NIGERIAN Tribune
Since November, 1949

Friday 23rd March, 2007

Aircraft vapour trails increase global warming-Report


Aircraft taking off from the runway

Airlines could boost their emissions of the greenhouse gas carbon dioxide and still halve their impact on global warming. That is the paradoxical conclusion of a new study into the effects of commercial aviation on the environment.

The CO2 emitted from their engines is not the only way aircraft affect climate.

They also do so through their contrails, the long trails of water vapour and ice that form in an aircraft's wake and which can persist for several hours.

Contrails trap heat in the atmosphere by reflecting infrared radiation emitted from the Earth's surface.

In 1999, the Intergovernmental Panel on Climate Change (IPCC), calculated that contrails from the world fleet of 12,000 civil airliners contribute as much to global warming as the CO2 their engines pour out as they burn jet fuel.

But global air traffic is growing by around 3.5 per cent per year, and many of those extra flights are long-haul, high-altitude, contrail-forming journeys. So by 2050, contrails will be having a great deal more of an impact on global warming than the CO2 emissions from aircraft engines.

At a price, contrails could be eliminated if aircraft reduced their altitude from about 33,000 feet to between 24,000 feet and 31,000 feet, depending on the weather.

But this would come at a price: lower altitude means denser air and higher air resistance, so planes have to burn more fuel. And this means more CO2 emissions, which would apparently negate any benefits from eliminating contrails.

But according to researchers at Imperial College, London, the idea may work after all. "It seems counterintuitive," admits Robert Noland, one of the authors of the study. But Noland and his colleagues have calculated that if planes flew low enough to leave no contrails behind, their fuel consumption would increase by only four per cent, boosting CO2 emissions by the same amount.

The team based their calculations on a simulation of a year's worth of traffic over the busiest part of Europe, taking into account the need for different aircraft to fly at different altitudes to avoid collisions.