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Press Release

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Chugai Ro to Take Part in NEDO's Green Innovation Fund Project for the Decarbonization of Thermal Processes in Manufacturing

Chugai Ro announced today that it has been selected by the New Energy and Industrial Technology Development Organization (NEDO) to take part in its Green Innovation Fund Project for the Decarbonization of Thermal Processes in Manufacturing. NEDO has recently announced that the project will be carried out by a consortium consisting of eight private companies, including Chugai Ro, and one Collaborative Innovation Partnership.

1. Overview of the Project

About 30% of Japan's industrial CO₂ emissions come from the manufacturing industry. Industrial furnaces used in thermal processes to heat metals, in particular, account for a large proportion of CO₂ emissions, creating a pressing need to decarbonize thermal processes in the manufacturing sector. There are two types of industrial furnaces, combustion furnaces and electric furnaces. Combustion furnaces will require technologies designed to solve issues associated with using alternative fuels, such as ammonia and hydrogen, to make them CO₂ emission-free. On the other hand, electric furnaces already offer the advantage of being free of CO₂ emissions. However, replacing combustion furnaces with electric furnaces involves jumping some hurdles, including special contracts for the delivery of high-voltage electric power and the installation of power receiving equipment. That's why it's vital to develop an option for using combustion furnaces while developing more compact and energy-saving electric furnaces.

Working against this backdrop, NEDO looked for organizations to participate in its project for decarbonizing thermal processes in manufacturing in accordance with the Ministry of Economy, Trade and Industry's R&D and Social Implementation Plan and selected the Decarbonized Industrial Thermo-System Center (DITS), a consortium of which Chugai Ro is a member.

2. About the Decarbonized Industrial Thermo-System Center (DITS)

The DITS is composed of one incorporated administrative agency, 12 national university corporations, one incorporated educational institution, and 19 companies. Of the total project cost, NEDO will provide the DITS with a subsidy to cover expenses related to the development of base technology (July 2023 to March 2025). The DITS will work with member universities and Chugai Ro equipment users to facilitate the development of technologies for the medium-scale demonstration test and evaluation stage.

3. About the Green Innovation Fund Project for the Decarbonization of Thermal Processes in Manufacturing

Aiming to achieve carbon neutrality by 2050 while working with a view to establishing a supply base for zero-emission fuels in the future, the project will focus on the following areas with an eye to developing technologies for ammonia- or hydrogen-fueled combustion furnaces. The plan is to minimize the power receiving capacity of electric furnaces as well as increase their efficiency, which is essential for making the transition from combustion to electric furnaces.

Project title: Green Innovation Fund Project/Decarbonization of Thermal Processes in Manufacturing

Budget: 30.41 billion yen (to be provided by NEDO)

Scheduled project period: FY 2023 to FY 2031

Focus areas:

- [1] Developing common base technology for carbon-neutral industrial furnaces
- [2] Establishing ammonia combustion industrial furnace technology for handling metal products
- [3] Establishing hydrogen combustion industrial furnace technology for handling metal products
- [4] Establishing technology to reduce the capacity of power receiving equipment for electric furnaces and increase efficiency

*For further details, see the documents and attachments posted on the NEDO website.

https://www.nedo.go.jp/news/press/AA5_101678.html