

FUEL EFFICIENCY AND ENVIRONMENTAL PROTECTION

The impact of the aviation industry on the environment and human health has been under a microscope over the past few decades. Aviation was largely seen as a significant contribution to global carbon emissions, despite the fact that it accounts for only 2% of the world's total. In response to global priorities to minimize CO₂ emissions, IATA and individual leading airlines, airports and various business associations are working to develop a broad environmental policy that improves the environmental efficiency and sustainability of airlines at the global level. Ukraine has committed to reducing CO₂ emissions and for this has already joined the CORSIA monitoring project - Carbon Offsetting and Reduction Scheme for International Aviation. IATA helps develop standard environmental impact policies by helping airlines improve environmental performance and teaching airlines how they can reduce CO₂ emissions.

The organization has set ambitious goals reflecting their priority focus on environmental sustainability. One of IATA's key goals is to reduce net CO₂ emissions by 50% by 2050 compared to 2005 levels. Individual manufacturers set an even bigger goal – zero emissions by 2050! This will be facilitated by some innovative solutions that the industry uses to achieve the following goals:

1. Biofuels: biofuels are not just a trend. This is a reality for several airlines that currently operate regular routes. Biofuel is added to existing jet engine fuels, limiting the number of new CO₂ emissions emitted into the environment. Alaska Airlines, Air Canada, KLM and Qantas use used oil as biofuel on regular routes.

Depending on the aggregate state, there are three sorts of biofuels:

- Liquid - bioethanol and biodiesel (their generation is getting to be more and more, they are utilised as a substitute for mineral fuel - gasoline and diesel fuel - for inner combustion motors), demethyl ether, biomethanol.
- Solid - kindling, wooden granules (can be made from little branches, sawdust, bark of trees, cods and other wood preparing squander) and pellets (they are gotten from straw, seed husks, nut shells, etc.).
- Gaseous - biogas, methane and biohydrogen gotten as a result of the handle of characteristic deterioration of various natural substances -

methane aging.

2. Energy-efficient engines: many airlines invest in new aircraft engines with high fuel efficiency. By upgrading their fleet, airlines can significantly reduce the amount of jet fuel used, thereby reducing emissions.

Here are some examples of modern energy-efficient engines:

- Collectorless Electric Motors (BLDC)
 - Permanent Magnet Synchronous Motors (PMSM)
 - Electric motors with high internal power
 - Variable Speed Motors
3. Carbon compensation: airlines are asking their customers to help support the industry in its mission to reduce environmental impact through cooperation with environmental organizations. Some promising airlines now offer their customers the opportunity to make donations to forest restoration or wildlife conservation funds.

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