

TAIYO OIL

Taiyo Oil - ETJ SAF Project

Honeywell SAF Conference

28th May 2025

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General Manager, New Business Development Department &
Corporate Planning Department



Energy for
this planet
and its people.



Agenda

1. Taiyo Oil Corporate Introduction

- Brief Overview of Taiyo Oil

2. Taiyo Oil ETJ SAF Project - Okinawa

- Why SAF?
- Location – Okinawa
- Technology Selection
- Supply Chain
- Current Status and Timeline

TAIYO OIL

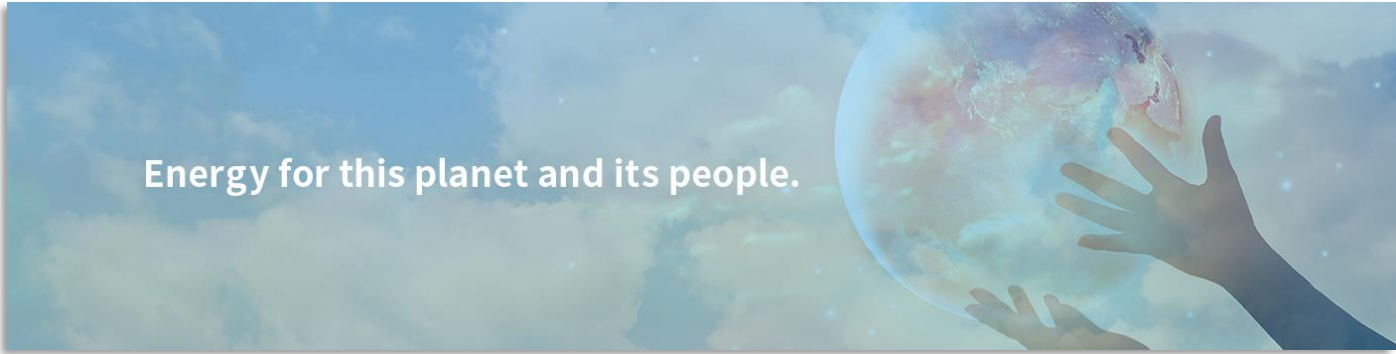


Company Overview



Company Name	Taiyo Oil Company Limited
President & CEO	Takahiro Yamamoto
Number of Employees	818
Capital	100 million JPY
Established	February 27 th 1941

Current as of March 2025



Business Lines	1. Import, export, refining and marketing of petroleum products 2. Manufacturing, processing and sales of petrochemical-based products, including benzene and xylene.
Major Clients Include	Saudi Aramco, Petronas, Brunei Shell Petroleum, Japan Petroleum Exploration Co. Ltd, INPEX Corporation, Kanematsu Corporation, Hanwa Co., Ltd, Mitsui & Co., Ltd, Mitsubishi Corporation, Lotte Chemical Corporation, Tosoh Corporation, Sumitomo Chemical Co., Ltd
Major Banks	Development Bank of Japan, Sumitomo Mitsui Banking Corporation, Mizuho Bank, Ltd., MUFG Bank, Ltd., Mizuho Trust & Banking Co. Ltd., The Mitsui Sumitomo Trust and Banking Co., Ltd.

1908 Meiji 41

September
The late Shigekichi Aoki, the founder, established Aoki Sekiyu in Takaoka Town, Kochi Prefecture (currently Tosa city).

1941 Showa 16

February
The refinery sections of Aoki Sekiyu, Mikado Seiyu, and Matsuoka Sekiyu were integrated into Taiyo Oil Co., Ltd. The head office was established in Mita-toyooka, Shiba-ku, Tokyo. Capital of JPY 1 million.

2024 Reiwa 6

April
Takahiro Yamamoto became the sixth president.

December
The capital reduction to JPY 100 million.

December
Merged with Nansei Sekiyu K.K. and opened Okinawa Operations



Taiyo Oil Head Office has been based in the Hibiya International Building since 1981

Company Overview

Imports



We mainly import environmentally friendly low-sulfur crude oil.

Refining and Manufacturing



High-quality, environmentally friendly products

Supply

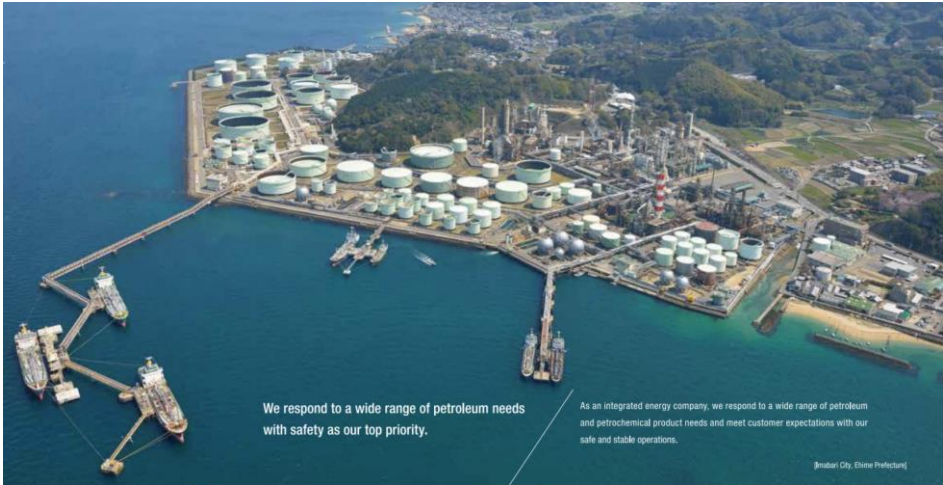


Our mission is to provide a safe and stable supply.

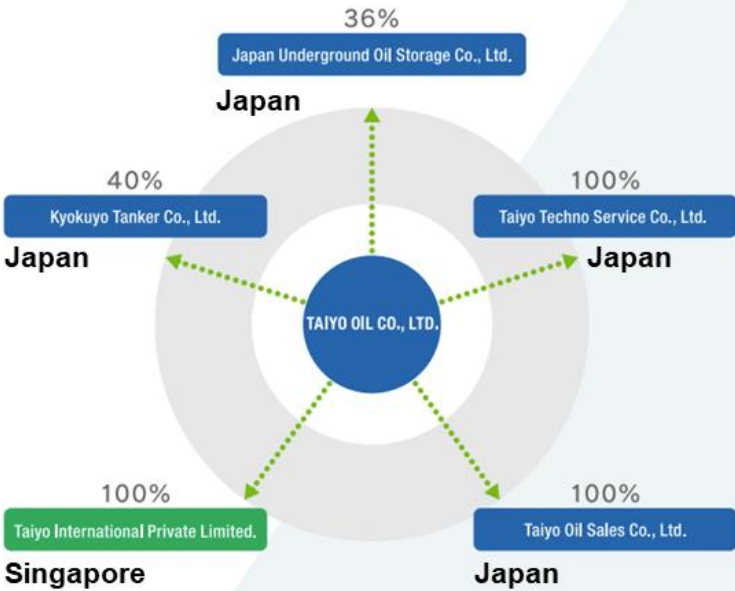
Sales



We provide high-quality services.



Investment Stake in Affiliated Companies



- Japan Underground Oil Storage – Operation and maintenance of underground stockpiling bases on consignment contract
- Kyokuyo Tanker Co., Ltd. – Marine Transportation
- Taiyo Oil Sales Co. Ltd. – Sales of petroleum products, maintenance of automobiles, damage insurance sales business
- Taiyo Techno Services Co. Ltd – Land and sea transportation, receiving and delivering of oil
- Taiyo International Private Limited. – Sales and import / export of crude oil and petroleum products

10 Locations in Japan

● Main Office ● Production Facility ● Branch Office

Company Overview – Car Life Support



Services Include

Fuel, Car Services, Car Wash, Tire Sales, Oil Changes, Car Rental, EV Charging



Solato Oil Series

Own range of eco-friendly motor oil



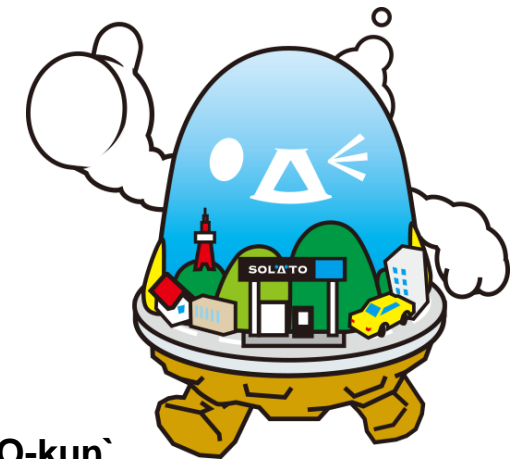
SOLATO Service Stations

- Over 300 locations in Japan
- 2 EV Charging Stations



Cards

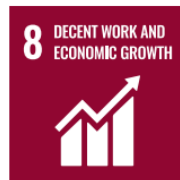
SOLATO has partnered with several major cards providers



‘SOLATO-kun’

Company Overview – ESG·SDG's & Net Zero Targets

< SDGs regarding which we are contributing >



Our basic policy regarding ESG and the SDGs

Our company shall contribute to the achievement of the “SDGs” through initiatives targeting key issues related to ESG, while realizing and continuing “coexistence and co-prosperity with society and stakeholders.”

Examples of ESG & SDG Related Activities

- Promote adoption of SAF
- Joint Research on recycling waste tyres
- Participation in large-scale solar power generation project
- Organization of activities promoting environmental conservation
- Education activities for development of younger generations
- Initiatives to further strengthen compliance and risk management

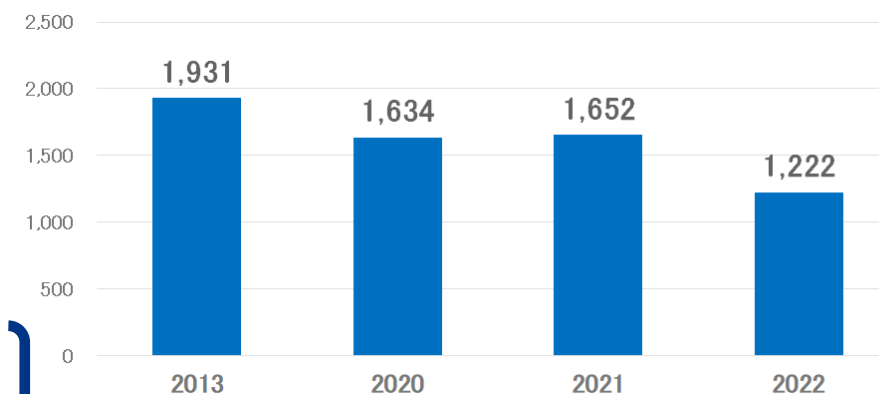
Emissions Reduction Target

- 2050 Vision – Aim for Net-Zero CO2 emissions associated with our business activities
- 2030 Reduction Target – Aim for 30% CO2 reduction compared with 2013

Target of Net Zero by 2050, currently on target to meet 2030 target

Environmental General Strategy

- Reduction of our CO2 emissions
- Gradual transition in refinery raw materials and functions
- Engagement in new fields
- Strengthening disaster countermeasures



*Actual CO2 emissions for 2022 were 1.2 megatons for Scope 1&2, 15.4 megatons for Scope 3, The goals apply to Taiyo Oil Co. Ltd, Taiyo Oil Sales Co. Ltd and Nansei Sekiyu K.K

Taiyo Oil ETJ - SAF Project

Why SAF?

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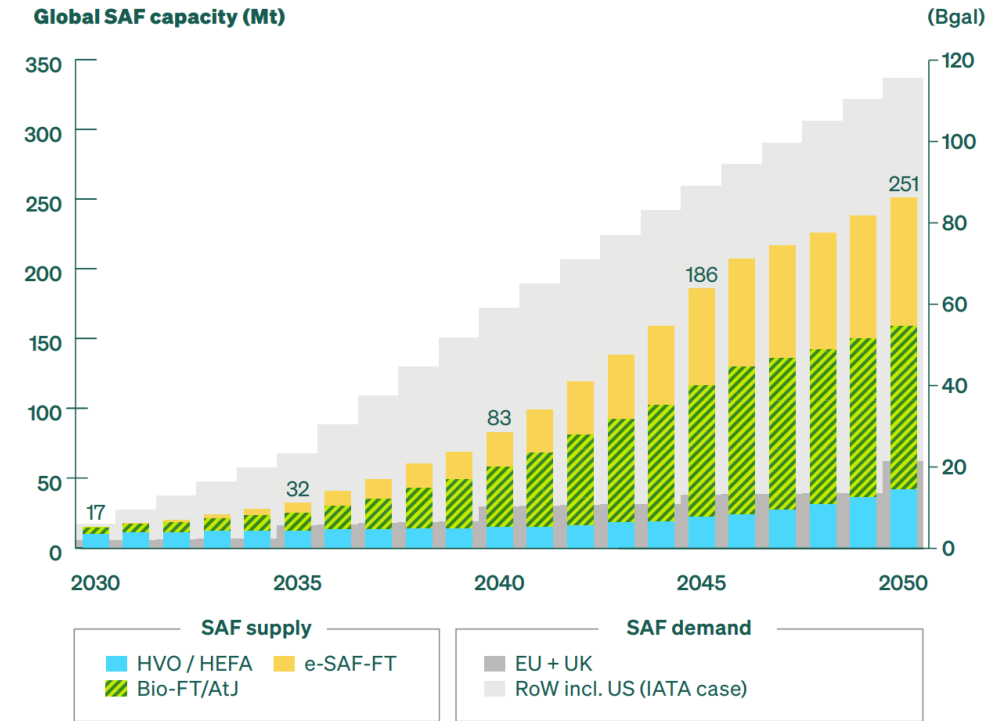


Taiyo Oil – ETJ SAF Project: Why SAF?

Several Reasons for Targeting SAF

- SAF market is growing rapidly as aviation industry reduces emissions
 - Introduction of government level announcements and mandates
 - Emission reduction commitments from industry
- Reduction in demand for petroleum based products in coming years
 - Need to introduce biofuels to maintain same output
- Taiyo Oil Net Zero 2050 Target
 - Adapting our operations to meet this target
- Generate new business in aviation fuel market
 - Previously no business in this area, SAF presents opportunity for entering this market
- Taiyo Oil well positioned to enter market
 - Can utilize existing core business and infrastructure as basis to produce and supply SAF

Taiyo Oil is well positioned to access SAF market considering core-business, existing assets and operational experience



SKYNRG – Sustainable Aviation Fuel Market Outlook June 2024

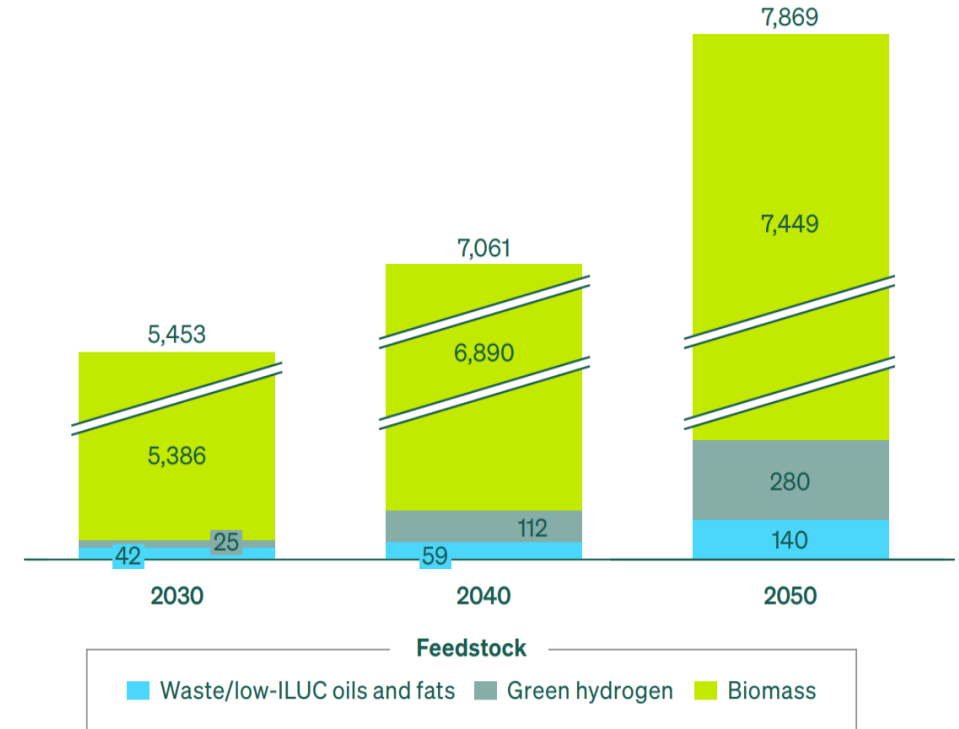
Taiyo Oil – ETJ SAF Project: Technology Selection

Pro's of ETJ

- Larger government grants for ETJ from METI
 - Larger CAPEX costs for ETJ but lower potential OPEX
 - HEFA technologies have lower access to grants

- Future Scalability
 - Abundance of raw material, large potential to scale
 - HEFA & FT have limitations on available feedstock

Pathway \ Feedstock	Operational Cost	Capital Cost
HEFA	High	Low
ATJ	Low / Medium	High
Fischer-Tropsch	Low / Medium	High
Power-to-Liquid ¹	Low / Medium	High
Power-to-Liquid ²	High	Very High
1 – Industrial Waste, 2 – Direct Air Capture CO ₂		
Source: IATA Sustainability & Economics		



SKYNRG – Sustainable Aviation Fuel Market Outlook June 2024

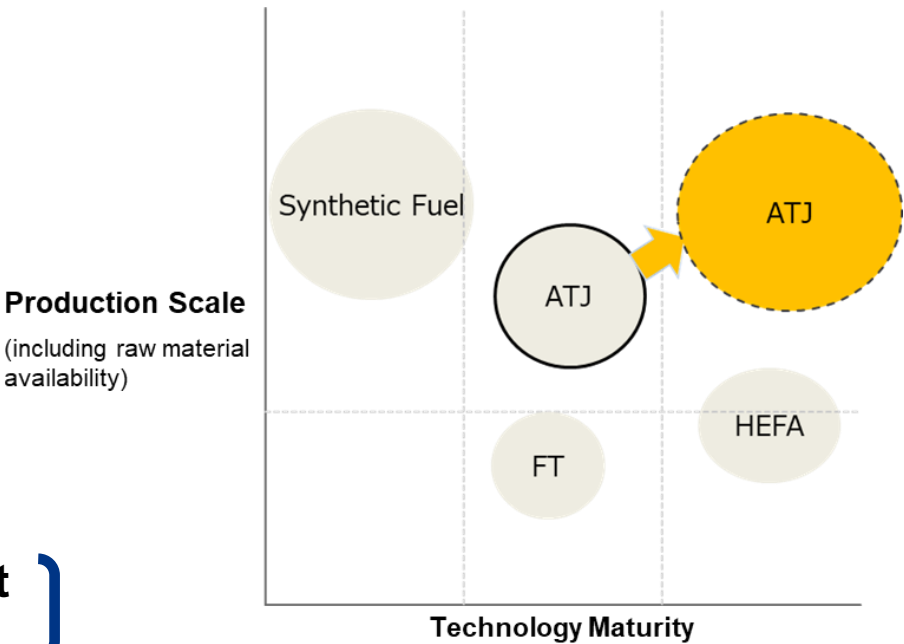
ETJ has been demonstrated and has excellent scalability

Taiyo Oil – ETJ SAF Project: Technology Selection

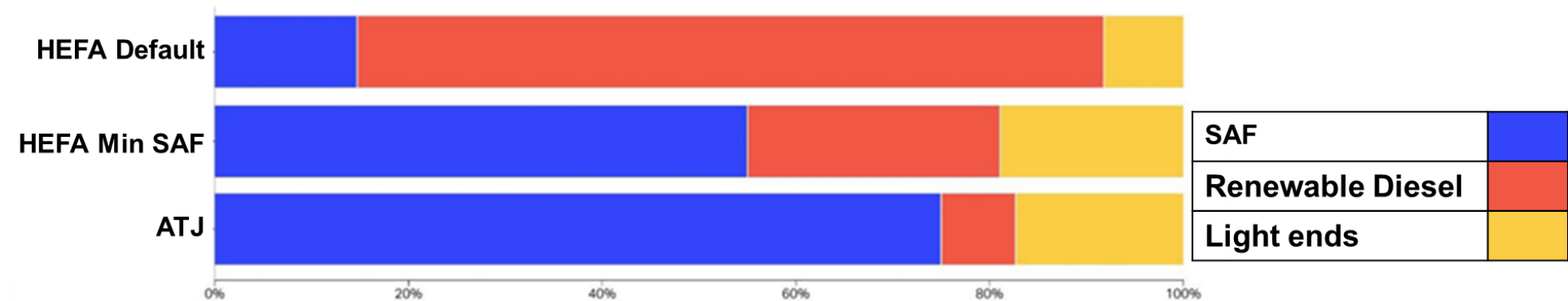
Con's of ATJ

- Limited track record
 - HEFA demonstrated at commercial scales
 - ATJ & FT still not mature technologies

- Shift to next generation is a challenge
 - Challenges relating to treatment of bagasse etc



Honeywell UOP ETJ Technology to be utilized. Significant track-record utilizing Honeywell UOP technology



Source: Adapted from [ICCT – The cost of supporting alternative jet fuels in the European Union](#)

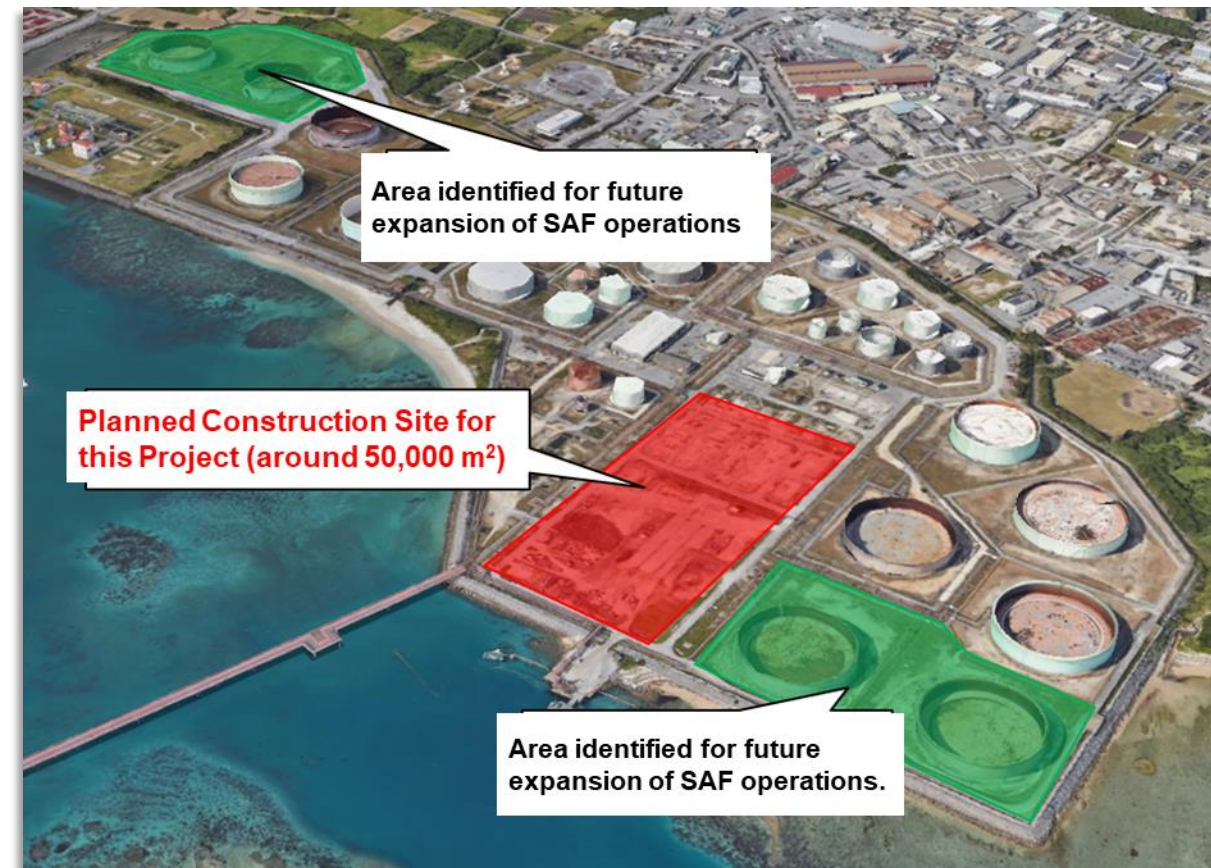
Taiyo Oil – ETJ SAF Project: Why Okinawa

- Existing operational Taiyo Oil site with existing infrastructure
- Existing access for delivery of raw materials and collection of SAF
- Scope for future expansion into unused areas (200,000 m²)
- Okinawa is an excellent strategic location in central East Asia

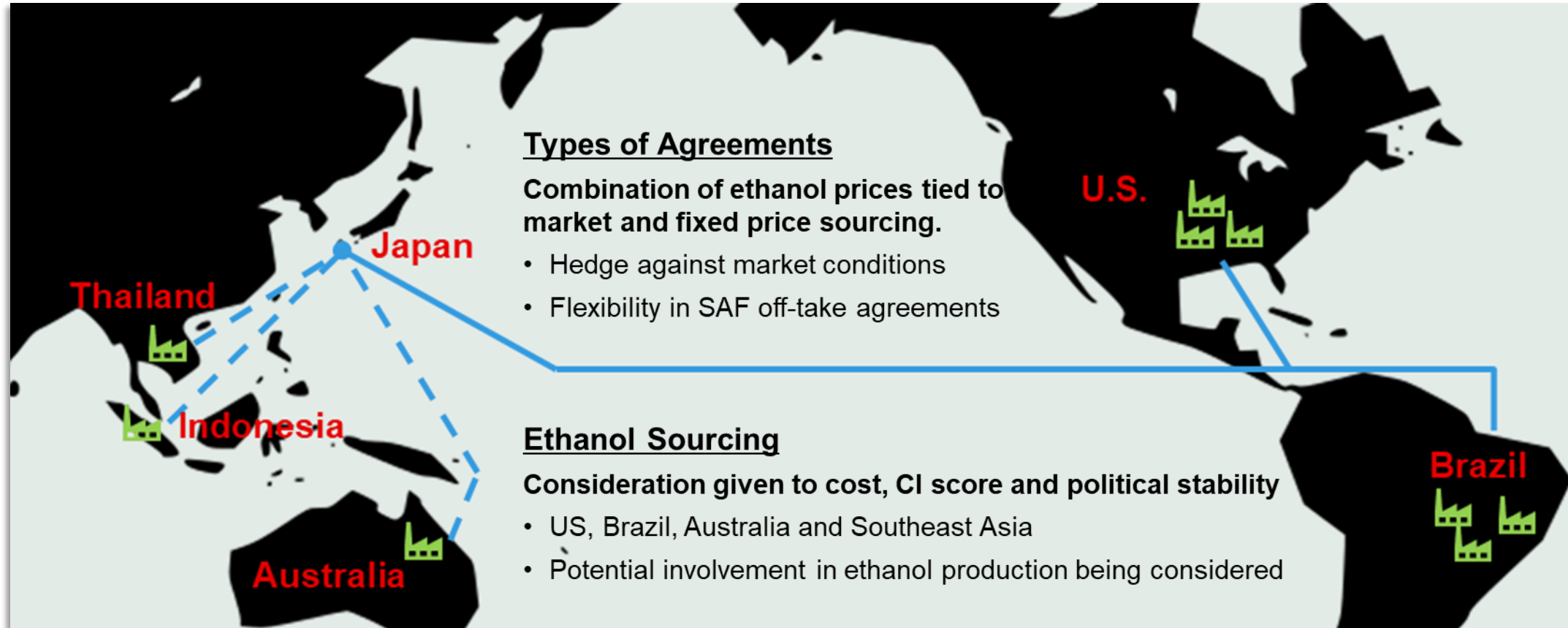


City	Distance
Taipei	641 km (399 miles)
Hong Kong	1,442 km (896 miles)
Manila	1,470 km (914 miles)
Tokyo	1,555 km (967 miles)
Kuala Lumpur	3,776 km (2346 miles)

【 Excellent Strategic location for Southeast Asia access 】



Taiyo Oil – ETJ SAF Project: Ethanol Sourcing



Taiyo Oil – ETJ SAF Project: SAF Off-take

■ SAF Off-take

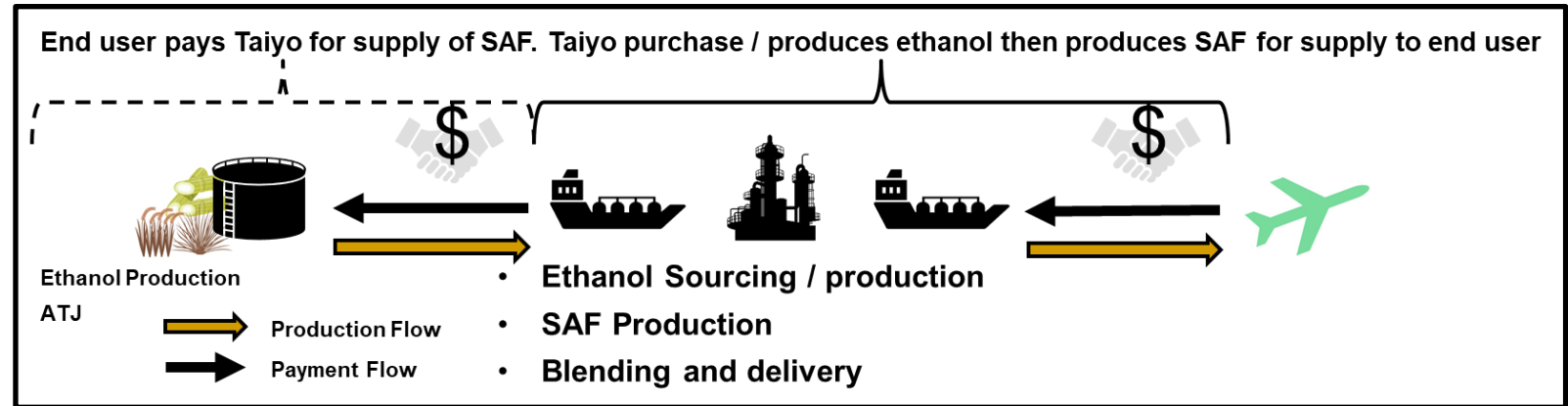
- Significant portion of SAF to be sold overseas
- Long-term offtake agreements preferable
- Taiyo Oil aims to be as flexible as possible with structure

Open to consider several SAF supply structures to meet off-taker needs and enable long-term agreements

Example 1

Taiyo Oil as full value chain supplier of SAF

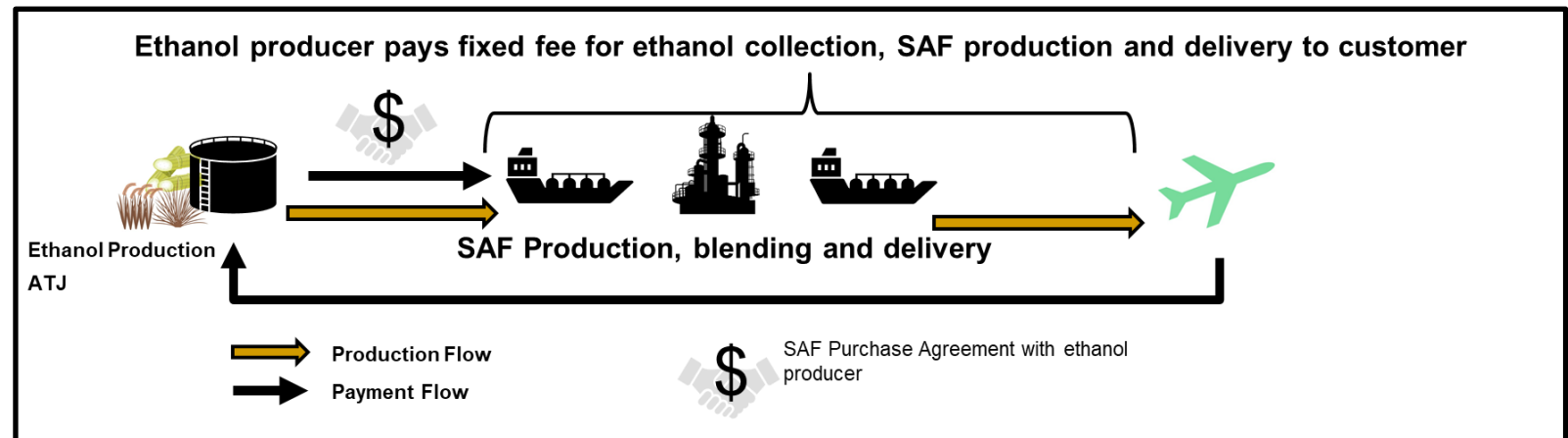
- Taiyo Oil has SAF Off take agreement
- SAF can be provided neat or blended
- Ethanol sourced by Taiyo Oil



Example 2

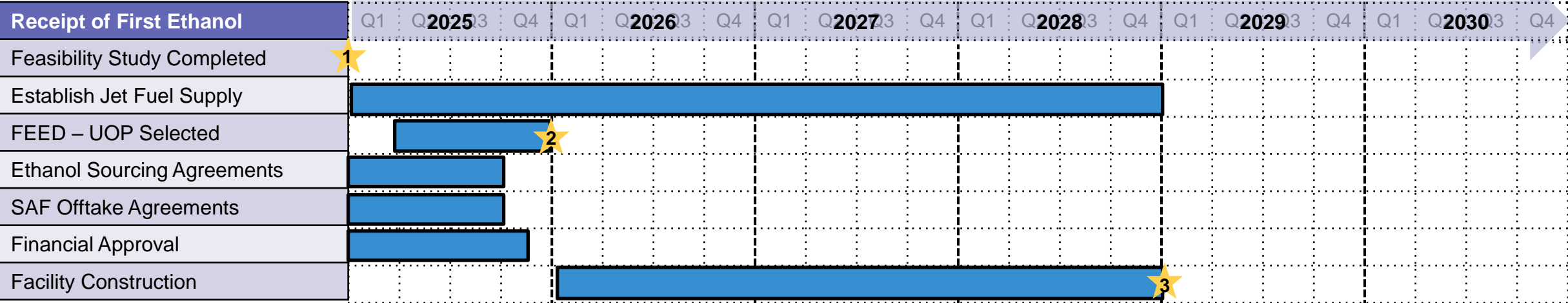
Taiyo Oil as toll fee service provider

- Ethanol producer has SAF off-take agreement
- Taiyo Oil produces SAF for fee paid
- SAF can be provided neat or blended



Taiyo Oil – ETJ SAF Project: Current Status and Timeline

Recent award from METI has enabled progression to FEED



- 1 Feasibility Study Completed / Selected by METI for Financial Support
- 2 Final Investment Decision
- 3 Commencement of Operations Date

On track to be first ETJ SAF project in Asia Pacific using Honeywell UOP technology

Okinawa SAF Production Project Selected for METI's "Sustainable Aviation Fuel (SAF) Manufacturing and Supply Chain Development Support Project"

Okinawa SAF Production Project Selected for METI's "Sustainable Aviation Fuel (SAF) Manufacturing and Supply Chain Development Support Project" | Taiyo Oil

Thank you for your attention!

[Any questions?]

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