

Incentives on cards to increase LPG cover in 'remote' areas

SUBHAYAN CHAKRABORTY

New Delhi, 12 June

The petroleum and natural gas ministry is planning to introduce incentives and ease the application process to enable more liquefied petroleum gas (LPG) distributorships in remote and inaccessible areas.

These areas include the middle Himalayas, parts of North-East and the forests of Chhattisgarh and Odisha. The government classifies any place where either Gramin or Rurban LPG distributorship can't be set up as Difficult and Special Areas or Durgam Kshetriya.

This includes hilly regions, forests, tribal inhabited areas, sparsely-populated places, disturbed areas, islands and Left Wing extremism (LWE)-affected areas.

The number of distributorships in difficult areas stood at 2,012 as on May 1, 2023. As compared to this, the number of rural distributorships was 11,744. Officials said the number of difficult area distributorships need to go up to connect those areas to the LPG cylinder distribution network.

This is part of the government's efforts to raise the number of active domestic LPG connections in the country.

Providing a larger segment of the population with dependable and safe LPG connections is a focus area for the Prime Minister's Office. It is a key

IN FOCUS

25,200 LPG distributors in India, as of May 2022

105.4% LPG coverage in India, as of Nov 2022

314.3mn Active domestic LPG connections, as of May 1, 2023

2012 Distributorships in difficult areas (hilly regions, forests, tribal-inhabited areas, sparsely populated, disturbed areas, islands and Left Wing Extremism (LWE)-affected areas)



pillar of the government's public policy objectives in the energy consumption space.

The number of active domestic LPG connections has risen to 314.3 million as on May 1, 2023. This is up from 145.2 million in April 2014, just before the Narendra Modi-led government came to power.

Criteria under review

LPG distributorships are awarded by Indane,

Bharat Gas and HP Gas, the subsidiaries of Indian Oil, Bharat Petroleum and Hindustan Petroleum, respectively.

Network expansion has been an important business activity for the three oil marketing companies (OMCs) for increasing the reach of petroleum products.

As a result, OMCs are engaged in appointing new LPG distributors as a continuous business process, to provide LPG to households.

Applicants looking to set up distributorships in rural and difficult areas earlier needed to pay a non-refundable application fee of up to ₹8,000 (general category), ₹4,000 (OBC) and ₹2,500 (SC/ST).

This was raised to ₹25,000 for distributorships in all areas when the detailed guidelines on Reconstitution of LPG Distributorships came into effect in May 2022.

"There have been complaints that the fee is too high. It may be revised downwards," another official said. The process is also complicated and may be shortened.

"We are trying to ease the process further, and the eligibility criterion is being reviewed," he said.

One of these is that the applicant also has to own a plot of land, which is of at least the minimum dimensions for construction of an LPG godown, according to the guidelines in the application for distributorship.

Taking into consideration the different terrain, population distribution and availability of infrastructure across varied topographies of Difficult and Special areas, the government may bring in differentiated dimension requirements.

In 2016, the government had relaxed the rules to allow applicants, who were already the owners of a ready LPG cylinder storage godown.

Similar changes in criteria may be brought in, the official said.

Oil prices fall ahead of Fed rate decision

Bengaluru, June 12

OIL PRICES FELL to multi-week lows on Monday as analysts highlighted rising global supplies and concerns about demand growth just ahead of key inflation data and a US Federal Reserve meeting later this week. Brent crude futures fell \$2, or 2.7%, to \$72.79 a barrel by 11:50 am EDT (15:50 GMT), while West Texas Intermediate crude futures fell \$2.16, or 3.1%, to \$68.01 a barrel.

Goldman Sachs cut its oil price forecasts on higher-than-expected supplies from Russia and Iran. The bank's December crude price forecast now stands at \$86 a barrel for Brent, down

from \$95, and at \$81 a barrel for WTI, down from \$89.

"Goldman capitulating on their bullish price forecast appears to have been the catalyst to kickstart selling today," said Kpler analyst Matt Smith.

The revision comes at the start of a busy week for the US Federal Reserve, which meets on Wednesday and is expected to leave interest rates unchanged for this month. However, investors are concerned the Fed is likely to resume rate hikes from next month, said UBS analyst Robert Yawger. The Fed's rate hikes have strengthened the dollar, making commodities denominated in the US currency expensive. — REUTERS

FINANCIAL EXPRESS
READ TO LEAD

Tue, 13 June 2023

<https://epaper.finan>



Oil prices fall ahead of US Fed rate decision on investors' concerns

REUTERS

LONDON, JUNE 12

OIL PRICES fell on Monday ahead of a US Federal Reserve meeting as investors tried to gauge its appetite for further rate hikes and amid concerns about the prospects for Chinese demand and rising Russian supply.

Brent crude futures was down \$1.42, or 1.9 per cent, to \$73.37 a barrel by 0902 GMT. U.S. West Texas Intermediate (WTI) crude was at \$68.61, down \$1.56 or 2.2 per cent.

Last week both benchmarks posted a second straight weekly decline as disappointing Chinese economic data raised concerns about demand growth in the world's largest crude importer.

That helped erase a boost in prices after Saudi Arabia pledged to cut production in July by 1 million barrels per day (bpd).

"Oil prices are caught in a clash between two opposing forces, bearish asset allocators who point to monetary contraction and bullish oil speculators expecting lower inventories in 2H23," Bank of America Global Research's Francisco Blanch said in a note.

"The bearish allocators will maintain the upper hand for now, as oil prices struggle to rally until the Fed eases money supply," Blanch said. The bank still expects Brent crude to average about \$80 a barrel in 2023.

The Fed's rate hikes have strengthened the greenback, making dollar-denominated commodities more expensive for holders of other currencies and weighing on prices.

Most market participants expect the U.S. central bank to leave interest rates unchanged when it concludes its two-day monetary policy meeting on

Wednesday.

On the supply side, while Saudi Arabia has cut oil production four times in the past year, Russian supply has held up as sanctions were engineered in a way to have less of an impact on output, Blanch said.

Russian oil exports to China and India have grown despite the implementation of the European Union's embargo and the Group of Seven's price cap mechanism that took effect in early December.

Goldman Sachs cut its oil price forecasts on higher-than-expected supplies from Russia and Iran and raised 2024 supply forecasts for the two producers and Venezuela by a total 800,000 bpd.

The bank's December crude price forecast now stands at \$86 a barrel for Brent, down from \$95, and at \$81 a barrel for WTI, down from \$89.



OMCs marketing margins expand in Q1 FY24

Our Bureau
New Delhi

The oil marketing companies (OMCs), which took a hit on margins and earnings in FY23 due to volatility in international crude oil prices, have witnessed an uptick in their marketing margins during Q1 FY24.

However, the OMCs may witness a moderation in marketing margins during the July-September quarter if international crude oil prices spike following the additional production cuts announced by Saudi Arabia and expectations of a cut in retail prices of petrol and diesel due to upcoming Assembly Elections this year and Lok Sabha polls next year.

RETAIL PRICES

Motilal Oswal Financial

Services in its report last week on OMCs, pointed out that OMCs kept retail prices unchanged since April 6 last year, despite Brent reaching a multi-year high of around \$123 per barrel in June 2022.

Their average marketing losses came in at ₹0.68 a litre on petrol and ₹10.1 per litre on diesel during the April-December period of FY23.

However, Brent prices have since then moderated to around \$79 per barrel in Q1 FY24 quarter to date (QTD), which augurs well for OMCs as their marketing margins have improved considerably to around ₹10 per litre on petrol and ₹12.7 a litre on diesel in Q1 FY24. This should propel earnings growth in the upcoming quarter as well, it added.

“We model marketing margins of ₹3.3 per litre



for petrol and diesel from Q2 FY24 onwards, considering a spike in crude oil prices due to active quota management by OPEC+ or a cut in retail prices due to the upcoming State. General elections may significantly impact marketing margins and also increase earnings volatility. We also highlight that a change of \$1 per barrel in crude prices impacts marketing margins by around 52 paise a litre,” the brokerage projected.

Although marketing margins have improved

substantially, Singapore gross refining margins (SG GRM) has softened to around \$3.8 per barrel during Q1 FY24 QTD from \$8.2 in Q4 FY23 (\$10.8 per barrel in FY23), Motilal Oswal said.

MARKETING SEGMENT

“While softer GRM may partially offset gains from the marketing segment in the upcoming quarter, we expect SG GRM to eventually rebound to its long-term mean of \$5-7 a barrel,” it added.

Considering the recent decline in Brent prices, the brokerage has cut its crude price estimates to \$84 per barrel in FY24 from \$90, while maintaining its FY25 estimates at \$90 a barrel as it expects supply to remain tight in FY25, owing to the recent revision in OPEC+ production targets for calendar year 2024.

Slash rates of petroleum products



India imports about 85 per cent crude to meet its requirements and spends huge foreign exchange. Recently, India has through its stepped-up imports of Russian crude-it bought a third of its from the sanctions-hit country in March-substantially buffered itself from any

appreciable adverse impact. India has sharply increased its purchase of crude from Russia the price India pays for the imported barrel of oil has been steadily declining. Still, the softening in crude purchase prices has not yet percolated to the Indian consumer.

It is not only that we have imported Russian crude at cheaper rates, but the prices of petrol and diesel in the international market are also down to about \$75 against \$116 per barrel in May 2022. But the pump prices of petrol and diesel have remained unchanged since. May 22, 2022. The Government must decide on the basis to reduce petroleum prices in the country by reducing the central government taxes on petroleum products.

S.K. Khosla | *Chandigarh*

भारत, यूएई का 2030 तक गैर-तेल व्यापार को 100 अरब डॉलर पर पहुंचाने का लक्ष्य

एजेंसी ■ नई दिल्ली

वाणिज्य एवं उद्योग मंत्री पीयूष गोयल ने सोमवार को कहा कि भारत और संयुक्त अरब अमीरात (यूएई) ने अपने गैर-तेल द्विपक्षीय व्यापार को वर्ष 2030 तक 100 अरब डॉलर पर ले जाने का इरादा जताया है। फिलहाल दोनों देशों के बीच पेट्रोलियम उत्पादों से अलग द्विपक्षीय व्यापार 48 अरब डॉलर है। भारत एवं यूएई के बीच पिछले साल एक मई को लागू हुए समग्र आर्थिक भागीदारी समझौते (सीईपीए) की संयुक्त समिति की पहली बैठक में गैर-तेल व्यापार को बढ़ाने के लक्ष्य पर सहमति जताई गई। गोयल ने संयुक्त समिति की बैठक के बाद संवाददाताओं से कहा, हमने मिलकर यह तय किया है कि अब हमें अधिक महत्वाकांक्षी होना चाहिए। इसलिए वर्ष 2030 तक कुल



द्विपक्षीय व्यापार को 100 अरब डॉलर तक ले जाने के पिछले लक्ष्य के बजाय अब हम गैर-पेट्रोलियम कारोबार को ही 2030 तक 100 अरब डॉलर तक पहुंचाना चाहेंगे। इस तरह सात साल में गैर-पेट्रोलियम कारोबार को दोगुने से भी अधिक करने का इरादा है। यूएई, भारत को कच्चे तेल की आपूर्ति करने वाले प्रमुख देशों में से एक है। दोनों देशों के द्विपक्षीय व्यापार में यूएई से भारत आने वाले कच्चे तेल की बड़ी हिस्सेदारी है।

गोयल ने कहा कि दोनों देशों के कारोबार क्षेत्रों को अपना व्यापार बढ़ाने के लिए प्रोत्साहित किया जा रहा है और सीईपीए समझौते को अच्छी तरह क्रियान्वित करने से इसमें मदद मिलेगी। सीईपीए संबंधी संयुक्त समिति की बैठक में व्यापार समझौते के विभिन्न पहलुओं पर नजर रखने के लिए कई समितियों एवं उप-समितियों के गठन पर भी सहमति बनी। वस्तु निर्यात, सीमा-शुल्क सुविधा, मूल-स्थान के नियम और

रुपए-दिरहम में व्यापार के लिए बातचीत में उल्लेखनीय प्रगति : गोयल

भारत और संयुक्त अरब अमीरात (यूएई) के केंद्रीय बैंकों के बीच रुपए और दिरहम में द्विपक्षीय व्यापार को बढ़ावा देने के लिए बातचीत काफी तेजी से आगे बढ़ रही है। वाणिज्य एवं उद्योग मंत्री पीयूष गोयल ने सोमवार को यह जानकारी दी। इस कदम से द्विपक्षीय व्यापार में लेनदेन की लागत घटेगी। गोयल ने कहा कि दोनों देशों के शीर्ष नेता तेजी से निर्णय लेने वाले हैं। ऐसे में हम जल्द अच्छे नतीजों की उम्मीद कर सकते हैं। भारत और यूएई के बीच मुक्त व्यापार करार (एफटीए) पिछले साल मई से लागू हुआ। एफटीए से द्विपक्षीय व्यापार और आर्थिक संबंधों को मजबूती मिलेगी। गोयल ने यहां संवाददाताओं से कहा कि दोनों देशों के केंद्रीय बैंक मानक परिचालन प्रक्रिया (एसओपी) और तौर-तरीकों पर बातचीत कर रहे हैं। गोयल ने कहा कि यह बातचीत मार्च, 2022 में शुरू हुई थी और अब इसे एक साल से ज्यादा हो गया है। दोनों देशों ने इस बारे में उल्लेखनीय प्रगति की है।

तकनीकी बाधाओं से संबंधित मुद्दों पर ए समितियां बनाई जाएंगी। इसके अलावा सेवाओं के कारोबार से संबंधित मुद्दों के निपटारे के लिए भी

एक उप-समिति बनाई जाएगी। गोयल ने कहा कि दोनों देशों के बीच भारत-यूएई सीईपीए परिषद के गठन पर भी सहमति बनी।

यूएई से गैर तेल कारोबार 100 अरब डॉलर पहुंचाने का लक्ष्य

श्रेया नंदी
नई दिल्ली, 12 जून

वाणिज्य एवं उद्योग मंत्री पीयूष गोयल ने सोमवार को कहा कि भारत और संयुक्त अरब अमीरात (यूएई) अपने गैर-तेल द्विपक्षीय व्यापार को वर्ष 2030 तक 100 अरब डॉलर पर ले जाने को सहमत हुए हैं।

भारत एवं यूएई के बीच समग्र आर्थिक भागीदारी समझौते (सीईपीए) की संयुक्त समिति की पहली बैठक में गैर-तेल व्यापार को बढ़ाने के लक्ष्य पर सहमति जताई गई। गोयल ने संयुक्त समिति की बैठक के बाद संवाददाताओं से कहा, 'हमने मिलकर यह तय किया है कि अब हमें अधिक महत्वाकांक्षी होना चाहिए। इसलिए वर्ष 2030 तक कुल द्विपक्षीय व्यापार को 100 अरब डॉलर तक

ले जाने के पिछले लक्ष्य के बजाय अब हम गैर-पेट्रोलियम कारोबार को ही 2030 तक 100 अरब डॉलर तक पहुंचाना चाहेंगे। इस तरह 7 साल में गैर-पेट्रोलियम कारोबार को दोगुने से भी अधिक करने का इरादा है।'

संयुक्त समिति में दोनों देशों के अधिकारी शामिल हैं, जिनका मकसद व्यापार समझौते की शर्तों की समीक्षा करना है। भारत-यूएई के बीच सीईपीए 1 मई 2022 से लागू है। यूएई के विदेश व्यापार राज्य मंत्री थानी बिन अहमद अल जेयोउदी ने कहा कि शुरुआती आंकड़ों से पता चलता है कि सीईपीए के शुरुआती 12 महीनों में गैर तेल का द्विपक्षीय कारोबार पिछले साल की समान अवधि की तुलना में 5.8 प्रतिशत बढ़ा है।

वित्त वर्ष 23 के दौरान यूएई भारत का तीसरा सबसे बड़ा कच्चे तेल



नई दिल्ली के विज्ञान भवन में सोमवार को समझौते पर हस्ताक्षर करने के बाद केंद्रीय वाणिज्य व उद्योग मंत्री पीयूष गोयल और यूएई के विदेश व्यापार राज्य मंत्री थानी बिन अहमद अल जेयोउदी - पीटीआई

आयात का साझेदार था, जिसकी हिस्सेदारी 10 प्रतिशत से ज्यादा है। उन्होंने कहा, 'ये आंकड़े ऐसे समय में आए हैं, जब 2022 की तीसरी और चौथी तिमाही में

वैश्विक व्यापार तेजी से घटा है। इससे साबित होता है कि हमने सही मायने में वृद्धि दर्ज की है। 2023 की पहली तिमाही में आंकड़े ज्यादा प्रभावशाली हैं। साल के पहले 3

महीने में कुल द्विपक्षीय कारोबार 13.2 अरब डॉलर पहुंच गया है और पिछली तिमाही की तुलना में 16.3 प्रतिशत वृद्धि हुई है।'

व्यापार समझौते के विभिन्न प्रावधानों को लागू करने के लिए आगे चलकर विभिन्न समितियों और उपसमितियों का गठन होगा, जो वस्तुओं के कारोबार, सीमा शुल्क संबंधी सुविधा प्रदान करने के लिए, वस्तुओं के मूल देश के नियम, कारोबार संबंधी समाधान, निवेश सुविधा सहित अन्य मामलों को देखेंगी। सेवाओं के कारोबार संबंधी मामलों को देखने के लिए एक नई उप समिति का गठन किया जाएगा। गोयल ने कहा, 'दोनों देशों के बीच भारत-यूएई सीईपीए परिषद के गठन पर भी सहमति बनी। यह परिषद दोनों देशों की सरकारों के लिए समझौते के क्रियान्वयन संबंधी माध्यम के तौर पर काम

करेगी।' गोयल ने कहा कि परिषद का एमएसएमई, स्टार्टअप, महिला उद्यमियों पर विशेष ध्यान होगा।

रुपये दिरहम में कारोबार

गोयल ने कहा कि दोनों देशों के केंद्रीय बैंक रुपया-दिरहम में व्यापार करने को लेकर चर्चा कर रहे हैं, जिससे लेन-देन की लागत में कमी आ सके। इस पर बहुत तेजी से प्रगति हो रही है। उन्होंने कहा कि इसके बेहतर परिणाम जल्द आने की संभावना है। गोयल ने कहा, 'हमें भरोसा है कि दोनों पक्षों पर उच्च स्तर पर चल रही सक्रियता के कारण न सिर्फ रुपये दिरहम में कारोबार होगा, बल्कि अन्य डिजिटल तकनीकों को भी भारत - यूएई ढांचे का हिस्सा बनाया जा सकेगा। हमारे पास बहुत अच्छी चीजें हैं, जिसकी पेशकश हम एक दूसरे को कर सकते हैं।'

A

*"A soul in tension that's learning to fly
Condition grounded but determined to try..."
Learning to Fly, Pink Floyd (1987)*

108

These lines from the iconic British rock band Pink Floyd's 1987 hit are emblematic of aviation. For, it's trying and trying again that has enabled humankind to fulfil its dream to fly. And amid warnings of a changing climate, there is a growing aspiration to make flying sustainable. But since caring for the environment demands a massive overhaul of existing technologies as well as copious expenditure, it's not going to be easy. So, when Air India's low-cost subsidiary AirAsia India successfully operated the country's first commercial flight on the Pune-Mumbai sectors using an indigenously produced sustainable aviation fuel (SAF) blend on the morning of May 19, the world's fastest-growing aviation market achieved yet another milestone on its flight towards sustainability.

"SAF's efficacy as an aviation fuel has already been proven across the world. Within the country, we have put in place some thoughts in terms of what that mix should be and we're looking at blending 1 per cent of SAF by 2025, 2 per cent by 2028, and 5 per cent by 2030 in regular aviation turbine fuel (ATF)," Jyotiraditya Scindia, Minister of Civil Aviation, tells *Business Today*.

For the past several months, Scindia's ministry has been coordinating with the Ministry of Petroleum and Natural Gas on guidelines for promoting SAF by getting Indian carriers to use it with ATF. "By 2025, if we target blending 1 per cent SAF in jet fuel, India would require around 140 million litres of SAF per annum. More ambitiously, if we target for 5 per cent SAF blend, India requires around 700 million litres of SAF per annum," says Hardeep Singh Puri, Minister of Petroleum and Natural Gas.

Globally, aviation accounts for over 2 per cent of man-made carbon emissions, according to the International Air Transport Association (IATA). In 2021, IATA's members committed to achieving net-zero carbon emissions by 2050 on projections of the sector generating 1.8 billion tonnes of emissions if fuelled by ATF. To achieve this, 65



THE FLIGHT TO SUSTAINABILITY

1

Although aviation currently accounts for just over 2 per cent of global CO2 emissions, the industry is expanding faster than road, rail or shipping

2

Global aviation body IATA's members have committed to achieving net zero by 2050

3

The number of airlines operating flights using jet fuel blended with sustainable aviation fuel (SAF) is increasing annually

4

Other green initiatives include highly fuel-efficient engines, taxibots to tow aircraft to takeoff point, minimising use of single-use plastics, reducing food waste and carbon-mapping airports



GREEN FUEL CHALLENGE

1

Emissions in 2021 reached around 720 million tonnes, regaining nearly one-third of the drop from 2019 levels seen in 2020

2

Over the next 27 years, 65 per cent of total emission reductions are projected to be achieved using SAF

3

To date, globally more than 450,000 flights have operated using SAF globally

4

Growth in airline traffic by 2050 likely to generate 1.8 billion tonnes of carbon emissions if fuelled by traditional kerosene-based ATF

5

But it's important to bring down per litre cost of SAF as it is up to five times more expensive than traditional jet fuel

per cent of the emission reductions will, in all probability, need to come from SAF.

SAF represents a broad category of fuels derived from non-fossil sources, including advanced biofuels and electro-fuels (e-fuels). However, the real challenges lie in logistics and costing. "The problem globally, and for India, is ensuring that SAF actually gets produced and the logistics of bringing it from the site of production to the bowser that goes to refill the aircraft," says Scindia. Similarly, depending on whether it is produced from recycled waste or synthetic fuel, it can be two to five times costlier than standard jet fuel, according to IATA estimates. And this is where Minister Puri senses India's potential to become a surplus and cost-effective producer of SAF. "India has feedstock for potential production of 19-24 million tonnes (MT) of SAF per year, whereas the estimated maximum requirement of SAF in India, considering 50 per cent blend, is around 8-10 MT per year by 2030," he declares. The biofuel powering the AirAsia India flight, for instance, was developed using alcohol-to-jet technology, using sugarcane molasses as feedstock.

FROM AIRLINES TO AIRPORTS

The environmental, social and governance (ESG) strategy of IndiGo—India's largest carrier by fleet and market size—is premised on balancing the ambition and practical limitations of the aviation sector. Since 2015, the low-cost carrier has been working towards reducing emission intensity by 18 per cent by 2023. Highlighting the role of technology, IndiGo CEO Pieter Elbers says, "Today, it may look like there has hardly been any change in aviation technology. However, if you see how an Airbus 321neo compares in fuel consumption to a plane 15 years ago, hardly any industries have created such a step up in efficiency." Consequently, the airline has been consistently adding more fuel-efficient Airbus A320XLR and A321neo aircraft to acquire one of the youngest fleets globally. Other measures include single-engine taxiing, reduction in hold fuel to lower aircraft weight and route savings.

Air India is also making a concerted effort at sustainability as a Tata group firm. "It adds to the impetus to do more when it comes to environmental responsibility. Making sure that we have a young and modern fleet; that we have all of those things that save weight on an aircraft;

PHOTO BY YASIR IQBAL



109

“THE PROBLEM GLOBALLY, AND FOR INDIA, IS ENSURING THAT SAF ACTUALLY GETS PRODUCED AND THE LOGISTICS OF BRINGING IT FROM THE SITE OF PRODUCTION TO THE BOWSER THAT GOES TO REFILL THE AIRCRAFT”

JYOTIRADITYA SCINDIA
MINISTER OF CIVIL AVIATION

PHOTO BY BANDEEP SINGH



110 |

INDIA HAS FEEDSTOCK FOR POTENTIAL PRODUCTION OF 19-24 MT OF SAF PER YEAR, WHEREAS THE ESTIMATED MAXIMUM REQUIREMENT OF THE COMMODITY IN INDIA, CONSIDERING 50 PER CENT BLEND, IS AROUND 8-10 MT PER YEAR BY 2030

HARDEEP SINGH PURI
MINISTER OF PETROLEUM AND NATURAL GAS

that we are pushing the developments and logistics pipeline of synthetic fuels that are not derived from fossil fuel sources," says Air India CEO Campbell Wilson.

But it was the Gurugram-based low-cost carrier SpiceJet that operated the country's first SAF blended flight in August 2018. The carrier has set a target of flying 100 million domestic passengers on SAF blend by 2030. "Aviation is a key economic enabler, yet increasing access to air travel and its benefits must not come at the cost of the environment," says Ajay Singh, Chairman and Managing Director of SpiceJet. Besides, SpiceJet is also the first Indian carrier to use a taxi-bot for taxiing to the runway; it has also introduced electric tarmac coaches.

Akasa Air, the country's newest scheduled carrier, often likes to describe itself as "India's greenest airline". It has taken several steps to reduce its environmental impact, including fuel-efficient engines on its fleet of Boeing 737 MAX aircraft, crew uniforms developed using plastic bottles salvaged from marine waste and eco-friendly in-flight meal packaging. "A key decision was to move away from the ceremonial water cannon salutes at flight and route inaugurations for management of water wastage, which has resulted in saving approximately 300,000 litres of water to date," says Belson Coutinho, the airline's Co-founder and Chief Marketing and Experience Officer.

Besides, most major carriers are collaborating with the Council of Scientific and Industrial Research-Indian Institute of Petroleum (CSIR-IIP), Dehradun, for the research, development and deployment of SAFs. This programme's importance can be gauged from the fact that state-owned Engineers India (EIL) has also joined the SAF bandwagon. "EIL is playing a crucial role in providing technological solutions for decarbonising the aviation sector in collaboration with CSIR-IIP. In this regard, we are providing technology support and consultancy services for production of bio-ATF for Mangalore Refinery and Petrochemicals (MRPL)," says Vartika Shukla, EIL's Chairman and Managing Director.

The civil aviation ministry is simultaneously conducting an audit of airport assets to reduce the CO₂ footprint, with 11 airports in the private sector and close to 96 of the Airports Authority of India (AAI) to be completely carbon-neutral by the second quarter of 2025. Already, the privately managed airports in Delhi, Mumbai and Bengaluru have received the Airport Council International (ACI)'s prestigious level 4+ accreditation in the



"We continue to work closely with manufacturers on engine efficiency, SAF and other such initiatives—that's really the way forward for us"

PIETER ELBERS
CEO, INDIGO



"Like the rest of the industry, it's going to be a series of incremental approaches building on each other to get to that 2050 timeline"

CAMPBELL WILSON
CEO, AIR INDIA



"EIL is playing a crucial role in providing tech solutions... We're giving support and consultancy services for production of bio-ATF for MRPL"

VARTIKA SHUKLA
CMD, ENGINEERS INDIA LTD

Asia Pacific and Middle East region, while the Hyderabad airport has received level 3+ accreditation.

However, a collaborative approach is important. "As a leading stakeholder in this sector, we understand the significance of phasing out fossil fuel-dependent equipment in ground handling and embracing eco-friendly solutions such as electric vehicles (EVs), bridge-mounted equipment, taxibots, etc.," says Murali Ramachandran, the India CEO of Çelebi Aviation Holding.

GLOBAL EXPERIENCE

Airlines the world over have become more conscious. For instance, on a recent United Airlines domestic flight in the US, an ad played on the in-flight entertainment screen. The airline has roped in the popular show *Sesame Street*'s Oscar the Grouch as its Chief Trash Officer!

Then there is Swiss Air, whose flight operations' environmental performance is usually measured by fuel consumption. From this, key performance indicators (KPI) are derived, such as the fuel consumption to transport one passenger every 100 km or the CO₂ emission by tonne kilometre transported. Additionally, the airline uses a software developed by Google Cloud to further optimise its flight operations. "We conduct applied research within the framework of the Single European Sky that advocates for a less fragmented airspace structure, so that aircraft can fly to their destinations without unnecessary detours, at the optimal flight altitudes and with continuous descent flights," says Mela-

nie Heiniger, Head of Sustainability at SWISS.

CONSCIOUS TRAVELLERS

Consumers, too, are becoming increasingly aware of the environmental impact of their choices. For instance, the vegan options on board Emirates feature a variety of greens, fruits, and vegetables sourced from several UAE-based suppliers, including fresh locally grown kale and lettuce from Bustanica, the world's largest hydroponic vertical farm. "As a result, we have seen a 154 per cent increase in vegan meals served onboard between 2021 and 2022, with over 280,000 plant-based meals consumed in the past year," says an Emirates spokesperson.

Some airlines are even offering customers the chance to pay for their carbon emissions through a green fare or donations to environment-friendly initiatives. "Like the rest of the industry, it's going to be a series of incremental approaches building on each other to get to that 2050 timeline. Technology, SAFs, sustainable practices, all of those things layering on each other because there is no magic bullet to this problem," says Air India's Wilson.

"If we continue to work closely with manufacturers on engine efficiency, SAF and other such initiatives that's really the way forward for us," adds IndiGo's Elbers. Therefore, like the line from the Pink Floyd song, the little or big steps required in this regard have to be acted upon determinedly. **BT**

@manishpant22, @nidhisingal