**Exploring Sustainable Aviation**

**International financing through green climate funds can be explored to subsidise SAF production and usage.**

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As the aviation industry continues to expand globally, the pressing need for its transition to greener operations can no longer be regarded as a distant concern. The European Commission’s stark warning that aviation emissions could triple by 2050 has ignited a global push for sustainable solutions, with major companies like Airbus leading the charge. At the core of this drive lies Sustainable Aviation Fuels (SAFs), heralded as a pivotal solution for the aviation industry’s carbon-neutral future. However, keeping in view the economic and technological constraints, the question is whether Pakistan’s aviation industry can embrace the green revolution.

SAFs represent a significant advancement in the decarbonisation of the aviation industry. Unlike conventional fuels, SAFs are produced from renewable feedstocks such as agricultural wastes, municipal solid waste, and energy crops. The lifecycle emissions of SAFs can be up to 80 per cent lower than fossil fuels, making them a game-changer for the aviation industry. Despite their environmental benefits, SAFs are two to three times more expensive than traditional jet fuels. This cost difference, accompanied by limited production capacity, has hindered the global uptake of SAFs. In 2023, SAFs accounted for just 3 per cent of total aviation fuel consumption, a far cry from the levels needed to meet the industry’s decarbonisation goals. Under the given circumstances, a green revolution in Pakistan’s aviation industry is a gigantic challenge.

For a greener aviation future, Pakistan’s Civil Aviation Authority (CCA) is making significant strides by collaborating with the International Civil Aviation Organisation (ICAO), establishing National Environmental Quality Standards, and emphasising environmentally sustainable airports. Although the aviation industry is moving in the right direction, the challenges are huge, and the progress is slow.

One of the major challenges for widespread SAF adoption in Pakistan is the high cost. Airlines already struggling with financial constraints are hesitant to bear the additional expenses. Similarly, middle-class passengers, who make up a significant portion of the customer base, would likely resist any further increase in ticket prices. To combat this impediment, the government can subsidise SAFs or provide direct financial support to airlines that use these fuels. Additionally, international financing through green climate funds can be explored to subsidise SAF production and usage. However, these solutions come with their own challenges. Government subsidies can strain an already stretched national budget, and securing international funding often involves lengthy processes.

To resolve these impediments, Pakistan can opt to pilot SAF adoption on a small scale, gradually expanding its use as cost-effective production technology emerges, further enhancing its accessibility. An alternative to securing international funds could be to attract Foreign Direct Investment (FDI) from Multinational Corporations (MNCs). By offering investment incentives in Special Economic Zones (SEZs) with airports and relaxing regulatory hurdles through the Special Investment Facilitation Council (SIFC), Pakistan can create investment opportunities for MNCs.

Another challenge for regulating SAF adaptation in Pakistan is the absence of domestic production plants, along with the lack of an effective mechanism for collecting feedstock. Without an established industry for SAF production, Pakistan would be completely dependent on expensive imports, further escalating costs and limiting adoption. Furthermore, the development of an indigenous SAF production industry requires technological expertise and infrastructure.

To address these impediments, the Ministry of Aviation needs to formulate a policy that encourages public-private partnerships (PPP) and international collaborations with countries at the forefront of SAF production. By partnering with established global players like TotalEnergies and SINOPEC, which recently signed a joint venture, Pakistan can leverage their expertise in SAF production, technology sharing, and establishing a service mechanism. This will also lead to identifying local refineries capable of conversion and partnering with international companies to develop production units that process local waste.

In a nutshell, while the potential of SAFs to revolutionise the aviation industry is undeniable, Pakistan’s ability to fully adopt this green revolution remains challenging. The economic, infrastructural, and technological challenges are significant but not insurmountable. With the right blend of government policy, international collaboration, and gradual investment in SAF infrastructure, Pakistan can make sustainable strides towards a greener aviation future. Pakistan needs to align itself with global decarbonisation efforts by developing domestic capacity, thus offering hope for a greener tomorrow.

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