



Note: The following is an English translation of the Japanese-language original

March 26, 2021
Japan Petroleum Exploration Co., Ltd.
Deloitte Tohmatsu Group

**Start of a Feasibility Study on a Carbon Recycling Project
with the Sector-Coupling in Tomakomai**

Japan Petroleum Exploration Co., Ltd. (JAPEX), together with Deloitte Tohmatsu Consulting LLC (hereinafter “Deloitte Tohmatsu,” a member of the Deloitte Tohmatsu Group), was entrusted a feasibility study of the carbon recycling project with the sector-coupling in Tomakomai and began the study in March 2021. This study has entrusted to JAPEX and Deloitte Tohmatsu by the New Energy and Industrial Technology Development Organization (NEDO), as a part of the public offering of the Feasibility Study on Carbon Recycling Business Utilizing Inter-industrial Collaboration in Complexes, etc.

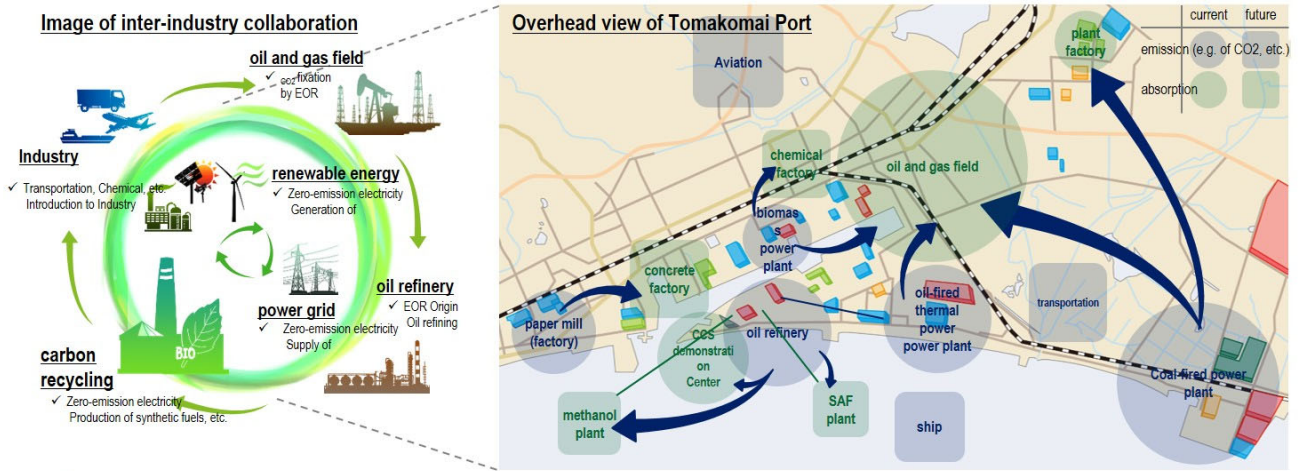
The Ministry of Economy, Trade and Industry (METI), has formulated the "Carbon Recycling Technology Roadmap" in June 2019, and it has showed the direction to promote research, development, and social implementation of "carbon recycling", as one of the promising technologies to reduce CO₂ emissions into the atmosphere by considering CO₂ as a resource, separating and capturing it, and reusing it as a material or fuel. In this roadmap, “sector coupling,” meaning the cross-industry collaboration, is mentioned as an initiative targeting 2030.

For spreading the technologies of carbon recycling, the efficiency and cost reduction of each technology and manufacturing process are required, and it is also essential to improve the environment for cross-industry collaboration, particularly in the utilization of carbon recycling technology at refineries. NEDO's "Feasibility Study on Carbon Recycling Business Utilizing Inter-industrial Collaboration in Complexes, etc." is one of the feasibility studies to realize of carbon recycling to reduce CO₂ significantly for the cross-industry collaboration, by the survey of the current status in view of energy balance, as well as capture, and reuse of CO₂ in each industrial plant based on their specified.

This project aims to form a cross-industry collaborated consortium of carbon recycling business to realize zero emission in the whole city based on Tomakomai City and Tomakomai Port. Tomakomai area has oil and gas fields, refineries, thermal power generation plants, airports, and manufacturing industries, and it is the only port in Japan which is gathered the key factors of value chains related to CO₂ emissions, recovery and utilization including the biomass industry and the Tomakomai CCS Demonstration Center . The project will analyze the balance of energy and materials, such as electricity, heat and CO₂ in the Tomakomai area and will consider to create a carbon recycling business by cross-industry collaboration.

JAPEX and Deloitte Tohmatsu aim to contribute to a sustainable decarbonized society by realizing a carbon recycling business by the cross-industry collaboration in Tomakomai area while considering the opinions of Tomakomai City, local industries, and related organizations, as well as the government policies.

[Reference Chart]



[Outline]
 This project targets the port of Tomakomai in Hokkaido, and conducts a survey on the current the balance of energy and materials, such as electricity, heat and CO2 in the Tomakomai area, aiming to make future scenarios of carbon recycling businesses for the emissions in the whole city with the cross-industry collaboration.

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