

Main thematic area: Economics/Science/Technology

Cost: £/££/£££

Environmental costs of aviation – a systematic analysis of the relevant literature

Aviation impacts

Air transport impacts both the local and global environment. These impacts range from noise in the vicinity of airports to the release of emissions into the global atmosphere and the subsequent undesired effects. Many studies have tried to estimate the environmental costs to society of air travel. However, no study to date has summarised the existing literature in a comprehensive way. Gaining this understanding is essential because efficient policy measures aimed at combating environmental impacts should be based on solid and transparent analysis of current data.



The debate

There has been much discussion about the use of economic instruments for mitigating the three detrimental effects of air transport, i.e., local air pollution, global climate change and traffic noise.

Lead: University of Cambridge
Duration: 12 months

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The need for robust estimates

Yet, given the lack of a careful and systematic study, policy-makers do not have a full view of the current evidence base related to proposing certain economic or market-based instruments, such as fuel tax or for costing local emissions impacts from aircraft. Having robust estimates of the environmental costs of these impacts is critical if effective measures are to be implemented.

Benefits

This project will analyse the existing literature and compare the methods, underlying assumptions and results on a systematic basis. The aim is to identify those studies where best practices have been applied and to distil the important findings from these. The focus will be on the environmental costs of aviation. However, the methods used and the costs estimated will be compared to those from studies addressing rail, shipping and road transportation.

Collaborations

This study will be undertaken in conjunction with the US PARTNER academic network. The project, in combination with the three year research project on Aviation Integrated Modelling (AIM), will also significantly contribute to environmentally-friendly UK capacity building in aviation.

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