ENB

## on the side

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Events convened on Friday, 13 June 2003

### Emissions trading in international aviation

Presented by the Institute for Applied Ecology



Odette Deuber, Institute for Applied Ecology, explained the climate impacts of aircraft emissions.

Falk Heinen, Germany's Federal Environmental Agency, highlighted that aviation-related greenhouse gas emissions contribute to global warming and noted that the International Civil Aviation Organization is analyzing technical and market-based measures to mitigate greenhouse gas emissions, forecasting the possible implementation of an emission trading scheme (ETS) by 2015.

Odette Deuber, Institute for Applied Ecology, reviewed the advantages and disadvantages of an ETS in international aviation, and the climate impacts of aircraft emissions. Noting that greenhouse gas emissions from international aviation are not included in Parties' legally-binding targets, she highlighted that the Kyoto Protocol urges Parties to stabilize and reduce emissions from bunker fuels, including aircraft emissions. She explained the formation and impacts of contrails and cirrus clouds and noted the scientific uncertainties relating to the climate impacts of aircraft emissions. Deuber overviewed the Intergovernmental Panel on Climate Change assessment of the effects of international aviation on the climate. Noting that the climate impacts of aircraft emissions are not proportional to fuel consumption, she observed that climate impacts also depend on the geographic point of emissions, background concentration and cruise altitude.

Martin Cames, Institute for Applied Ecology, explained design options for ETS, mitigation strategies and abatement costs. He overviewed the advantages and disadvantages of different trading systems and their compatibility with the Kyoto Protocol. He noted that ETS actors obliged to surrender allowances could involve the sellers of fuel, the aircraft or engine manufactures, or the carriers. He also analyzed how emissions could be assigned to Parties and the complications that could emerge for international flights that involve ETS participating and non-participating countries. He reviewed mitigation strategies relating to: flight operational measures, such as reducing flight altitude levels and changing routes; utilization of climate optimized engines; and improvement of aerodynamic efficiency. Cames recommended an ETS that would cover all greenhouse gas emissions relating to aviation, assign emissions according to departure and arrival of aircrafts, and not disrupt international competition.

Discussion: Participants discussed, *inter alia:* the impacts of ETS on developing countries' carriers and international competition; and the compatibility of ETS with the Kyoto Protocol.

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# Method for baseline determination for multiple project categories

Presented by the United Nations Industrial Development Organization (UNIDO)



Michael Klein, 500 PPM, provides a detailed review of the methodology used in the UNIDO Baseline Guidance document.



Marina Ploutakhina, UNIDO, outlines her organization's work relating to climate change.

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Marina Ploutakhina <mploutakhina@unido.org> Michael Klein <mklein@500ppm.com> Marina Ploutakhina, UNIDO, outlined her organization's activities relating to climate change and provided background information on UNIDO's baseline determination methodology. She noted that UNIDO seeks to enhance capacity building through a learning-by-doing approach and noted its activities in Brazil and South Africa, including capacity building for the design and development of CDM projects, preparation of CDM project portfolios, and promotion of project portfolios to attract investors.

Ploutakhina reviewed the baseline guidance document concept, which is based on: the relationship between corporate accounting of emissions and the accounting of project-based emission reductions; the attribution of changes in emissions to emission accounting factors; the correlation of emission accounting factors to project typology; the definition of boundaries; and the identification of baseline methods. Ploutakhina said the methodology helps to isolate emission accounting factors and aims to act as a tool for technical training for project developers.

Michael Klein, 500 PPM, discussed the methodologies set out in the Baseline Guidance document, outlining the project context and the applications. He said the document focuses on the accounting of emission changes, primary emission impacts by project type, selecting a baseline, and calculation of specific (output-based) emission reductions.

In terms of the accounting of emission changes, Klein reviewed the methodologies for defining system boundaries and explaining the occurrence of emission changes. He also summarized the framework to account for project-based emission changes. Regarding baseline selection, he reviewed the step-wise approach for selection of project-specific baselines and the application of the project-specific baseline selection procedure. In this context, Klein reviewed the procedure and case study applications regarding: the identification of possible baseline options; option elimination screening; barrier testing; investment ranking testing; the choice of conservative baseline or definition of baseline shifting parameters; and baseline eligibility period and baseline switching parameters.

In his review of the application of the project-specific baseline selection procedure, Klein elaborated on the steps involved, stating, *inter alia*, that barrier testing may consider financial, legal, technological, operational, maintenance, supply chain, market structure, and informational elements, and that the investment ranking test is based on the internal return rate in equity or net present value, or long run marginal unit production costs. He also described the final step of calculating output-based emission reductions.

Discussion: Participants raised questions regarding, *inter alia*, guidelines for acquiring accurate data regarding the barrier test, use of the methodology as a test for additionality, and cooperation with the World Business Council for Sustainable Development.