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"Sir Richard Branson, the British magnate and adventurer, said today that all of his profits from his five airlines and train company, projected to be \$3 billion through the next 10 years, would be invested in developing energy sources that do not contribute to global warming."





- Aviation is the fastest growing source of transport greenhouse gases
- CO₂, NO_x, contrails
- Emissions increasing at an average of 4.5 per cent a year in Europe
- Unchecked, they will outweigh the reductions in carbon dioxide achieved through the EU's emissions trading scheme.

www.chooseclimate.org

- A return trip Montreal-Frankfurt on a 747 (80% yield)
- 4 tonnes of CO₂ per passenger, equivalent of total sustainable carbon emissions for all purposes for .9 years
- Total warming effect 3 times greater given contrails and NOx

GHG and ANS?

"The mess in air traffic control... is punishing the environment"

Branson

How can ANS help heal rather than punish the environment?

A missing equation

Peak hour pricing + Emissions-based charges

Peak hour pricing

- IATA objects to any system of peak/off-peak charging, a system that only arbitrarily redistributes costs between different users. An airline has no opportunity to adjust to such a system in an efficient way due to the complex task of scheduling its operations."
- Argues that users have no control over demand factors
- But price should play that role with consumers!

An uncomfortable question

Should policies be aiming to curb traffic growth?

Energy sector, by contrast, is not only assuming demand growth but seeking to put policies in place to flatten it

Emissions charges in the suite of environmental measures

- Emissions trading as in EU proposal, consistent with ICAO policy announced at 35th Assembly
- Kerosene tax
- Emissions charges this is where ANS comes in

2005 Netherlands Environmental Assessment Report

efficiency of an aircraft can be applied to CO₂ and non-CO₂ emissions for landing and take-off and/or for each mile flown (en-route charging). When applied to CO₂ only, the instrument is quite similar to fuel taxation. When applied to CO₂ and non-CO₂ the instrument becomes more fine-tuned and capable of addressing the full climate impact of aviation.

Concluding thoughts

- Corporatization and strong pricing signals tend to improve congestion management, which in turn improves environmental performance
- Weight-based charges bear next to no relationship to congestion costs or environmental externalities
- Climate change obliges a re-casting of the system