

1% Sustainable Aviation Fuel (SAF)

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Why in News?

Recently, Akasa Air and Bharat Petroleum Corporation Limited (BPCL) have successfully operated a commercial flight powered by aviation turbine fuel blended with 1% Sustainable Aviation Fuel (SAF).

Sustainable Aviation Fuel (SAF)

- **SAF** - It refers to non-conventional aviation fuels produced from renewable or sustainable sources.
- It is an alternative to conventional fossil-based jet fuel, developed to reduce the lifecycle carbon emissions associated with air travel.
- **Potential feedstocks for SAF production**
 - Used cooking oil
 - Agricultural and forestry residues
 - Municipal waste
 - Other forms of sustainable biomass, and
 - Synthetic fuels produced using renewable energy.

*According to the **International Civil Aviation Organization (ICAO)**, over 360,000 commercial flights have used SAF at 46 different airports largely concentrated in the United States and Europe.*

***India** has set a target to achieve a 5% blend of Sustainable Aviation Fuel (SAF) in the aviation sector by 2030.*

Conventional ATF vs SAF

Same Skies, A Cleaner Tomorrow



Feature	Conventional ATF	SAF
Primary basis	Fossil fuels	Sustainable feedstocks/pathways
Carbon emissions	High lifecycle emissions	Lower lifecycle carbon emissions
Aviation use	Widely established	Emerging/scaling
Existing aircraft	Yes	Can be blended/used subject to standards
Main objective	Aviation energy	Aviation decarbonisation

Significance of Key Developments in SAF

Aspect	Significance
1% SAF blend	Demonstrates real-world operational use
BPCL + airline partnership	Links fuel production with aviation demand
Domestic SAF ecosystem	Helps develop supply-chain experience
Decarbonisation	Supports reduction of aviation's carbon footprint
5% by 2030 target	Provides an initial step towards India's SAF ambition
Net-zero 2050	Supports global aviation decarbonisation efforts



ICAO Global SAF Framework

- **Global target** - Achieve a 5% reduction in CO₂ emissions from international aviation by 2030, compared to a baseline of zero cleaner energy use.
- **Adopted at** - Third ICAO Conference on Aviation and Alternative Fuels.
- **Building Blocks**
 - **Policy and Planning** - Provide strategic direction for the adoption of SAF and LCAF.
 - **Regulatory Frameworks** - Establish standards, ensure compliance, and implement enforcement mechanisms.
 - **Implementation Support** - Offer technical assistance, build capacity, and provide operational guidance.
 - **Financing** - Facilitate investment, develop funding models, and offer financial incentives.
- All four blocks are *interconnected* and must progress together for effective aviation decarbonisation.

Reference

[Economic Times | 1% Sustainable Aviation Fuel](#)



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