



Sustainable Aviation Fuel (SAF)

[Source: IE](#)

Indian Oil Corporation (IOC) will start commercial **Sustainable Aviation Fuel (SAF)** production from [used cooking oil](#) at its **Panipat refinery** after **ISCC CORSIA (International Sustainability & Carbon Certification for CORSIA)** certification, marking **India's first SAF plant** and a key step in reducing aviation emissions.

Sustainable Aviation Fuel (SAF)

- **About:** SAF is a **biofuel** produced from **sustainable feedstocks**, chemically similar to **conventional Aviation Turbine Fuel (ATF)**, and can be **used in existing aircraft engines and infrastructure without modifications ('drop-in' fuel)**.
- **Possible Feedstocks for SAF:** **Oils & fats (Used Cooking Oil, algae oils, animal fats, oil-rich seeds), municipal solid waste, agricultural/forestry residues (sugarcane bagasse, husks etc), and sugars & starches** via **Alcohol-to-Jet (ATJ) pathway**.
 - The **ATJ pathway** converts **renewable alcohols** (ethanol, butanol) from **sugars, starches, or residues** into **hydrocarbon-based SAF**.
- **Significance:** SAF reduces **GHG emissions** by up to 80%, contributes over 60% to **aviation decarbonisation**, boosts **energy security**, creates **green jobs**, and supports up to 50% fuel blends.
- **Challenges in SAF Adoption:** SAF faces **high costs** (2-3 times conventional fuel), **infrastructure gaps**, and challenges in **feedstock collection** due to seasonal and scattered supply.

ISCC CORSIA Certification

- **ISCC CORSIA** ensures compliance with ICAO's **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)**.
 - From **2027 (mandatory phase)**, international airlines must offset emissions above **2020 levels**, with **SAF blending** being a key compliance route.
- **CORSIA** is a global **ICAO** initiative to **limit international aviation CO₂ emissions** growth by **stabilizing net emissions at 2020 levels** through **carbon offsetting, credits, and SAF**.

India's Roadmap

- **NBCC (National Biofuel Coordination Committee)** targets **1% SAF blending in 2027** and **2% in 2028** for **international flights**, with **domestic mandate post-2027**.
- This supports **Net Zero 2070**, gives a **first-mover advantage**, promotes a **circular economy (UCO recycling)**, and opens **export opportunities** to European airlines.

Read More: [India to Join International Climate Action in Civil Aviation, RUCO initiative](#)

