

INTERVIEW

Loan for Japanese Company Manufacturing Solar Panel Sheet Glass in the U.S. and Vietnam

Supporting Construction/Renovation of Glass Manufacturing Plants

Interview with Deputy Director UTSUNOMIYA Toshio and TAMIYA Shintaro Division 1, Corporate Finance Department, Industry Finance Group

The Japan Bank for International Cooperation (JBIC) signed in August 2019 loan agreements with NSG Glass North America, Inc. (NSG GNA), a U.S. subsidiary of Nippon Sheet Glass Company, Ltd. (NSG) and NSG Vietnam Glass Industries, Ltd. (VGI), a Vietnamese subsidiary of NSG, respectively. These loans were provided as part of JBIC's Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth (QI-ESG)*. These loans were co-financed with Sumitomo Mitsui Banking Corporation, Sumitomo Mitsui Trust Bank, Ltd., and Mizuho Bank, Ltd, bringing the total co-financing amount to USD298 million. The funds will be used to construct a new factory for NSG GNA in Ohio, the U.S., to manufacture solar panel sheet glass and also to renovate the existing manufacturing facility of VGI in Ba Ria-Vung Tau Province, Vietnam.

Providing Loan to Support Renewable Energy-Related Business

The use of renewable energy, such as solar and wind power, is expanding worldwide. With Chinese companies dominating the solar panel market, First Solar, Inc., is the only U.S. company to maintain a large market share. NSG has a long-term supply contract with First Solar for transparent conductive oxide (TCO) glass, which is the basic component of high-performance solar modules. NSG aims to establish a supply system of TCO glass in response to increased production of high-performance solar modules by First Solar, by making a new capital investment in NSG's manufacturing bases in the U.S. and Vietnam.

Solar modules are usually made of crystalline silicon, but this material has the downside of reduced efficiency in energy conversion under high temperatures. On the other hand, the thin-film solar modules manufactured by First Solar are characterized by resistance against changes in weather, low manufacturing costs, and stable output of electricity. NSG's TCO glass is essential for First Solar in manufacturing its thin-film solar modules. NSG has decided to establish a new production facility in the U.S. and to expand the existing production facilities in Vietnam due to increased production of high-performance modules by First Solar. Under such circumstances, JBIC received a loan request from NSG in the summer of 2018.

Utsunomiya explained the details of this loan as follows: "The loan was provided under competitive conditions through JBIC's global facility for QI-ESG, which supports projects to protect the global environment. In particular, the loan to NSG GNA in the U.S. was offered under the category of JBIC's Overseas Investment Loan, in which projects for renewable energy power generation business in developed countries are also eligible. As it was difficult for private financial institutions alone to make a long-term, large-scale loan to NSG's subsidiaries, JBIC decided to finance this business in collaboration with those private financial institutions from the perspective of its role in sharing risks associated with businesses that require large loans."

Solving Issues Quickly to Reach Loan Agreement Earlier

JBIC started full-scale loan negotiations with NSG around the end of 2018.

Utsunomiya said, "We started by researching the current situation of the glass industry, because it had been a long time since our last financing in the industry, including NSG. Thereafter, we examined and verified various aspects of their business, ranging from the technological advantages of their TCO glass to the business management strategies of First Solar, which will be their business partner."

Tamiya looked back on the negotiations: "We kept the speed of the negotiations in mind. As this industry is rapidly changing, we were required to solve various issues quickly. We visited NSG's Maizuru Plant in the beginning of March 2019 to observe the manufacturing process of sheet glass. This was our first time to look at the manufacturing process of sheet glass and high-performance glass. It presented us with a great opportunity to learn about the manufacturing processes and their technology, which we would otherwise only know about through documents. At the same time, we felt their enthusiasm for their business in the United States and Vietnam. This experience provided clues to resolve the issues we were facing, and further boosted the momentum for reaching a loan agreement."

Contributing to Strategic Business of NSG

Tamiya expressed his aspiration: "This is the first transaction I was involved in after I was assigned to the Industry Finance Group. I was in charge of the entire transaction process, starting from the initial phase of project development, through negotiations, and finally to the disbursement procedures. This allowed me to build a strong foundation for my future career. I would like to work on various business based on the experience I have gained through this transaction with NSG."

Utsunomiya finished this interview with the following comment. "Amid the trend of environmental, social and governance (ESG) investments, these loans have great significance in helping to protect the global environment. As part of their business strategy, NSG is strengthening the development and sales of value-added products such as TCO glass. I feel extremely honored to support one of their enhanced businesses."

*Note: [See Announcement on June 28, 2018.](#)

