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Core industries grow 7.9% in historic high

Index of Core Industries in Sept. records highest growth since new data series began in April 2024; coal, refinery products, iron ore drive growth

T.C.A. Sharad Raghavan
NEW DELHI

India's core industrial growth accelerated to a historic high of 7.9% in September, driven by a turnaround in the coal sector and increased activity in the refinery products and iron ore sectors.

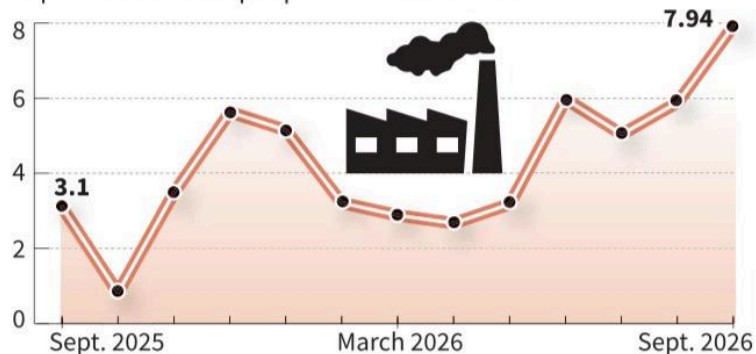
The latest data on the Index of Core Industries show that last month's growth was the highest since at least April 2024, which is the earliest month for which the new series has data. Even though a comparison with the old series is not strictly statistically sound, it does provide some context for the current rate of growth.

The growth in September 2026 was the highest in nearly three years when compared with the old series.

Within the index, the coal sector grew 10.7% last month, albeit on a low base as it had contracted 1.1% in September last year. The refinery products sector saw growth unexpectedly accelerate to 10.3% in September, from 5.6% a month earlier.

Sharp uptick

The Index of Core Industries grew year-on-year by 7.9% in September 2026 as per provisional estimates



half of this financial year stood at just 1%.

Trend continues

The iron ore sector, on the other hand, has seen strong double-digit growth for nearly a year now, and carried forward this trend last month with growth coming in at 18.4%, though this was only a two-month high.

“Coal and iron ore output witnessed a meaningful pickup in their year-on-year growth rates in September 2026 compared to August 2026,” Aditi Nayar, chief economist at ICRA, said. “While this was aided by a low base, the sequential uptick in coal was

growing 11.4% last month, slightly slower than the 13.1% recorded in August.

The two construction-related sectors – cement and steel – did well in September. While growth in the steel sector quickened to 4.9%, that in the cement sector came in at a relatively robust 9.8%, albeit slower than in August. The domestic crude oil sector contracted 1.4% in September, somewhat better than the contraction of 3.6% in the previous month. The natural gas sector contracted 4.6% last month, a little better than the 4.9% contraction it saw in August.

The fertilizer sector

1. Core Industries Grow 7.9% in September 2026

GS Paper III | Indian Economy

Context: India's Index of Core Industries (ICI) recorded **7.9% year-on-year growth in September 2026**, indicating stronger output across key industrial sectors.

Key Facts

1. **Newly Added Industry:** Iron ore became the ninth core industry under the revised ICI series.
2. **Base Year:** 2022–23, replacing the earlier base year of 2011–12.
3. **Compiling Authority:** Office of the Economic Adviser (OEA), Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.
4. **Nine Core Industries — Decreasing Order of Weight:** Electricity (30.932%) > Petroleum refinery products (22.572%) > Steel (17.584%) > Crude oil (7.430%) > Coal (5.596%) > Iron ore (4.905%) > Cement (4.410%) > Natural gas (3.841%) > Fertilisers (2.731%).
5. **ICI vs IIP:** The ICI tracks nine core industries, whereas the broader Index of Industrial Production (IIP), compiled by the National Statistical Office (NSO), measures industrial output across mining, manufacturing and electricity. The nine core industries collectively account for **32.88% of the IIP's weight** under the revised series.

Turkiye, Pakistan, Indonesia, and Qatar sign defence accord

Reuters

ANKARA

Turkiye, Qatar, Pakistan, and Indonesia signed an agreement on Wednesday to boost defence cooperation and strengthen defensive capabilities, the Turkish Defence Ministry said.

In a statement, the Ministry said the countries signed the “Badr Memorandum of Understanding” in Doha as a sign of their desire to further deepen cooperation and develop partnerships.

“The agreement holds

substantial economic importance,” it said. “By leveraging the unique military production capabilities of each country, the initiative will facilitate cooperation and integration, enhance defence industrial capacities, and enable the fulfilment of the needs of allied nations,” it added.

Turkey, which has NATO’s second-largest army and a robust defence industry, has been helping Gulf nations, including Qatar, where it has a military base, bolster their defences amid the Iran war.

2. Türkiye, Pakistan, Qatar and Indonesia Sign Badr Defence MoU

GS Paper II | International Relations

Context: The four countries signed the Badr Memorandum of Understanding (MoU) in Doha to strengthen defence cooperation and military-industrial capabilities.

1. Objectives

- A. Joint defence production and industrial cooperation.
- B. Technology sharing, research and development (R&D), and technical training.
- C. Integration of defence industries and supply chains.
- D. Improved military capabilities and reduced dependence on external suppliers.

2. Roles of Participating Countries

- A. **Türkiye:** Defence technology and manufacturing expertise.
- B. **Pakistan:** Defence-production experience and military cooperation with Türkiye.
- C. **Qatar:** Investment capacity and defence procurement.
- D. **Indonesia:** Industrial capacity and defence-manufacturing potential.

3. Geopolitical Context: West Asia After the Iran–US Conflict

- A. **Regional insecurity:** Heightened risks to Gulf infrastructure, energy supplies and shipping through the Strait of Hormuz.
- B. **Security diversification:** Gulf countries are broadening defence partnerships and reassessing reliance on traditional security providers.
- C. **Defence self-reliance:** Joint production and diversified arms supply chains are becoming more important amid regional uncertainty.
- D. **Emerging alignments:** Defence cooperation increasingly links West Asia with South and Southeast Asia.
- E. **US role:** These partnerships may complement, rather than replace, existing US security relationships.

4. Implications for India

- A. **Pakistan's capabilities:** Potential access to additional defence technology and production expertise.
- B. **Türkiye–Pakistan ties:** Deeper defence-industrial cooperation may strengthen their existing strategic relationship.
- C. **Energy security:** Regional instability threatens India's energy imports, maritime trade and shipping routes.
- D. **Strategic response:** Reinforces the importance of indigenous defence production and diversified international partnerships.

Agrivoltaics on 10% land can meet 2050 power need: Joshi

Saptaparno Ghosh

NEW DELHI

Operationalising just 10% of agricultural land suitable for agrivoltaics in India can generate enough electricity to meet India's projected power demand for 2050, Union Minister for New and Renewable Energy Pralhad Joshi said.

"If even 10% [of the land deemed suitable for agrivoltaics] is converted [towards operationalisation], more than whatever power requirement is being estimated for 2050 can be generated by agrivoltaics," he said, citing a study by The Energy and Resources Institute (TERI).

Published in July, the study identified about 47.5 million hectares, or almost 30% of India's more than 160 million hectare of arable agricultural land, as suitable for agrivoltaics.



Pralhad Joshi

The approach combines agricultural activity with solar photovoltaic power generation on the same land. The government is working on a dedicated policy framework for the sector with agrivoltaics potentially being incorporated into next phase of the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM).

In his address, Union Agriculture Minister Shivraj Singh Chouhan stressed

on the need to address land-use concerns and assess feasibility of projects across different regions.

Cost competitiveness

Mr. Joshi said agrivoltaic installations, which typically need elevated solar panel structures to facilitate farming underneath, could cost 25-30% more than conventional ground-mounted solar projects.

He stressed on the need to bridge the cost differential to make the model commercially viable.

"The average cost of electricity supply was about ₹7/unit in [fiscal] 2025-26. While some of the major agrivoltaics assessment indicate potential generation of ₹3.20-₹3.30/unit whereas ground mounted costs ₹2.5 to 2.6/unit. This difference has to be matched," he said.

3. Agrivoltaics: 10% of Suitable Agricultural Land Could Meet India's Projected 2050 Power Demand

GS Paper III | Agriculture, Renewable Energy and Infrastructure

Context: Union Minister Pralhad Joshi cited a study by The Energy and Resources Institute (TERI) highlighting how India could combine agricultural production and solar power generation on the same land.

1. Concept and Potential

A. **Agrivoltaics (AgriPV):** Integrates solar photovoltaic panels with crop cultivation or other agricultural activities on the same land — the principle of “**one land, two harvests.**”

B. **Land suitability:** Around **47.5 million hectares**, or approximately 30% of India’s 160 million hectares of cropland, were identified as technically suitable for agrivoltaics.

C. **Power-generation potential:** A TERI deployment scenario covering 16 million hectares estimated annual electricity generation of **12,775 terawatt-hours (TWh)**, compared with projected 2050 demand of 5,250–10,020 TWh.

D. **Regional concentration:** Maharashtra, Rajasthan, Andhra Pradesh, Madhya Pradesh, Karnataka and Uttar Pradesh together account for nearly **50% of the estimated suitable land**.

E. **Agricultural benefits:** Under suitable conditions, field studies indicate potential crop-yield improvements of **10–20%** and water-consumption reductions of around **30%**. Results vary by crop, climate and panel design.

2. Government Policy and Implementation

A. **PM-KUSUM:** The government announced plans to introduce an agrivoltaics programme under the next phase of the Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan.

B. **Proposed capacity:** The Ministry of New and Renewable Energy indicated an initial target of around **5 GW over the next few years**, subject to state participation and implementation arrangements.

C. **Agricultural solarisation:** Under PM-KUSUM, approximately **30 lakh agricultural pumps** had been connected to solar energy, supporting daytime irrigation and reducing dependence on conventional electricity supply.

D. **Site selection:** Agricultural suitability must be assessed alongside grid connectivity, crop patterns, water availability, nearby markets and cold-chain infrastructure.

E. **Farmer-centred approach:** Solar structures must allow machinery movement and continued cultivation while ensuring farmers receive a fair share of the economic benefits.

3. Economic Viability and Key Challenges

- A. **Higher installation costs:** Elevated and tilted structures can make agrivoltaic installations **25–30% more expensive** than conventional ground-mounted solar projects.
- B. **Cost of electricity:** Reported estimates put agrivoltaic generation at ₹3.20–₹3.30 per unit, compared with ₹2.50–₹2.60 per unit for conventional ground-mounted solar.
- C. **Employment potential:** The AgriPV Manual of the Center for Study of Science, Technology and Policy estimates potential employment of **1.10 lakh–3.32 lakh full-time-equivalent jobs**.
- D. **Crop compatibility:** Panel height, spacing and shading must be adapted to local crops; poorly designed installations may interfere with crop growth and farming operations.
- E. **Grid and financing constraints:** Projects require viable power-purchase arrangements, adequate grid capacity, affordable finance and clear state-level policies.

4. Way Forward

- A. **Bridge the cost gap:** Targeted financial support and appropriate tariffs can improve commercial viability.
- B. **Use region-specific designs:** Prioritise crops and agro-climatic zones where solar generation can coexist with productive farming.
- C. **Integrate infrastructure planning:** Map suitable farmland alongside electricity substations, agricultural markets, warehouses and cold chains.
- D. **Protect farmers' interests:** Establish transparent land-leasing arrangements, benefit-sharing mechanisms and safeguards for continued agricultural use.
- E. **Learn from global models:** Italy's funding support, Japan's support for small-scale agrivoltaics and Germany's agricultural-use requirements offer useful policy lessons.

Supreme Court judgment opens up debate on religion-neutrality of OBC classification

NEWS ANALYSIS

Abhinav Lakshman
NEW DELHI

The religion-neutrality of the Other Backward Classes (OBC) classification has been thrown open for debate after the Supreme Court's recent decision that an OBC Hindu person loses the entitlement to reservation once they convert to another religion.

While the Scheduled Castes (SCs) have always been identified by a religion criterion, and the Scheduled Tribes (STs) classification has never considered religion, and the OBC classification, since its implementation after the 1992 *Indra Sawhney vs. Union of India* judgment, has remained religion-neutral.

Communities are examined for 11 social, educational, and economic back-

wardness indicators, and then classified as such based on a threshold score. Forms for OBC certificates across States do not ask for the religion of an applicant nor does an OBC certificate declare the holder's religion.

In deciding the question of whether a Hindu OBC person is entitled to reservation after converting to another faith, the Supreme Court Bench of Justices Prashant Kumar Mishra and Shree Chandrashekhhar, in its October 15 judgment, has established that the "source of social backwardness" must necessarily be considered in this inquiry.

The judgment noted that, for a Hindu OBC individual, the "legal foundation" of their entitlement to reservation is "specifically conditioned upon membership of that Hindu social order".

Discussing the "source



of social backwardness", the court noted that while *Indra Sawhney vs. Union of India* prevented caste from being the sole criterion for OBC classification, what cannot be disregarded is that in Hindu society, the "foundational institution" of caste has historically determined social and other manifestations of backwardness.

While the court admitted that educational, economic, and other forms of backwardness may conti-

nue for an OBC person who has left the Hindu faith, their very act of choosing another faith puts them in a different "social order".

This reading of the Bench of Justices Mishra and Chandrashekhhar flows from how it has understood the idea of social stratification across faiths in India, essentially noting that the source of social backwardness varies based on the nature of social stratification in any given social order. This understanding of social stratification makes a subtle departure from how the same concept was discussed in the *Indra Sawhney* judgment, without entering the question of the source of social backwardness, regardless of whether the communities are classes or castes, Hindu or Muslim.

Ever since *Indra Sawhney vs. Union of India* cleared the way for identi-

fying OBC groups, the social backwardness of communities requesting OBC status has been determined with four criteria, none of which required an examination of the "source of social backwardness". Apart from markers for levels of child marriage, degree of dependence on manual labour, and female participation in the workforce, the criteria say that the applicant community (class or caste) must be "considered socially backward by others".

While the approach of the court in the *Indra Sawhney* case was that caste had permeated all faiths in India and the difference was just a matter of degrees of operation, the 2026 judgement makes a point of distinguishing social stratification through caste in Hindu society and "caste-like" social stratifications in non-Hindu social orders.

4. Supreme Court Judgment Sparks Debate on Religion-Neutrality of OBC Classification

GS Paper II | Constitution, Reservation and Social Justice

Context: On 15 October 2026, the Supreme Court upheld the Madras High Court's decision rejecting automatic eligibility for Backward Class (Muslim) reservation solely on the basis of conversion from Hinduism. The judgment has raised wider questions about caste, religion and the legal determination of social backwardness.

1. Background and Supreme Court's Ruling

A. **Case background:** The dispute arose from a Tamil Nadu government order of March 2024 that allowed certain converts to Islam to seek classification under the Backward Class (Muslim) category.

B. **Court's ruling:** A Bench of Justices Prashant Kumar Mishra and Shree Chandrashekhhar held that a person's former caste or community status cannot automatically establish membership of a different notified Backward Class community after conversion.

C. **Source of backwardness:** The Court emphasised that reservation eligibility must be supported by the relevant social and legal basis of backwardness, rather than conversion alone.

D. **Community certificate:** Conversion does not automatically entitle a person to a certificate for a notified backward community. Eligibility must be determined by the competent public authority under the applicable rules.

2. How OBC Classification Works

A. **Constitutional basis:** Articles 15(4) and 16(4) enable special provisions and reservation for socially and educationally backward classes, subject to constitutional requirements.

B. **Identification criteria:** OBC classification considers social and educational backwardness, supported by relevant evidence. Caste can be an important indicator, but it is not necessarily the sole criterion.

C. **Religion-neutral framework:** Unlike Scheduled Caste classification, OBC classification is not governed by one general constitutional rule restricting eligibility to particular religions. Backward communities from different religious groups may qualify if recognised under the applicable list and legal framework.

D. **Central and State lists:** OBC eligibility depends on the relevant Central or State list and applicable conditions. Recognition in one list does not automatically establish eligibility under the other.

3. Difference Between OBC, SC and ST Classification

A. **Other Backward Classes (OBCs):** Identified through social and educational backwardness; recognised communities may include Hindus, Muslims, Christians and other religious groups.

B. **Scheduled Castes (SCs):** Paragraph 3 of the Constitution (Scheduled Castes) Order, 1950, currently recognises SC status for persons professing Hinduism, Sikhism or Buddhism, subject to the Order's other requirements.

C. **Scheduled Tribes (STs):** Identification is based on notified tribal communities under Article 342. The SC Order's religion-based restriction does not apply in the same manner to ST status.

D. **Core distinction:** OBC eligibility depends on recognised backward-class membership and applicable criteria; SC status has an explicit religious condition in the 1950 Order, while ST identification follows a separate constitutional framework.

4. Major Constitutional and Social Questions

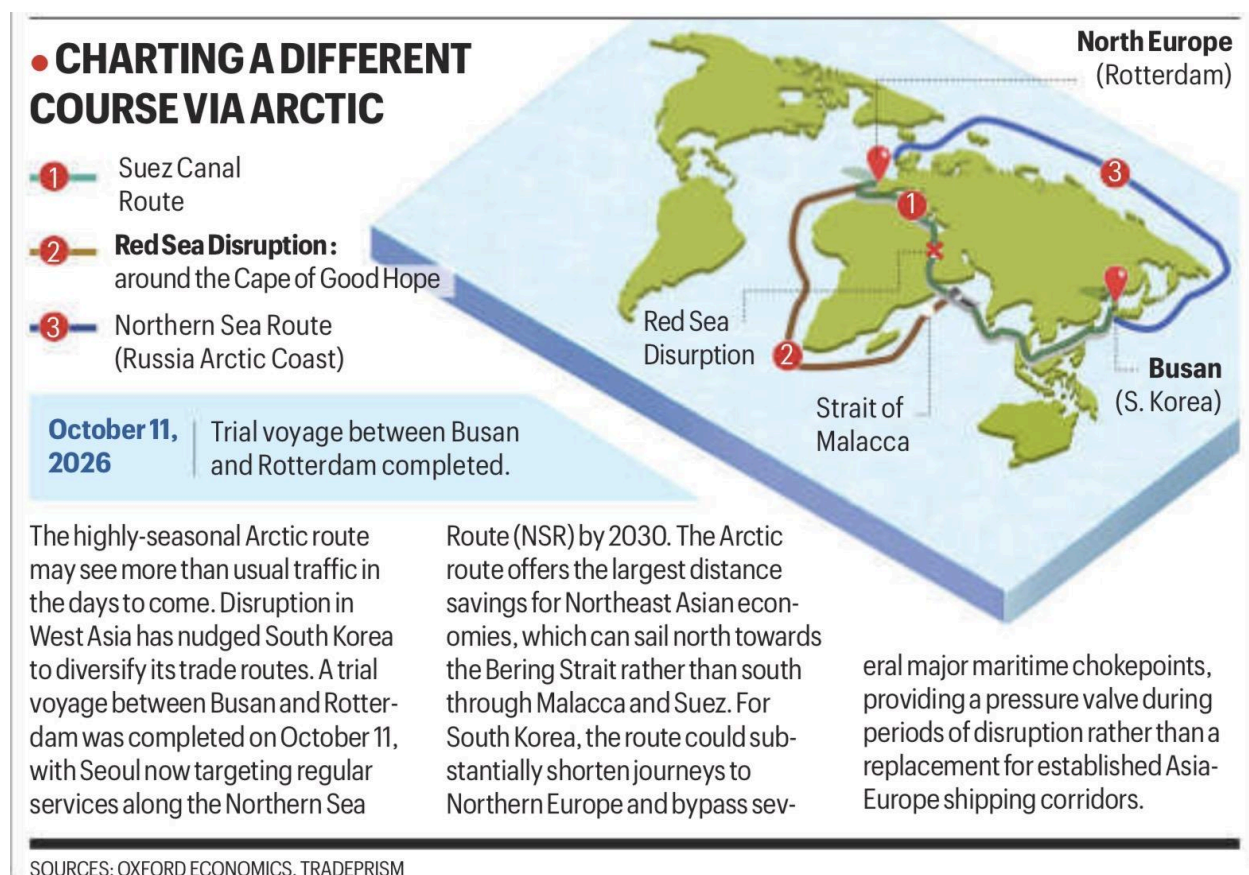
A. **Historical versus present disadvantage:** Should eligibility depend on the historical caste status of an individual, the social conditions experienced after conversion, or a combination of both?

B. **Religion and social backwardness:** Social stratification and disadvantage can exist in different religious communities. The challenge is to assess them using appropriate evidence without assuming that every community has the same social structure.

C. **Equality and affirmative action:** The State must balance equal treatment under Article 14 with constitutionally permitted measures to address substantive social disadvantage.

D. **Administrative safeguards:** Community certification requires transparent criteria, evidence-based scrutiny and consistent application of the relevant Central or State rules.

E. **Reconversion:** Returning to a previous religion does not automatically settle eligibility. The competent authority must independently assess the person's social identity and compliance with the applicable legal requirements.



5. Northern Sea Route: An Alternative Maritime Corridor

GS Paper II | International Relations

Context: Red Sea disruptions have encouraged South Korea to diversify shipping routes. A trial voyage between Busan and Rotterdam via the Arctic route was completed on **11 October 2026**.

1. Route and Key Features

A. **Location:** Runs along Russia's Arctic coast, connecting Northeast Asia with Northern Europe through the Bering Strait.

B. **Alternative corridor:** Offers an alternative to the conventional route through the Strait of Malacca, Indian Ocean and Suez Canal.

C. **Distance advantage:** Can shorten voyages between Northeast Asia and Northern Europe, depending on the route and season.

D. **Seasonal accessibility:** Navigation is constrained by sea ice, extreme weather and limited operating windows.

E. **Growing interest:** Red Sea disruptions have encouraged countries to explore alternative shipping corridors and reduce dependence on major maritime chokepoints.

2. Importance for India

A. **Trade diversification:** Provides a potential alternative for India–Europe trade during disruptions to conventional shipping routes.

B. **Energy security:** Could create opportunities for cooperation with Russia in Arctic oil and gas projects, subject to commercial and geopolitical constraints.

C. **India–Russia relations:** Strengthens the relevance of bilateral cooperation in Arctic shipping, energy and maritime connectivity.

D. **Strategic resilience:** An additional route could reduce exposure to disruptions around the Suez Canal and Red Sea, although access and logistics remain challenging.

E. **Arctic engagement:** Supports India's broader interests in Arctic scientific research, environmental governance and sustainable economic cooperation.

3. Challenges

A. **Harsh conditions:** Sea ice, extreme cold and unpredictable weather increase navigational risks.

B. **High costs:** Icebreaker assistance, specialised vessels and insurance can make operations expensive.

C. Infrastructure gaps: Limited ports, repair facilities and emergency-response capacity constrain regular shipping.

D. Environmental risks: Increased Arctic shipping raises concerns about oil spills, black carbon emissions and fragile polar ecosystems.

E. Geopolitical constraints: Sanctions, international tensions and dependence on Russian Arctic infrastructure may complicate commercial use.

India to mandate 1% SAF blending for all international flights from January

With two months left for international obligations to kick in, industry concerned over absence of a national SAF policy or a framework for carbon credits; Indian airlines are estimated to face an annual offsetting liability of 5 million tonnes of CO₂

Jagriti Chandra
NEW DELHI

India is expected to mandate 1% blending of Sustainable Aviation Fuel (SAF) in conventional jet fuel for international flights, industry sources said, even as they expressed concern about delays in framing a domestic policy with just two months left before the UN aviation emissions requirements take effect from January 2027.

The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) is a global plan to reduce carbon emissions from international flights. Adopted by the International Civil Aviation Organization (ICAO) in 2016, CORSIA requires airlines to keep emissions from international flights below 85% of their 2019 levels using SAF or eligible carbon credits.

CORSIA is being implemented in three phases. These include two voluntary phases between 2021 and 2026, and a third mandatory phase from 2027 to 2035, covering all international flights between ICAO's member states.



The move for SAF blending comes against the backdrop of CORSIA, a global plan to cut emissions from international flights. FILE PHOTO

Industry sources said India plans to make it mandatory for airlines to uplift 1% blended SAF from 2027, 2% from 2028, and 5% from 2030 for international flights. An official announcement is expected soon. SAF is an alternative fuel made from non-petroleum feedstocks.

Indian airlines are estimated to face an annual offsetting liability of around five million tonnes of CO₂, requiring the surrender of an equivalent number of eligible carbon credits. At an estimated \$10-\$15 per credit, this translates into an annual bill of \$50 million-\$75 million, Rohit Kumar, secretary-general, SAF Association, said.

Air India is expected to account for a significant share of this liability, given its extensive long-haul and ultra-long-haul international operations.

No policy yet

But with just over two months remaining before CORSIA's mandatory phase kicks in, India is yet to finalise a comprehensive national SAF policy. Such a policy will cover blending obligations, pricing mechanisms, domestic production, and export provisions. Clearer regulatory mechanisms are also needed for carbon-credit eligibility, international authorisation of emissions-reduction projects, and airline-level

emissions reporting and compliance.

"As countries accelerate aviation decarbonisation, a supportive policy environment can help attract investment, strengthen domestic value chains, advance technology development and foster mutually beneficial international partnerships," Mr. Kumar said.

The industry is seeking export permissions for SAF, as India looks to position itself as a global production and export hub, leveraging its potential access to used cooking oil, agricultural residues, and other sustainable feedstocks.

This ambition comes as Europe faces growing competition for limited supplies of waste-based feedstocks, particularly used cooking oil, to meet its rising SAF blending requirements.

An ICAO feasibility study estimates India's potential SAF production at 14 million tonnes to 33 million tonnes under a higher estimate, based on the feedstocks and pathways assessed. Currently, it is prepared for a capacity of 30,000 tonnes to meet the 1% blending target for 2027

at Indian Oil's Panipat Refinery. The plant co-processes used cooking oil (UCO) with conventional fuel and is developing an alcohol-to-jet (ATJ) unit to scale green aviation fuel production. Oil Manufacturing Companies are seeking incentives in the form of subsidies as well as off-take guarantees from the government, while airlines want the government to ensure SAF pricing is on par with ATF prices from the current levels of 2-5 times of ATF.

Several international markets have already introduced SAF blending mandates that affect Indian airlines operating flights from their airports. The European Union, for instance, mandated a 2% SAF share in aviation fuel supplied at covered EU airports from 2025, rising to 6% by 2030.

The U.K. has also set a mandate starting at 2% in 2025 and increasing to 10% by 2030. Under these regimes, Indian carriers such as Air India must factor the requirements into their operations when departing from the relevant airports. (With inputs from Saptaparno Ghosh)

6. India's Sustainable Aviation Fuel (SAF) Blending Mandate

GS Paper III | Environment, Energy and Infrastructure

Context: India is preparing to introduce a **1% Sustainable Aviation Fuel (SAF) blending requirement for international flights from 2027**, amid the implementation of international aviation-emission reduction obligations under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

1. Sustainable Aviation Fuel: Concept and Significance

A. **Definition:** SAF is an alternative aviation fuel produced from non-petroleum feedstocks, such as used cooking oil, agricultural residues and other eligible sustainable resources.

B. **Blending roadmap:** The reported proposal envisages 1% SAF blending in 2027, 2% in 2028 and 5% from 2030 for international flights.

C. **Emission reduction:** SAF can reduce lifecycle greenhouse-gas emissions compared with conventional aviation fuel; the reduction depends on feedstock, production technology and the fuel pathway.

D. **Domestic production:** Indian Oil Corporation's Panipat refinery uses used cooking oil alongside conventional feedstocks and is developing alcohol-to-jet (ATJ) technology.

E. **Energy diversification:** Domestic SAF production could diversify aviation-fuel sources, create value chains for agricultural residues and support investment in cleaner aviation technologies.

2. CORSIA: International Aviation Framework

A. **Full form:** Carbon Offsetting and Reduction Scheme for International Aviation.

B. **Institution:** Adopted by the International Civil Aviation Organization (ICAO) in 2016.

C. **Objective:** Addresses growth in international aviation emissions by requiring eligible airlines to offset emissions above applicable baseline levels through eligible carbon credits and other permitted measures.

D. **Implementation phases:** Voluntary phases covered 2021–2026, followed by a mandatory phase from 2027–2035, subject to scheme rules, exemptions and eligibility conditions.

E. **Important distinction:** CORSIA is an international carbon-offsetting framework; an SAF blending mandate is a separate policy instrument that requires a specified share of aviation fuel to come from eligible sustainable sources.

3. Economic and Implementation Challenges

A. **Higher fuel costs:** SAF may cost around 2–5 times as much as conventional aviation fuel, increasing operating expenses for airlines.

B. **Carbon-offsetting liability:** The report estimates Indian airlines could face an annual offsetting liability of around **5 million tonnes of CO₂**. At an assumed carbon-credit price of \$10–15 per tonne, this implies an estimated annual cost of \$50–75 million.

C. **Feedstock availability:** Large-scale production requires reliable supplies of used cooking oil and agricultural residues without creating competition with food uses or other industries.

D. **Infrastructure and technology:** SAF production requires investment in refineries, conversion technologies, certification systems and supply-chain infrastructure.

E. **Policy uncertainty:** The report highlights the absence of a comprehensive national SAF framework covering blending obligations, pricing, domestic production, export permissions, incentives and carbon-credit eligibility.

4. Global Developments and India's Policy Response

A. **European Union:** ReFuelEU Aviation introduced a 2% SAF requirement in 2025 for aviation fuel supplied at covered EU airports, rising to 6% by 2030.

B. **United Kingdom:** Its SAF mandate began at 2% in 2025, with the target increasing to 10% by 2030.

C. **Financial support:** Production incentives, subsidies and long-term offtake agreements could help bridge the cost gap between SAF and conventional aviation fuel.

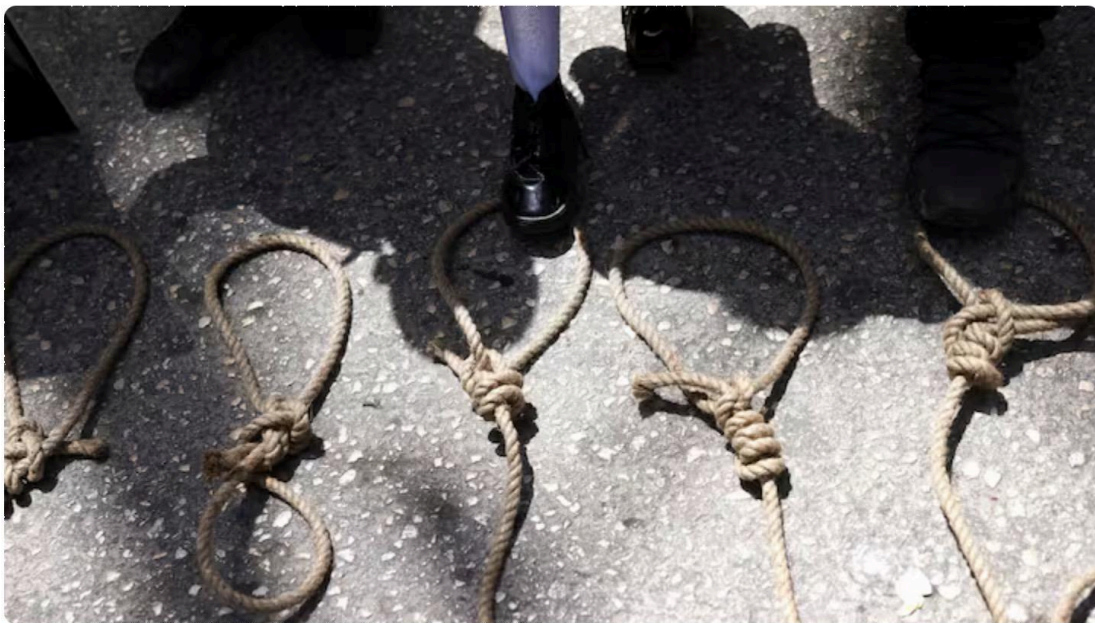
D. **National policy framework:** India needs clear blending standards, sustainability certification, lifecycle-emission accounting and transparent compliance mechanisms.

E. **Domestic value chains:** Linking oil companies, airlines, agricultural-residue suppliers and technology developers could strengthen domestic production and create rural economic opportunities.

F. **International competitiveness:** A predictable regulatory framework would help Indian airlines plan compliance costs and allow domestic producers to compete in emerging global SAF markets.

Why did Saudi Arabia execute 2 Bangladeshi nationals? Was it because of a kiss at Mecca or...?

Bangladesh is seeking answers from Saudi Arabia after the kingdom executed two nationals, identified as Nazrul Islam Abdul Basir and Siti Akhtar, without informing Dhaka. Riyadh has maintained that the harsh punishment was handed down because the two engaged in 'an indecent act inside a mosque in the holy city', with some reports suggesting that the duo 'kissed inside the religious site'



Saudi Arabia's execution of a Bangladeshi man and woman in the Mecca region on October 14 has sparked outrage with many Bangladeshis demanding justice. Representational image/AFP

7. Saudi Arabia's Execution of Two Bangladeshi Nationals

GS Paper II | Human Rights and International Relations

Context: Saudi Arabia executed two Bangladeshi nationals over an alleged indecent act inside a mosque in Makkah. Bangladesh said its diplomatic mission was not informed in advance and sought details of the charges and verdict.

1. Fundamental Questions Raised

1. Is the death penalty proportionate to the alleged offence?

2. Can justice be fair without transparency and due process?
3. How should religious sanctity be balanced with human dignity?
4. Should a foreign national's embassy be informed before an execution?
5. How should state sovereignty be balanced with human rights?

2. Ethical Relevance

1. **Values:** Justice, compassion, accountability and human dignity.
2. **Ethical dilemmas:** Law vs morality; religious norms vs individual rights; state sovereignty vs human rights.
3. **Core concepts:** Proportionality, rule of law, natural justice and ethical governance.
4. **Application:** Use the incident to discuss whether legal validity alone makes an action ethically justified.