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## Solidarity Levies on Air Travel

The case for a ready-made innovative stream of finance in support of the current international climate negotiations

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### 1. Executive summary

The agreement by the UNFCCC Conference of Parties (COP16) in Cancun to establish a Green Climate Fund is encouraging, but developing countries, including the hosts of COP 17, South Africa, are already warning that they have no appetite to establish another 'placebo fund' with no money in it. For the Fund to be operationalised at COP 17 in Durban, there have to be credible pledges, at least for start-up funding, on the table going into COP 17.

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It is also clear, on the one hand, that due to the current fiscal constraints, direct budget contributions will be politically very difficult, and on the other, that it will not be possible to set up the sort of innovative international financing mechanisms that have been suggested in this context – such as permit auctions for the international aviation and maritime sectors, or a financial transaction levy – in time for Durban. In particular, the current ICAO (International Civil Aviation Organization) timetable would suggest that 2015 is the earliest possible date for a comprehensive aviation measure to begin, even if political obstacles can be overcome. Accordingly, although mitigation of aviation emissions is a desirable goal, this brief does not discuss the ICAO negotiations further. At the same time it has been clear, at least since the setting up of the Global Fund for Malaria and HIV/Aids, that up-front pledges help expedite the process of setting up a fund considerably.

The sole focus of this brief is the generation of near-term start-up finance for the new Green Climate Fund and its aim is to highlight a practical option of innovative finance for this purpose that is available to countries which are willing to provide funding but unable to do so through their consolidated budgets.

An aviation ticket or passenger levy would generate a new (off-budget) income stream for many developed countries that could be earmarked for climate change. Such country levies are quick to set up (without the need for international agreements), and have proven to be extremely cheap to administer.

A number of countries already implement a solidarity ticket levy to fund the fight against HIV/Aids. These include Least Developed Countries (LDCs) such as Niger; France is the only developed country to do so. This indicates that the levy is practical, and has no serious effects on the economy of even a very poor country.

Several countries have ticket taxes, but for general revenue and not directed towards climate change (e.g. UK, Ireland, US). These countries could either ring-fence a proportion of existing taxes, or increase them and ring-fence the additional revenue.

Passenger levies or taxes can be small enough to have no discernible effect on demand, but still raise useful revenue (as in France). Or, they can be set at a level that will also have a modest effect on demand (particularly for budget short-haul flights), as part of an emissions control strategy (as in the UK).

The levy can be set suitably low so as to avoid any genuine risk of competitive distortions. Moreover, coordination of levies could eliminate any residual risk of distortion, for example, between EU Member States; in practice covering the main EU hubs would reduce this risk to negligible.

The national levies can be phased out in the longer term if a carbon-pricing mechanism is agreed in ICAO that generates similar revenue for climate initiatives.

The penultimate section of the brief presents some illustrative calculations for the main developed countries that are not Economies in Transition, using rates similar to the French Solidarity Levy. The total raised would be around \$10 billion, with (for example) around \$1bn contributed by Spain, \$700m by Italy, \$260m by Canada, \$200m by Australia, and \$150m by Switzerland.

## 2. Background – The need for funding pledges by COP 17 in Durban<sup>3</sup>

The recent UN Climate Conference in Cancun, Mexico adopted a decision to create a Green Climate Fund (GCF), to be designed by a Transitional Committee under the aegis of the UN Framework Convention on Climate Change (UNFCCC). A lot of effort has already been put into ideas on what this new fund is going to be. But very little has been said on how it is going to be funded:

*There is no clarity on how to finance the Fund. Developing countries are keenly awaiting announcements by their developed country partners on regular and mandatory contributions to the new Green Fund. The Transitional Committee work cannot finish without some collective assumption on the scale of funding to be routed through the fund – an important design parameter for the Fund. The developed world's reticence to discuss the magnitude of the GCF is simply scandalous. It neither bodes well for a proper institutional edifice of the GCF nor for the rapid progress needed to achieve results by Durban. This conversation cannot be avoided. It must take place now and side by side with the design process to be initiated by the Transitional Committee.*<sup>4</sup>

The Cancun Agreements reaffirm that funding may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources, and takes note of the report of the High-level Advisory Group on Climate Change Financing (AGF). It is no coincidence that the Agreement has nothing more to say on how the new fund is to be sourced. Identifying sources of funding for the GCF will be the toughest problem in the forthcoming finance negotiations, and it has to be resolved quickly, at least with regards to mobilising start-up funding, for there is a real danger that without some start-up funding package, the GCF will arrive stillborn at Durban.<sup>5</sup> So how can adequate start-up funding be secured by Durban, in the current context of record budget cuts in the developed world?

Over two years ago, the LDC Group put forward a proposal for a levy on international air travel to provide a significant core funding stream for adaptation.<sup>6</sup> Although the LDC proposal envisaged a global, mandatory measure, an alternative option for securing quick start-up funds for the GCF ahead of COP 17 is for country-by-country, opt-in pledges to implement an air ticket levy and channel the proceeds to the GCF.

As discussed below, a number of countries already have such taxes (albeit not to fund adaptation) – they are easy to design, cheap to collect and have minimal impact on a country's economy: Air ticket taxes should be broadened, deepened, and directed towards climate change action.

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<sup>3</sup> This section is contributed by Benito Müller and partially based on his *Time to Roll Up the Sleeves - Even Higher! Longer-term climate finance after Cancun*, Oxford Energy and Environment Brief, January 2011.

<sup>4</sup> Farrukh Iqbal Khan, *The Green Climate Fund: What needs to be done for Durban (COP 17)*, Oxford Energy and Environment Brief, February 2011.

<sup>5</sup> One reviewer commented that this view was overly dramatic, that if no funding is available at Durban, then one could simply wait with the adoption of the documents developed by the Transitional Committee. But given the urgency in establishing the new fund that was professed by most Parties (including the developed ones), such a postponement due to the lack merely of start-up funding would be a serious blow to the credibility of contributors which can and must be avoided, for the good of the overall multilateral climate change regime.

<sup>6</sup> For more on the LDC International Air Passenger Adaptation Levy (IAPAL), see, for example, Benito Müller, *IAPAL - Thirteen Questions and Answers*, ecpi Policy Brief April 2009.

### 3. Air ticket levies/taxes are a straightforward way to raise finance

Any national government has the undisputed right to put a levy or tax on passengers using its airports, without the need for international agreement.<sup>7</sup> In practice the liability usually falls on the airline, and is calculated per passenger departing from airports in the territory of the country (transfer and transit passengers, who change planes and wait on the runway respectively, are usually exempted). It can be a flat rate, be varied by distance or class of travel, or be a percentage of the ticket price. Most countries that levy tickets do so on both domestic and international flights – and a country-by-country opt-in tax/levy could do the same (in contrast to an internationally-agreed mechanism such as IAPAL, which would only cover international flights).

According to data published by the UK revenue and customs authorities, Air Passenger Duty is the cheapest of all UK taxes to collect. At 0.04 pence per pound collected, it is more than twice as cheap as the next most efficient tax, and over 27 times cheaper than the average pound of UK tax revenue.<sup>8</sup>

**Table 1: Aviation taxes and their use in selected developed countries – indicative figures.**

	<i>Domestic Economy Class, US\$</i>	<i>Domestic Premium Class, US\$</i>	<i>International Economy Class, US\$</i>	<i>International Premium Class, US\$</i>	<i>Total raised, US\$ m</i>	<i>Use</i>
<b>France</b>	1.4	14	5.6	56	<b>160</b>	UNITAID
<b>UK</b>	20	40	98-123	196-280	<b>3'000</b>	Govt revenue
<b>Germany</b>	11	11	35-63	35-63	<b>1'400</b>	Govt revenue
<b>USA</b>	7.5% of fare	7.5% of fare	14.50	14.50	<b>16'000 (all taxes)</b>	Aviation infrastructure, security etc

**Notes:**

1. Figures for UNITAID countries are for 2009 and taken from Unitaid (2009), converted at 1€ = \$1.40
2. Figures for UK and Germany are projections for 2011, sourced from the respective governments.
3. Figures for the USA are for 2005 and the total is the aggregate of all federal aviation taxes, not just those listed. See further Cairns et al (2006), *Predict and Decide: Aviation, climate change and UK policy*, Cairns and Newsom, Environmental Change Institute (2006) <http://tinyurl.com/69fdrh>, Annex C

The use of revenues raised in this way is entirely in the gift of the Government in question. A handful of countries already have such taxes, and fewer still use the revenue for international public good initiatives. However, in the majority of developed countries, aviation remains untaxed (apart from fees levied purely within the industry such as airport charges – sometimes misleadingly represented as 'taxes').

<sup>7</sup> Legal issues would only arise if a government attempted to discriminate according to the nationality of the passenger or the airline.

<sup>8</sup> *Meeting Our Challenges – Departmental Annual Performance Report 2009*. HM Revenue and Customs 2009 (<http://www.hmrc.gov.uk/about/autumn-report-2009.pdf>) see table 1 on page 32.

#### 4. Existing Air Passenger Taxes & their use

The table and discussion below gives selected examples of air ticket taxes that are already in place.

**UNITAID.** As well as France, a number of developing countries already implement an air ticket levy in order to raise funds for UNITAID: Chile, Madagascar, Mauritius, Niger and the Republic of Korea. Norway contributes a proportion of revenue from an aviation fuel tax to UNITAID.<sup>9</sup>

Benin, Burkina Faso, Côte d'Ivoire, Democratic Republic of Congo, Jordan and Mali have also committed to implement a levy.<sup>10</sup> Promotion of the levy is one of the missions of the Leading Group on Innovative Financing, which has 63 member countries<sup>11</sup>.

**Aviation Infrastructure.** In the United States, a number of federal and state taxes are levied on aviation (both tickets and fuel). According to the Air Transport Association of America, federal taxes alone amounted to \$16 billion in 2005. The proceeds are used for improvements in aviation infrastructure, and to pay for measures related to security, immigration, quarantine etc.

Given the size of the US aviation sector (around a fifth of all global aviation activity is US domestic flights) only a small increase in the rates of taxation would be needed to yield useful revenue for adaptation. To illustrate, a 5% increase in all taxes would generate \$800 million, but would only add 70 cents to the price of an international air fare.

**Government Revenue.** The UK and Ireland have levied ticket taxes for several years. Germany and Austria recently introduced air ticket taxes that came into effect in 2011. The Netherlands imposed such a tax in 2008, but revoked it in 2009, citing loss of passengers, mainly from Amsterdam Schipol to Frankfurt airport. However, this trend coincided with a sharp Europe-wide reduction in passenger numbers due to the economic crisis.

**EU ETS.** Although the EU Emission Trading Scheme (ETS) is not a tax, European Member States will benefit from the auctioning of a proportion of aviation emissions permits when the sector enters the EU ETS in 2012. The European Commission has just published the details of aviation's cap, of which 15% will be auctioned. At current permit prices of €16, this auction would raise a little over €500 million (US \$700 million) for Member State governments.<sup>12</sup>

The Directive incorporating aviation into the EU ETS acknowledges that Member States have the right to determine what use to make of auctioning revenues. Nevertheless, it lists purposes for which the revenues *should* be used, including 'to adapt to the impacts of climate change in the EU and third countries', 'to fund research and development for mitigation and adaptation' and 'to avoid deforestation and facilitate adaptation in developing countries'.<sup>13</sup>

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<sup>9</sup> UNITAID purchases medicines to combat HIV/Aids, malaria and tuberculosis in the developing world.

<sup>10</sup> *Unitaid (2009)*

<sup>11</sup> See list at <http://www.leadinggroup.org/article48.html>

<sup>12</sup> EUA spot price at 10.03.11. For details of the EU ETS cap, <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/259&type=HTML>

<sup>13</sup> Directive 2008/101/EC of the European Parliament and of the Council, Recital (21).

## 5. Economic issues

This section presents some brief consideration of fiscal and economic issues surrounding ticket taxes/levies. A full economic analysis is beyond the scope of this paper, and in any case is not merited given the minor effects of levying such a modest tax.

### *5.1 Fair taxation.*

Kerosene used for international flights is exempt from taxation, by virtue of a large number of bilateral Air Service Agreements that implement the 1944 Chicago Convention on Civil Aviation. In the EU, additionally, aviation enjoys favourable zero-rating for VAT. Ending the fuel tax and VAT tax breaks is certainly desirable, but would require consensus among the 27 Member States, whereas any country can take a unilateral decision to impose a ticket tax/levy.

In fact, ticket taxes/levies would need to be increased substantially before they fully compensated for the fuel tax and VAT tax breaks. The UK Treasury has valued these exemptions for flights from the UK at £10 billion (€11.6 billion). In other words there is considerable headroom, even in the country with the highest aviation taxes in Europe, to increase the rate of taxation before the sector reaches fiscal equity with motoring.

As well as being under-taxed relative to other sectors, aviation is a fast-growing source of greenhouse gas emissions that does not meet its climate costs. In the period before mitigation measures can be developed that will internalise this externality, it is a reasonable proxy to ask the industry, or rather its consumers, to make a restitutive payment towards the damage they are causing, to help, in particular, vulnerable countries adapt to the climate change to which the industry contributes.

### *5.2 Effects on demand.*

As discussed, it is likely that ticket taxes at the level suggested would have no material impact on overall demand. Price elasticities for air travel are thought to be low, with estimates clustered around  $-1$  (slightly lower for long-haul business, slightly higher for short-haul leisure)<sup>14</sup>. This means that a 1% increase in the price of air travel leads to a 1% demand reduction (in what) – and note that any reduction would be on a one-off basis, against a background of steady annual increases in air travel. Systematic data on average airfares is, however, not publicly available, making calculations of demand effects difficult.

Generally, however, demand is thought to be more income than price elastic, i.e. depending more on passengers' available income than to changes in the airfare itself. This is borne out by the close correlation between per capita GDP and frequency of air travel across countries<sup>15</sup>, and by the way demand for air travel has tracked GDP growth in recent decades<sup>16</sup>. It is also borne out anecdotally in countries that have implemented levies, in the first month of the German ticket tax, for which data are available, Lufthansa passenger numbers increased against the same month the previous year by 11.7%<sup>17</sup>

Even in the UK, which uses taxes as part of a wider strategy to help limit emissions with levies of over \$100 on long-haul economy tickets, demand for air travel has remained stubbornly strong, even when corrected for the economic downturn.

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<sup>14</sup> The range of estimates from the academic literature are presented at [http://www.fin.gc.ca/consultresp/airtravel/airtravstdy\\_1-eng.asp](http://www.fin.gc.ca/consultresp/airtravel/airtravstdy_1-eng.asp)

<sup>15</sup> <http://graphs.posterous.com/propensity-for-airline-travel-vs-gdp-per-capi>

<sup>16</sup> [http://www.boeing.com/commercial/cmo/images/cmo\\_methodology\\_chart3\\_lrg.gif](http://www.boeing.com/commercial/cmo/images/cmo_methodology_chart3_lrg.gif)

<sup>17</sup> [http://de.news.yahoo.com/17/20110209/tbs-gute-zahlen-waermen-deutsche-tourist-cc081a3\\_1.html](http://de.news.yahoo.com/17/20110209/tbs-gute-zahlen-waermen-deutsche-tourist-cc081a3_1.html)

### ***5.3 Distortion of competition.***

It has been argued that differential taxes will cause passengers to fly from countries with the lowest taxes, distorting competition between airlines (who have established bases at particular airports) and reducing the revenue base. While this is theoretically correct, for direct flights the effect is only likely to occur in practice where major airports are geographically close but in different countries, so that passengers can feasibly access a non-taxed flight. For developed countries, this situation only pertains in north-west Europe, and at the US-Canada border.

At the rates suggested in this paper, however, the maximum differential would be \$5 for an economy class traveller and \$50 for a business class passenger. A \$5 advantage would quickly be eliminated if the passenger had to travel further by car or public transport to access a more distant airport, and even a \$50 advantage is unlikely to cause a significant shift in patterns of business travel, since such passengers are far more time than price sensitive.

The simplest way to eliminate any such effect, of course, would be an agreement to levy similar rates amongst the governments concerned. Belgium, Luxembourg and the Netherlands could levy a similar rate to Germany, Denmark and Sweden, and Canada and the US might also benefit from coordinated measures.

Transfer passengers could be exempted (as with UK APD) to avoid any effect on choice of connecting airport.

## 6. Country-by-country revenue potential

In the illustration below a total of around \$10 billion would be raised if the 23 developed countries listed<sup>18</sup> implemented ticket levies at the following rate: \$1 domestic economy, \$10 domestic premium, \$5 international economy, \$50 international premium<sup>19</sup>.

Revenue figures have been rounded to the nearest million and totals may therefore show minor rounding errors. It is assumed that 10% of all passengers pay the premium rate.<sup>20</sup> No account is taken of the interplay with existing aviation taxes; the solidarity levy is assumed to be new and additional.

<i>Country</i>	<i>Domestic Pax (m)</i>	<i>Domestic Revenue (US\$m)</i>	<i>International Pax (m)</i>	<i>International Revenue (US\$m)</i>	<i>Total Revenue (US\$m)</i>
<b>Australia</b> <sup>(1)</sup>	49.6	94	11.4	108	<b>203</b>
<b>Austria</b> <sup>(2)</sup>	0.7	1	17.8	169	<b>170</b>
<b>Belgium</b>	-	0	17.9	170	<b>170</b>
<b>Canada</b> <sup>(3)</sup>	34	65	20.4	194	<b>258</b>
<b>Denmark</b>	1	2	16.1	153	<b>155</b>
<b>Finland</b>	1.2	2	9.9	94	<b>96</b>
<b>France</b>	13	25	70.1	666	<b>691</b>
<b>Germany</b>	12	23	107	1017	<b>1039</b>
<b>Greece</b>	3.4	6	23.8	226	<b>233</b>
<b>Ireland</b>	0.6	1	24.5	233	<b>234</b>
<b>Italy</b>	14.2	27	69	656	<b>682</b>
<b>Japan</b> <sup>(4)</sup>	91	173	21	200	<b>372</b>
<b>Netherlands</b>	-	0	36.7	349	<b>349</b>
<b>New Zealand</b> <sup>(5)</sup>	7.3	14	4.3	41	<b>55</b>
<b>Norway</b> <sup>(6)</sup>	11.3	21	7.6	72	<b>94</b>
<b>Portugal</b>	1.5	3	19	181	<b>183</b>
<b>Spain</b>	17.8	34	101.2	961	<b>995</b>
<b>Sweden</b>	3	6	17	162	<b>167</b>
<b>Switzerland</b> <sup>(7)</sup>	0.6	1	15.8	150	<b>151</b>
<b>United Kingdom</b>	11.5	22	143.8	1366	<b>1388</b>
<b>United States</b> <sup>(8)</sup>	618.1	1174	151.5	1439	<b>2614</b>
<b>Total</b>	<b>892</b>	<b>1694</b>	<b>906</b>	<b>8605</b>	<b>10300</b>

Sources: see end notes<sup>i</sup>

<sup>18</sup> Annex I countries, excluding Economies in Transition and Turkey (due to their circumstances), and Iceland, Luxembourg and Malta due to low aviation activity or lack of data.

<sup>19</sup> These rates are based on the French levy, but rounded down. The main difference is that it is proposed here that flights within Europe should attract the international, not the domestic rate – which accounts for higher revenue from France than the current UNITAID total.

<sup>20</sup> Based on data from IATA's premium traffic monitor:

<http://www.iata.org/whatwedo/Documents/economics/Premium-Monitor-Dec10.pdf>



## 7. Conclusion

National air ticket levies could be one of the most reliable potential sources of finance for the Green Climate Fund in the short term, and could be made operational without the need for drawn-out negotiations. There are precedents for the application of air ticket taxes in both developed and developing countries, and although several individual countries operate them for their own domestic revenue purposes, there are clear examples, in both developed and developing countries of ticket levies that have been hypothecated for international public good initiatives – in this case the purchase of medicines for HIV/AIDS.

Where ticket taxes/levies have been applied, no major distortions or decline in business has been experienced as a result of the tax. Negotiations are underway at the International Civil Aviation Organisation to develop a market-based instrument for aviation, with potential to generate revenues for climate initiatives, but it may take several years to put into this operation and generate revenues for climate change adaptation. Thus a ticket tax/levy represents a fast-start, low-impact revenue generating system which could, if desired, be replaced by mitigation oriented mechanisms as they develop. What is critical is to get to Durban with a realistic, credible and predictable option which is capable of delivering climate finance annually for the next 5-10 years.

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- (1) <sup>i</sup> Avline 2008-9, Australian Department of Infrastructure, Transport, Regional Development and Local Government. <http://www.bitre.gov.au/Info.aspx?ResourceId=761&NodeId=92>. (NB international statistics represent journeys to and from Australia and have been divided by 2)
  - (2) For all EU countries, data is for 2009 and is taken from [http://epp.eurostat.ec.europa.eu/statistics\\_explained/index.php?title=File:Overview\\_of\\_EU27\\_air\\_passenger\\_transport\\_by\\_Member\\_States\\_in\\_2009\\_-\\_passengers\\_carried\\_%28in\\_1000%29.PNG&filetimestamp=20110214143654](http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Overview_of_EU27_air_passenger_transport_by_Member_States_in_2009_-_passengers_carried_%28in_1000%29.PNG&filetimestamp=20110214143654). (NB Except for intra-EU flights, numbers represent arrivals and departures and have been divided by 2.)
  - (3) Statistics Canada, data for 2009. <http://www.statcan.gc.ca/pub/51-203-x/51-203-x2009000-eng.pdf>
  - (4) Japanese Ministry of the Interior and Communications, Statistics Bureau. <http://www.stat.go.jp/english/data/handbook/c09cont.htm>. Figure for international passengers in 2009 is aggregated from tourism statistics provided and may include some arrivals by ship. However, data correlates well with a 2004 survey specific to air transport: <http://www.stat.go.jp/english/index/official/209.htm#8>
  - (5) Data aggregated for Auckland (2010), Christchurch (2010) and Wellington (2008) airports only, see [http://www.aucklandairport.co.nz/Corporate/NewsAndMedia/Publications/~/\\_media/Files/Corporate/Monthly\\_Traffic\\_Reports/2011/MTU\\_Month%2006\\_Dec%202010.ashx](http://www.aucklandairport.co.nz/Corporate/NewsAndMedia/Publications/~/_media/Files/Corporate/Monthly_Traffic_Reports/2011/MTU_Month%2006_Dec%202010.ashx), <http://www.christchurchairport.co.nz/content/388/i.%20Passenger%20Numbers.pdf>, and <http://www.wellingtonairport.co.nz/html/business/statistics.php>
  - (6) Avinor (Norwegian airport operator) Data is for scheduled and charter passengers in 2010 and taken from [http://www.avinor.no/tridionimages/2010%20Passasjerer\\_tcm181-126648.xls](http://www.avinor.no/tridionimages/2010%20Passasjerer_tcm181-126648.xls). Data given represents arrivals and departures and has been divided by 2.
  - (7) Data aggregated for Geneva and Zurich airports in 2009, see [http://www.gva.ch/en/Portaldata/1/Resources/fichiers/Institutionnels/Statistiques/2009\\_stat-gva.pdf](http://www.gva.ch/en/Portaldata/1/Resources/fichiers/Institutionnels/Statistiques/2009_stat-gva.pdf) and [http://www.zurich-airport.com/Portaldata/2/Resources/documents\\_unternehmen/investorrelations/Zahlen\\_und\\_Fakten\\_2009\\_en.pdf](http://www.zurich-airport.com/Portaldata/2/Resources/documents_unternehmen/investorrelations/Zahlen_und_Fakten_2009_en.pdf)
  - (8) United States Bureau of Transportation Statistics. Data for 2009. [http://www.bts.gov/press\\_releases/2010/bts015\\_10/html/bts015\\_10.html#table\\_01](http://www.bts.gov/press_releases/2010/bts015_10/html/bts015_10.html#table_01)