearance inspection for semiconductors and liquid crystals. Thereafter, the company shifted its focus to the highly competitive market of medical supplies such as medical containers, nozzles and syringes, which require more advanced technology for quality inspection. Currently, the appearance inspection devices for medical materials and pharmaceutical products account for 80% of total sales of the company, while the remainder of sales comes from those for precision components such as semiconductors, liquid crystals, as well as sensors of electric vehicles. Mr. Seki, the company's President & Representative Director, states the following:

"Our equipment is intended to be used for inspecting objects requiring manual inspection. Appearance inspection needs advanced knowl-

Tadao Seki

President & Representative Director DECSYS CORPORATION

edge of detecting minor scratches and dents on inspected objects, while it usually takes many years to acquire such knowhow. Because of this, errors and omissions can happen during the inspection process, depending on the person's knowledge and experience. Moreover, inspection staff are aging in many companies and labor shortages are becoming a problem. That's why automated inspection systems utilizing image processing technology are needed."

The company eventually established a structure to develop a set of appearance inspection systems. The company is the only manufacturer in Japan that makes appearance inspection devices combining image processing technology.

Usual appearance inspection process requires pre- and post- processes in which the inspected objects are aligned to be fed into the inspection station and taken out of it after the inspection and packaged in boxes for shipment. In 2017, the company developed a humanoid appearance inspection robot called "Gaikan Kenta Kun" which automatically completes all of these steps, and surprised the whole industry. Having two arms, the robot automatically identifies and picks up objects for inspection and can even perform simple tasks such as assembly of parts and materials after the inspection. For this reason, it can be integrated into the whole production process, as well as used for specific process which may require inspection by human hand.

In July 2017 when "Gaikan Kenta Kun" was launched, the company established its local subsidiary, DECSYS (THAILAND) CO., LTD. (DTCL) in Bangkok, Thailand.

Focusing on Needs for Automated Production in Thailand

"It was important to expand overseas to sustain stable business management. We had already



Southeast Asia, we decided that it's best to enter

tion by hand was still the most common method

for inspection and it was difficult that a fully-au-

tomated system was adopted. That has led the

company to develop a semi-automated inspec-

tion device in Thailand that needs inspection

staff only when the inspected objects are placed

who was involved in the launch of DTCL, says:

ated easily by anyone because it simply requires

inspection staff to feed and take the inspected

object into and out of the device by hand. We'd

first like our clients to introduce this device into

their production process and consider adopting a

profit from the first year thanks to demand for

appearance inspection for parts used in smart-

phones. The semi-automated devices have also

primarily because DTCL were able to hold down

their initial investment according to their busi-

ness strategy of: entrusting production of devices

to a Thai factory of Japanese companies which

are shareholders of DECSYS as well as its alliance

partner; and outsourcing sales and distribution of

the inspection devices to Japanese trading firms.

Japan, we cooperate with domestic partner com-

panies for production of our products. Moreover

we have many partners for sales and develop-

ment. The concept of our business strategy is not

simply focused on outsourcing of production and

sales, but more on creating mutual business ben-

efits for us and our business partners. We wanted

to implement this alliance strategy in Thailand as

DTCL has highly-skillful engineers transferred

Positioned as a technical support base,

well," says Mr. Seki.

"Emphasizing the alliance strategy also in

DTCL is making stable profits and this is

DTCL had a strong start and even made a

fully-automated device in the future."

been re-imported for sales in Japan.

Mr. Yasuo Sugai, the president of DTCL,

"Our semi-automated devices can be oper-

in and out of an inspection station.

However, in Thailand, appearance inspec-

the Thai market," says Mr. Seki,

oting products at an exhibition

exported our products to overseas subsidiaries/ affiliates of Japanese companies and were aware bers and three technicians. of increased needs of automation in their production bases. After researching about China and

styles."

financing bank.

In Thailand, labor costs are rising while the productive-age population is aging and decreasing. Due to this, the Thai government is also promoting the automated production process. With the rising hopes for the progress in automation in production process, DECSYS sees the future as follows: "We expect our technology to spread into the sectors of automobile and medical materials. As inspection for parts and materials particularly exported to Japan is strict, automated inspection devices for such products should be widely adopted in Thailand."

DECSYS CORPORATION Established 1998 Total capital JPY 100 million

Relation with JBIC local currency.

With a local subsidiary staff member in Thailand who is

from Japan and hired two local office staff mem-

"In fact, we are also training two Thai engineers at our Tendo office in Yamagata Prefecture, where one is learning about image processing, and the other about device designing. We plan to train them for two to three years and eventually have them return to Thailand," says Mr. Sugai. As for the local office management, he further explains, "we try to manage the local staff by examining the relationships between the members, as Thai people tend to place value on vertical social relationships in terms of communication

Part of the long-term funds required for this Thai business was provided by JBIC in collaboration with Chiba Bank, which is their main

"In addition to a long-term loan in Thai baht, JBIC has been helpful in providing us overseas information. They also supported us in finding potential clients and business partners through business matching events. We are sincerely grateful for their service," says Mr. Sugai.

Expanding our presence in the domestic market through our foray into **Thailand!**





Top: A humanoid appearance inspection robot called "Gaikar Kenta Kun" that performs fully-automated inspection. Bottom: A semi-automated inspection device developed to meet the needs of Thailand.

Corporate Data

Business Manufacturing and sales of inspection systems such as visual inspection based on advanced image processing technology

Headquarters 2-1-34 Honcho, Funabashi-city, Chiba

Has obtained funding from JBIC for the development and sales of image processing equipment and visual inspection equipment carried out by DECSYS (THAILAND) CO., LTD. in the form of a cross-border loan in the

Latest Report From Young Staffs Project From Frontine

JBIC is working on various projects around the world. Young staffs report on the significance of the latest projects and the role of JBIC.

Supporting production of rare mineral resource in collaboration between public and private sectors



A zirconium compound manufacturing plant to be built in Vietnam

ne of the mineral resources strategically focused by the Japanese government is zirconium. This is an important resource used as a raw material for various industrial products including emissions purification catalysts for automobiles and other electronic materials. After repeated research and development of zirconium compounds, Daiichi Kigenso Kagaku Kogyo Co., Ltd. (DKKK) established their own methods to refine and produce zirconium compounds. With their technological capabilities, DKKK is acknowledged as one of the largest producers in the global zirconium compounds market.

In order to manufacture zirconium compounds, it is required to procure zirconium oxychloride (ZOC), the raw material used for production of the compounds, from overseas. As Japan imports almost all of its ZOC from China, DKKK needed to diversify their supply sources in order to secure long-term and stable supply of ZOC.

Therefore, DKKK established the Vietnam Rare Elements Chemical high degree of certainty obtained through close communication Joint Stock Company (VREC) in Vietnam to procure the raw ore (zirwith the Vietnamese government is indispensable for addressing con sand) from local suppliers and produce ZOC. Since then, VREC those issues. I recognized that JBIC's strength lies in the network of has continued to manufacture ZOC in its pilot plant with production contacts that has been developed through number of projects we capacity of 2,000 ton per year. DKKK has recently decided to expand have accomplished in Vietnam and maintained by its representative their production capacity and JBIC received a request for funding up office in Hanoi over years. I also realized that JBIC needed to tackle to JPY500 million equivalent from DKKK. those challenges which VREC and DKKK facing by means of equity We considered how we can support DKKK's business in Vietnam participation, not loans, because acquiring shares allows JBIC to be and what is the value that can only be offered by JBIC for this middirectly involved in this project as one of the stakeholders. This is the sized but well established global company. Financing in the form of value that can only be offered by JBIC. I am delighted that we were equity participation was one of the solutions we come up with. able to meet our client's needs and help to secure important natural We've frequently visited DKKK's head office in Osaka to explain resources for Japan. the functions of JBIC. Through a number of discussions with them, profile we came to realize that they were facing some issues in starting Shohei Koike business Vietnam. In Vietnam, there are cases where it may take

years to go through necessary government procedures due to sudden changes in laws and regulations, as well as uncertainty in guidelines of implementation of such laws and regulations. Environmental considerations are also needed for disposing the waste generated during the production process of ZOC. Information with

Loan to the government of Uzbekistan



Tashkent, the canital of Uzbekistan. A tower in the middle of the photo is Tashkent Tower which is used as a radio and TV tower

The cityscane of

he government of Uzbekistan promotes high-speed, high-capacity telecommunications networks by upgrading the backbone telecommunications system, in response to the progress of information technology and the growing popularity of smartphones. As part of this initiative, Uzbekistan's state-owned communications company, Uzbektelecom JSC, has decided to purchase from Toyota Tsusho Corporation a complete backbone telecommunication network system manufactured by NEC Corporation etc. The government of Uzbekistan plans to upgrade the system to achieve a communication speed that is 20 times higher than current levels.

In March 2019, JBIC decided to finance a state-owned bank, the National Bank for Foreign Economic Activity of the Republic of Uzbekistan (NBU), in co-financing with Sumitomo Mitsui Banking Corporation

Having received ODA loans from the Japanese government for more than 20 years to develop its communications network

system, Uzbekistan is one of the countries that have deep ties with Japan. This is the first loan that JBIC has provided to Uzbekistan since President Mirziyoyev took office in December 2016. With the appointment of the new president, personnel of government agencies, as well as various application and approval procedures taken by the government significantly changed. Business negotiations that were in progress, including those for loan agreements, were also reviewed again. These factors significantly impacted the progress of the project. Under such circumstances, we pushed the negotiations on loan forward step by step through a direct dialogue with the government of Uzbekistan that we had reached by utilizing JBIC's network of contacts. Once the loan agreement was concluded, we felt that all of our efforts were rewarded.

Signing of the loan agreement has led to the deepening of economic cooperation between Japan and Uzbekistan which went through administrative reform under the leadership of President Mirziyoyev. I feel that this loan is of great significance in encouraging Japanese companies to expand overseas business and I achieve a sense of accomplishment after all my efforts to complete the loan agreement



Yu Sasaki Division 3. Oil and Gas Finance Department Energy and Natural Resources Finance Group

"It was hard to negotiate with a country that has a different anguage and cultural background, but I realized how important it is to negotiate by trying to understand the other party's pint of view.

Strengthen the relationships with national oil companies in Malaysia and Saudi Arabia

Petrochemical industry is one of the leading industries in Malay-sia and contributes to increase the added value of the oil and gas it produces. As part of this effort, Pengerang Refining Company Sdn. Bhd. (PRC) of Malaysia, which is indirectly invested in, via wholly owned subsidiaries, by Petroliam Nasional Berhad (PETRONAS), the state-owned petroleum company of Malaysia, and Saudi Arabian Oil Company (Saudi Aramco), the state-owned national oil company of Saudi Arabia, launched a Refinery and Petrochemical Integrated Development (RAPID) project in the state of Johor in Malaysia. RAP-ID will be the largest complex of its type in Malaysia and will house a refinery with a daily refining capacity of 300,000 barrels and also ethylene, propylene and other petrochemical plants (total annual output of 3.3 million tons). This project is a national project for Malaysia and is expected to play a major role in implementing the 11th Malaysia Plan. The project is also of great strategic importance to Saudi Arabia's Vision 2030 and Saudi Aramco's long-term strategy of increasing its global refining and petrochemicals footprint, including in Asia.

In April 2019, JBIC signed a project finance-based buyer's credit (export finance) agreement totaling up to USD 900 million (JBIC's portion) with Pengerang Refining Company Sdn. Bhd. (PRC) of Malaysia. The loan will be used to purchase a steam cracker facility from Toyo Engineering Corporation.

While attending several face to face meetings held in Kuala Lumpur, Singapore, London and Tokyo, we also visited the head offices of PETRONAS, Saudi Aramco and Toyo Engineering Corporation as well as the project site. Through these onsite meetings, we made efforts to deepen our understanding of the project and technology



Deputy Director Division 1 & 2 Equity Investment Department Fouity Finance Group

'I was able to re-acknowledge that there are certain insights that you begin to see and recognize after working closely with r clients



BAPID site in the state of John Malavsia

so that we could smoothly make financing arrangements in coop eration with the other export credit agencies. As a consequence, by gaining the trust of the related parties, the other agencies generally supported JBIC's position even when we had to make a difficult decision or request.

A major success we achieved through this project financing is that we have not only supported Japanese companies to strengthen their competitiveness in the global market but also strengthened trusting relationships with Malaysia and Saudi Arabia as well as PETRONAS and Saudi Aramco through supporting a project in line with the economic and industrial policies of the governments of both countries.

profile



Daisuke Ito

Deputy Directors Division 2, Corporate Finance Department Industry Finance Group

"To make a good precedent for the future, I stood strong at the forefront of negotiations to make it happen.



Kyohei Iwaori (then)



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