

Sustainable Aviation Fuel

After undergoing various stages of research and testing, the inaugural flight using BioAvtur, called Jet Avtur 2.4 (J2.4), was successfully carried out. As part of Pertamina Sustainable Aviation Fuel's plan, BioAvtur is the result of Joint Research between Pertamina Research and Technology Innovation (RTI) with Bandung Technology Institute (ITB) to develop catalyst for the conversion of vegetable oil. This is Pertamina contribution toward reducing carbon emission, minimizing imports, whilst encouraging national economic growth and job creation in the development of the whole value chain.

Nicke Widyawati

President Director & CEO PT Pertamina (Persero)

WHAT is Sustainable Fuel?

Formula: develop by blending or co-processing conventional kerosene (fossil-based fuels) with renewable hydrocarbon.

Key pillar: to reduce GHG emissions from aviation.

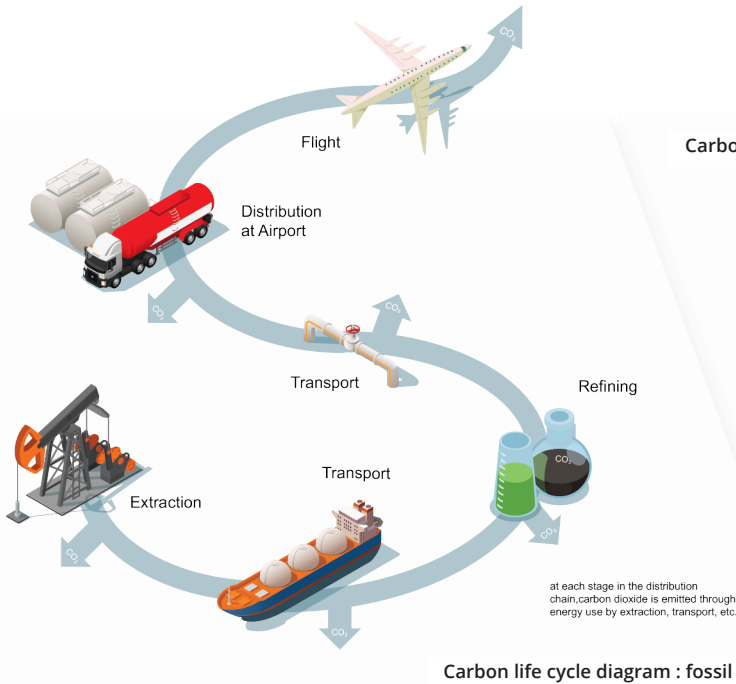
Sources: Corn grain, oil seeds, sugar-cane, palm oil, agricultural and forestry residues, crops, and others.



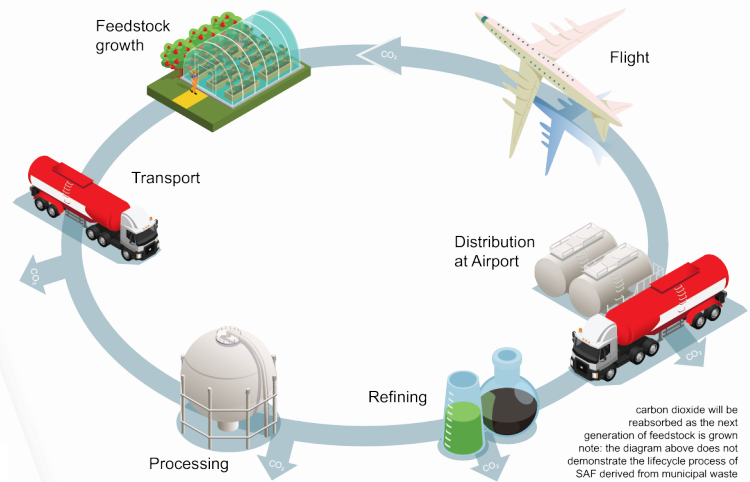
No need: technical modifications to aircraft.

Other terms: renewable aviation fuel, renewable jet fuel, alternative fuel, bio-jet fuel, and sustainable alternative fuel.

The Difference



Carbon life cycle diagram : Sustainable Aviation Fuel



Source: Beginner's Guide to Sustainable Aviation Fuel, Air Transport Action Group, 2017

HOW is the Impact of Sustainable Aviation Fuel?

- CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) is a carbon offset and carbon reduction scheme to lower CO2 emissions for international flights.
- Objectives to curb the aviation impact on climate change. Compares to fossil, the sustainable aviation fuel could potentially reduce 60-85% of CO2 emission.
- Only applies to international flights. Domestic emissions fall under the purview of another UN agency, the UNFCCC, and are covered by the Paris Agreement.
- Implementation of CORSIA.

Voluntary Pilot Phase
(2021 - 2023)



Voluntary First Phase
(2024 - 2026)



Mandatory
(Starting 2027)



Source: International Air Transport Association Data
International Civil Aviation Organization Data

WHY is Sustainable Aviation Fuel Necessary?

Environmental Benefit

Diversified Raw Material

Economic Social Benefit

A peek on Pertamina's Sustainable Fuel Journey!



Source: Pertamina

- Indonesia actively participates in formulating the ICAO Standard and Recommended Practices on the implementation of CORSIA.
- Indonesia is the first ICAO member states which voluntarily declare the implementation of CORSIA since its pilot phase in 2021.
- Pertamina successfully tested a Bio Avtur J2.4 in a flying test bed from Jakarta to Bandung (118 kilometers) using the CN235-220, an aircraft made by PT Dirgantara Indonesia.
- Using a sustainable aviation fuel with the component of 2.4% RBDPKO (Refined, Bleached, and Deodorized Palm Kernel Oil), Kerosene, and catalyst.
- The utilization of sustainable aviation fuel is in accordance with the mandate of MEMR* Decree No. 12/2015, which part of the mandate is the usage of bio components for air transportation up to 5% in 2025.

* MEMR: Ministry of Mineral and Resources

Global Companies On Board for Testing & Usage of Sustainable Fuel

Aviation Companies



Oil & Gas /Energy Companies

