

A GENERAL INFORMATION		
A 1	Category	Pricing
A 2	Subcategory	External cost charges
A 3	Transport policy measure (TPM)	Environmentally differentiated landing fees
A 4	Description of TPM	International air transport involves considerable adverse effects on the environment at both a national and an international level, which, particularly against the background of high rates of growth in the volume of air transport in recent years. While at a global level discussion focuses on the impact on climate change, at a local level the focus is on noise emissions. Particularly due to growing traffic volume, increasing efforts are being directed at problems of noise mitigation, and economic instruments are becoming even more important. One promising option is the creation of economic incentives for the use of environmentally sound technologies (with less noise and lower emissions) by airlines. To stimulate the use of silent or less noisy aircraft and to discourage the use of noisy aircrafts, many airports apply a pricing differentiation over and above the base landing and take-off charge.
A 5	Implementation examples	Currently, there are landing charges in Sweden and Switzerland concerning NOx. Moreover, noise based differentiation of landing fees (night fees, noise categories) are implemented in the UK (eg Heathrow), the Netherlands (eg Schiphol), Germany (eg Frankfurt).
A 6	Objectives of TPM	Main objectives are: <ul style="list-style-type: none"> • promote environmentally responsible behaviours by encouraging airlines to use aircraft with lower noise and air quality impacts • to stimulate airlines to take into account as one factor among many, the emission fees when choosing new engines for their new aircraft • If all EU airports introduce emission charges, the incentive to adopt cleaner engines would be stronger • Orientation towards the polluter-pays principle through the separate treatment of take-off and landing, (higher pricing at night) as well as greater differentiation of noise categories [1,2,3]
A 7	Key changes concerning:	
A 7.1	- Choice of transport mode / Multimodality:	No impact
A 7.2	- Origin and/or destination of trip:	No impact
A 7.3	- Trip frequency:	No impact
A 7.4	- Choice of route:	No impact
A 7.5	- Timing (day, hour):	Night fees simulate airlines to operate less flights at night
A 7.6	- Occupancy rate / Loading factor:	Environmental fees could incentive airlines to increase occupancy rate.
A 7.7	- Energy efficiency / Energy usage:	
A 8	Main source	Economic measures for the reduction of the environmental impact of air transport: noise-related landing charges [4]

B IMPACTS																																																			
B 1 OVERVIEW ON IMPACTS	<table border="1"> <thead> <tr> <th colspan="15">AFFECTED SEGMENTS</th> <th colspan="2">Geographical level</th> <th colspan="2">Source</th> </tr> <tr> <th colspan="5">Passengers</th> <th colspan="6">Transport operators</th> <th rowspan="2">Employees in transport</th> <th rowspan="2">Residents</th> <th rowspan="2">Economy</th> <th rowspan="2">Public bodies</th> <th rowspan="2">Society</th> <th rowspan="2">1st level</th> <th rowspan="2">2nd level</th> <th rowspan="2">Source of assessment</th> <th rowspan="2">Spatial level of source</th> </tr> <tr> <th>Road</th> <th>Rail</th> <th>Air</th> <th>Public transport</th> <th>Slow modes</th> <th>Road</th> <th>Rail</th> <th>IWW</th> <th>Air</th> <th>Maritime</th> <th>Public transport</th> </tr> </thead> </table>	AFFECTED SEGMENTS															Geographical level		Source		Passengers					Transport operators						Employees in transport	Residents	Economy	Public bodies	Society	1st level	2nd level	Source of assessment	Spatial level of source	Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport
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B 1.1	Summary	Air transport becomes more expensive, so the competitiveness and the mileage probably decreases. The reason of the measure is rather social and environmental, which two fields really benefits from that (people working on airports and residents near airports are affected (positively)).																																																	
B 1.2	Summary: Income groups	Possible negative impact on lower income groups due to higher costs of aviation																																																	
B 1.3	Summary: Age groups	No impact																																																	
B 1.4	Summary: Disabled people	No impact																																																	
B 1.5	Summary: Gender groups	No impact																																																	
B 1.6	Summary: Ethnic groups	No impact																																																	

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B 2.1	Travel or transport time																																																			
B 2.2	Risk of congestion																																																			
B 2.3	Vehicle mileage			↓																																																
B 2.4	Service and comfort																																																			
B 2.I	Overall impacts on social groups																																																			
B 2.II	Implementation phase																																																			
B 2.III	Operation phase																																																			
B 2.IV	Summary / comments concerning the main impacts	Due to higher transport costs, demand, and vehicle mileage will possibly decrease [not mentioned in sources]																																																		
B 2.V	Quantification of impacts																																																			

B 3 ECONOMIC IMPACTS																																																				
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B 3.1	Transport costs			↑																																																
B 3.2	Private income / commercial turn over																																																			
B 3.3	Revenues in the transport sector																																																			
B 3.4	Sectoral competitiveness			↓																																																
B 3.5	Spatial competitiveness			↓																																																
B 3.6	Housing expenditures																																																			
B 3.7	Insurance costs																																																			
B 3.8	Health service costs																																																			
B 3.9	Public authorities & adm. burdens on businesses																																																			
B 3.10	Public income (e.g.: taxes, charges)																																																			
B 3.11	Third countries and international relations																																																			
B 3.I	Overall impacts on social groups																																																			
B 3.II	Implementation phase																																																			
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B 3.IV	Summary / comments concerning the main impacts	The measure inspires airlines to buy low noise level and less pollutant emitting aircrafts, however the costs are definitely higher than conventional ones. Sectoral competitiveness decreases for airline transport (due to increased transport costs), spatial competitiveness increases between airport with and without limits (and thus differentiated landing fees).																																																		
B 3.V	Quantification of impacts																																																			

B 4	SOCIAL IMPACTS	AFFECTED SEGMENTS													Geographical level		Source				
		Passengers					Transport operators						Employees in transport	Residents	Economy	Public bodies	Society	1st level	2nd level	Source of assessment	Spatial level of source
		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport									
B 4.1	Health (incl. well-being)			↗					↗				↗	↗				L		S	N
B 4.2	Safety																				
B 4.3	Crime, terrorism and security																				
B 4.4	Accessibility of transport systems																				
B 4.5	Social inclusion, equality & opportunities																				
B 4.6	Standards and rights (related to job quality)																				
B 4.7	Employment and labour markets																				
B 4.8	Cultural heritage / culture																				
B 4.I	Overall impacts on social groups																				
B 4.II	Implementation phase																				
B 4.III	Operation phase																				
B 4.IV	Summary / comments concerning the main impacts	By inspiring airlines to change the aircraft fleet to less noisy and less pollutant ones, noise and air pollution levels decrease strongly in the area (near airports). [1,4] Workers on airports will definitely benefit from the measure (due to lower pollutants).																			
B 4.V	Quantification of impacts																				

B 5	ENVIRONMENTAL IMPACTS	AFFECTED SEGMENTS													Geographical level		Source				
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		Road	Rail	Air	Public transport	Slow modes	Road	Rail	IWW	Air	Maritime	Public transport									
B 5.1	Air pollutants													↘				L		S	N
B 5.2	Noise emissions													↘				L		S	N
B 5.3	Visual quality of the landscape																				
B 5.4	Land use																				
B 5.5	Climate																	L		S	N
B 5.6	Renewable or non-renewable resources																	L		S	N
B 5.I	Overall impacts on social groups																				
B 5.II	Implementation phase																				
B 5.III	Operation phase																				
B 5.IV	Summary / comments concerning the main impacts	Reduction of air pollutants climate and noise level, due to more environmental friendly engines																			
B 5.V	Quantification of impacts																				

C REFERENCES		
C 1	Other TPMs of this subcategory	Inclusion of air transport into the EU-ETS in 2012 Fairway fees (maritime fees differentiated according to the emissions of sulphur and nitrogen oxides for the ships) Internalisation of external costs for specific modes of transport (road, rail, iww, ports, airports)
C 2	References	International National [1] NOx-differentiated landing charges in Sweden (Kalle Keldusild, Aviation Working Group, January 2006) [2] Airport charges of Amsterdam Airport Schiphol Transport and Water Management Inspectorate, Civil Aviation Authority Netherlands, Division Aircraft, Technical and Airworthiness Standards Department 2003 [3] Heathrow Airport Structure of Aeronautical Charges Proposals, Heathrow Airport Limited, 2010 [4] Economic measures for the reduction of the environmental impact of air transport: noise-related landing charges, Öko-Institut e. V., 2004 [5] CONFERENCE ON GOOD PRACTICE IN INTEGRATION OF ENVIRONMENT INTO TRANSPORT POLICY, DG Environment, 2002 Regional / Local: