

# INTERVIEW

## Project Financing for Geothermal Power Generation and District Heat Supply Project in Germany

### Supporting World's First Commercial Plant of Closed Loop Geothermal Technology

Interview with Director HIGASHIDA Yohei and OKANO Ena,  
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Image after completion  
Source: Website of Chubu Electric  
Power Co., Inc.

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The Japan Bank for International Cooperation (JBIC) signed in April 2024 a loan agreement in project financing (PF) amounting to up to approximately EUR43 million (JBIC portion) with Eavor Erdwärme Geretsried GmbH (Eavor Geretsried) in Germany, which is invested in by Chubu Electric Power Company, Incorporated (CHUBU), for a geothermal power generation and district heat supply project in Bavaria. The loan is co-financed with the European Investment Bank (EIB), Mizuho Bank, Ltd., and ING Bank N.V., bringing the total co-financing amount to approximately EUR131 million. Nippon Export and Investment Insurance (NEXI) will provide the insurance for the loan by the private financial institutions.

### World's First Commercial Plant Using Closed Loop Geothermal Technology

In this project, Eavor Geretsried will build, own, and operate a plant for geothermal power generation and district heat supply with a total generation capacity of approximately 8.2 MW (a thermal output of approximately 64 MW) in the site located 30 kilometers south of Munich. It is the first project to commercialize closed loop geothermal technology in the world. The technology was developed by Eavor Technologies Inc. (Eavor) of Canada. By drilling closed loops several thousand meters underground and circulating water through them, it efficiently extracts underground heat for electrical power generation and district heating. This innovation attracts attention as a game changer in the geothermal industry. Unlike conventional technologies that rely on hot water or steam recovered from underground, it enables power development even in areas where these resources are insufficient.

After the successful demonstration at a plant in Canada, Eavor established Eavor Geretsried to launch the world's first commercial plant using this technology in Germany. CHUBU, which recognized this technology early on, has invested in Eavor and also holds approximately a 40% stake in Eavor Geretsried.

### First PF for JBIC to Assume Technology Risks through Special Operations Account

"Eavor is a start-up established in 2017, and this is the world's first commercial project using their technology. In considering the financing for this project, the key point was risk assessment, particularly regarding whether the plant could secure output and heat supply as planned and operate stably over the long term. When I first visited the site in the fall of 2023, I felt the passion of everyone involved to make this pioneering plant a success. It motivated us to do our best for the clients," OKANO recalls.

"The EU Innovation Fund also has decided to support the technology, because it will significantly reduce greenhouse gas emissions during operation, and the project will contribute to the stable supply of renewable energy-derived power and heat in Europe. The German government also has high expectations for this technology, as it promotes policies to increase the proportion of renewable energy in electricity and heating. This technology is also aligned with a goal of the Strategic Energy Plan announced by the Japanese government in October 2021: the development of innovative new technologies in order to achieve a drastic expansion in the introduction of geothermal power generation. As part of our efforts to support Japanese companies, we examined the project from a comprehensive perspective. This marked our first PF project to take on technology risks through the Special

Operations Account with enhanced risk-taking capabilities," HIGASHIDA looks back on that time.

The full-scale negotiation started in December 2023. "As a start-up, Eavor Geretsried was able to make decisions quickly. Therefore, we prioritized responding promptly as one team," says OKANO.

In February 2024, JBIC had high-level meetings with the project sponsors and the co-financing partner EIB. They agreed to support Eavor Geretsried by sharing the risks for the commercialization of the innovative technology.

Thus, JBIC reached the contract signing in April. The drilling of the first loop started in July 2023, with all four planned loops set to be completed by 2026.

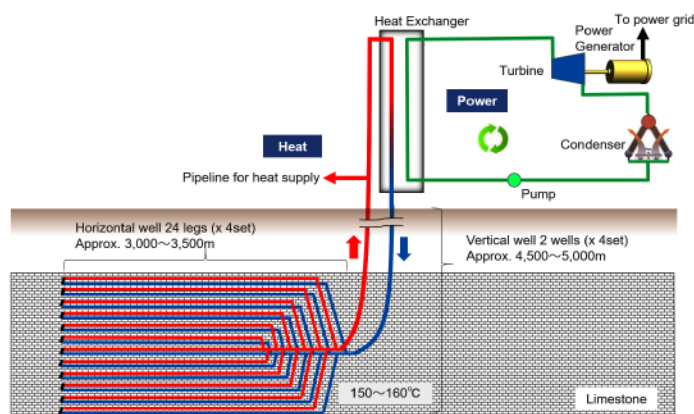
### Leveraging This Achievement to Support Overseas Geothermal Business of Japanese Companies

Japan, which has many volcanic zones, ranks third in the world in geothermal resource potential, following the U.S. and Indonesia; however, it only ranks tenth in terms of geothermal power generation capacity.

"This is due to strict limitations, such as the scarcity of regions where hot water and high-temperature steam can be obtained and the need to coordinate with hot spring operators. However, closed-loop geothermal technology does not create conflict with hot spring operators, because it only requires high-temperature bedrock and does not involve the extraction of hot water." Moreover, it can be applied even in suburban areas, making it possible to supply heat for residential heating and other uses. CHUBU is considering leveraging the know-how gained this project for development projects overseas as well as within Japan. We would like to support projects that lead to the creation of new businesses for Japanese companies, based on the achievements of this PF through the Special Operations Account," HIGASHIDA talks about the future initiatives.

OKANO expressed her aspirations: "We believe that similar projects are possible in countries around the world, including not only Europe but also Asian countries like Indonesia and the Philippines, which have geothermal resources. By using the expertise obtained from this project structuring, we will support Japanese companies expanding into new territories with innovative technologies."

Technical Diagram of Closed Loop Geothermal Technology



Source: Website of Chubu Electric Power Co., Inc.