



January 13, 2022

Announcement of adoption as contractor for NEDO-commissioned project to develop technology for using ammonia as fuel for industrial furnaces

Taiyo Nippon Sanso Corporation (“TNSC”, President: Kenji Nagata) hereby announces that it has been adopted as the contractor for a project commissioned by the New Energy and Industrial Technology Development Organization (NEDO) for development of fuel ammonia use and production technology/development of ammonia combustion technology for industrial furnaces.

1. Overview of the NEDO project (extracted from NEDO’s official announcement)

Name	Development of fuel ammonia use and production technology/development of ammonia combustion technology for industrial furnaces
Work overview	Develop ammonia combustion technology for industrial furnaces, where technology for using fuel ammonia has not yet been established, and contribute to decarbonization in the industrial sector.
Organizations involved in project	TNSC, AGC Inc., National Institute of Advanced Industrial Science and Technology, Tohoku University
Project duration	Fiscal 2021 to fiscal 2025 (five years)

2. Background

TNSC took part in Strategic Innovation Promotion Program (SIP) Energy Carriers from 2014 to 2019 to develop the direct ammonia combustion technology in industrial furnaces. To resolve the technological issue of using ammonia as a fuel for industrial furnaces, TNSC developed a technology to strengthen the radiative heat transfer from flames and to suppress NOx generation for mixed natural gas-ammonia combustion.

Using a 10 kW model combustion furnace, technological development established a method to strengthen radiative heat transfer from flames and suppress NOx generation through a combination of oxygen-enriched combustion, which raises oxygen concentration in the air, and natural gas-ammonia mixed fuel, thereby achieving environmental regulation values for heating furnaces, which are general industrial furnaces.

TNSC has a history of more than 50 years of oxygen combustion technological development.

TNSC has a track record of installations for various industrial furnaces within and outside of Japan up until now, including oxygen burners for glass melting furnaces, and will move forward on development of ammonia-oxygen combustion/ oxygen-enriched combustion technology for fuel ammonia in industrial furnaces for this commissioned project.

Taiyo Nippon Sanso Corporation

Tnsc.Info@tn-sanso.co.jp