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Down To Earth

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GARBAGE CHAMPIONS

India's cleanest cities
Exclusive findings from a survey

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On a mission to reduce emission

S. SWAMINATHAN, General Manager HR Training, Airports Authority of India



Airports Authority of India (AAI) is committed to its green initiatives and has been awarded by international bodies such as Janes for its major role in environmental initiatives such as INSPIRE. The employees of AAI have always walked the extra mile so that the aircraft need not fly an extra mile. New technologies have been harnessed, procedures developed and more importantly the Human in the Loop are highly skilled and sensitive to environmental issues. The direct routings provided by Controllers and the Conditional Routes introduced by AAI in collaboration with Indian Airforce and Indian Navy are pointers to this high level of commitment.

ICAO fuel and CO₂ computation metrics

The International Civil Aviation Organisation has provided metrics to calculate fuel penalties and carbon emission.

- Every kilogram of Aviation Turbine Fuel Burnt = 3.157 kg of CO₂
- Every Nautical Mile flown by a flight additional fuel burnt = 11 kg
- Every minute of additional flying time additional fuel burnt = 49 kg
- Fuel Penalty for flying at 2000 feet below or above optimum levels = 45 kg/hour or 17 kg/100NM

Whereas, the computations can improve with use of proper statistical tools and better understanding of aircraft performance characteristics, it is definitely quite

appropriate to use generic formulae and arrive at the savings. The advantage having a record of statistical data is the impact it can create on the human players in terms of a sense of enormous achievement and the ripple effect it can have on them in rendering aviation more environmentally sustainable.

The major initiatives in realizing the objective of reducing carbon emission are:

- a) GPS Aided Geo Augmented Navigation (GAGAN.)
- b) Flexible Use of Air space and the introduction of Conditional Routes under ATS Route Optimisation programme through Civil-Military Cooperation.
- c) The implementation of Performance Based Navigation (PBN)
- d) Airport – Collaborative Decision Making (A-CDM)

Indian Satellite Based Navigation - GAGAN initiative

GAGAN or GPS Aided Geo Augmentation Navigation, is India's ambitious Satellite Based Augmentation System, which has a foot print across the Indian subcontinent and extends far and wide upto Africa, Middle East in the West and upto Philippines and Australia in the East.

GAGAN has been certified for Approach with Vertical Guidance or APV – 1 in the terminal phase and RNP 0.1 (Required Navigation Performance) in the enroute phase. The GAGAN signals introduce an element of accuracy that