ABC IMPACTS

Aviation and the Belgian Climate Policy – Analysis of Integration Options and Impacts

DURATION OF THE PROJECT
Phase 1: 15/12/2005 – 14/12/2007
Phase 2: 15/12/2007 – 31/01/2010

BUDGET
1.080.089 €

KEYWORDS
Climate policy, Aviation, Maritime transport, Emissions, Post-2012 negotiations, EU ETS.

CONTEXT

Emissions from international air are currently not covered by the Kyoto Protocol commitments, nor by the EU-ETS, though they have been growing considerably for more than 10 years. However, the inclusion of this sector into emission reduction policies is increasingly considered, both within the European Union (the aviation sector should be included in the EU-ETS by 2013 at the latest) and in the UN Framework Convention on Climate Change. It is thus a major issue in defining post-2012 climate policy at both the European and international levels. Different options for including international air transport are to be considered, as well as their impacts for Belgium.

PROJECT DESCRIPTION

Objectives

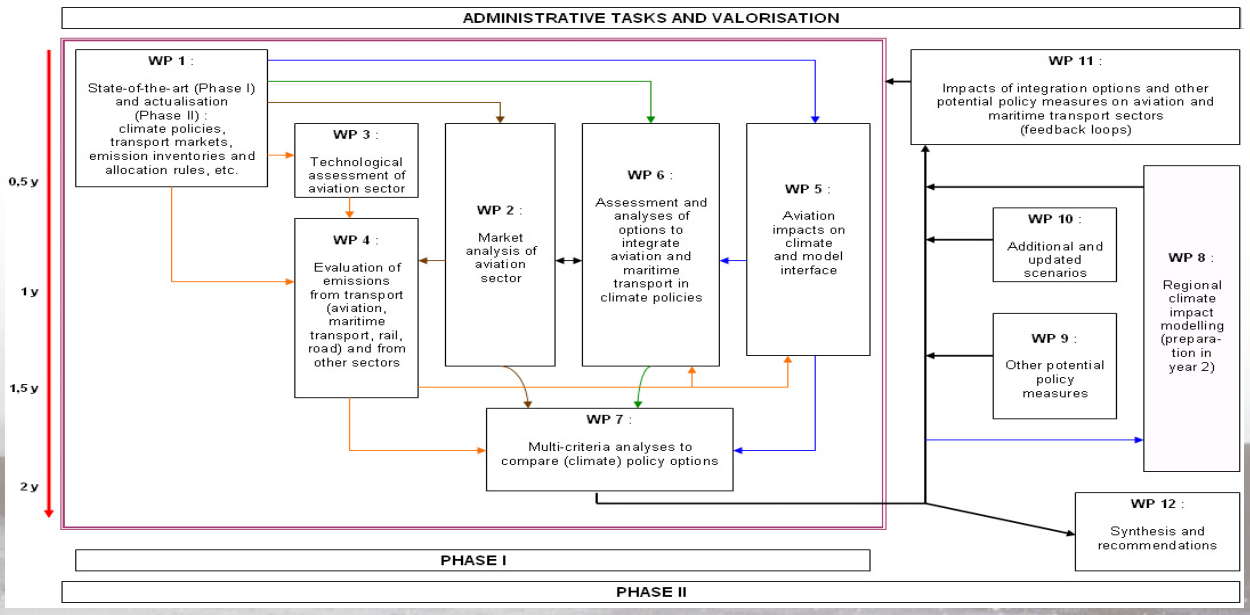
This research project serves two main objectives:
1) to inform political decision-makers about the environmental, political and socio-economic implications for Belgium of integrating (or not) the international aviation sector into climate policy;
2) to provide a tool for the preparation and assessment of Belgian climate policy, during the negotiations concerning the expansion of the European Emission Trading Scheme (EU-ETS) and the post-2012 phase of the Kyoto Protocol.

Methodology

A multi-criteria analysis will allow our findings on aviation and Belgian climate policy to integrate other issues of concern – such as other environmental impacts related to air transport (cf. NO_x, SO_x and PM emissions, etc.), the socio-economic impact of different policies (climate-related or not) on the given sector. It will also allow us to consider the viewpoint of different groups of stakeholders (political agents, airlines, transportation users, etc.).

INTERACTION BETWEEN THE DIFFERENT PARTNERS

The ABC Impacts project will be performed by four different research groups:
- CEESE-ULB will co-ordinate the project and will be mainly in charge of policy options (WP1.1, WP6, WP9, WP10 and WP12)
- ETEC-VUB will be mainly in charge of technical aspects and emissions (WP1.3, WP3 and WP4)
- MOSI-VUB will be mainly in charge of economic aspects and the multi-criteria analysis (WP1.2, WP2, WP7 and WP11)
- ASTR-UCL will be mainly in charge of climate modelling aspects (WP1.4, WP1.5, WP5 and WP8)



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EXPECTED RESULTS AND/OR PRODUCTS

The ABC Impacts project will be performed by four different research groups:

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- ETEC-VUB will be mainly in charge of technical aspects and emissions (WP1.3, WP3 and WP4)
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- ASTR-UCL will be mainly in charge of climate modelling aspects (WP1.4, WP1.5, WP5 and WP8)
- A preliminary aviation emission inventory (data base) adapted to the Belgian situation (cf. market analysis), compared to other transport emission inventories will be available at the end of the first phase of the project.
- A first comparison of the different emission inventory methodologies and allocation rules of climate policies or climate policy negotiations as far as transport is concerned will be available at the end of the first year of the project
- Available methodologies and data for modelling climate impacts of aviation will be analysed during the first project period. A simple interactive model of impacts of aviation on global climate, and a more complex model of its impacts on regional climate will be developed respectively by the end of the second and the fourth year
- A comparison of policy options (climate policies and other types of policy measures) based on a multi-criteria analysis including environmental, political, technical and socio-economic aspects and identification of their implications for Belgium (political decision support) will be carried out at the end of the first phase of the project. At the end of the second phase, the multi-criteria analysis will be updated and extended to new scenarios and new policy options, and feed-back loops will be analysed to assess socio-economic and environmental impacts of the scenarios studied in Belgium (e.g. impacts on aviation and maritime sectors, impacts on sectors related to international transport, etc.)
- Several scenarios concerning the evolution of aviation transport sectors in function of different parameters (policy option, growth, technological improvement, time horizon, fuel price, etc.) will be developed to assess the sector-based implications of the adoption of identified policy options (political decision support) during the second year of the project. During the third year, previous scenarios will be updated and additional scenarios taking into account a.o. policy measures other than climate ones will be worked out.
- A clear synthesis of the main stakes for Belgium regarding the different integration options of aviation and maritime transport in the international, European and/or Belgian climate policy (political decision support) will be available at the end of the first and second phases of the project

PARTNERS - ACTIVITIES

CEESE-ULB is made up of a multidisciplinary research team which devoting its activities to the quantitative and qualitative evaluation of interactions between economy and the environment

ETEC-VUB works on clean road vehicle technologies (mainly electric, hybrid and fuel cell vehicles), traffic and emission models and environmental assessments. It is also active in the field of standardisation

MOSI-VUB main research topics are multi-criteria analysis, system dynamics, location analysis, transport and logistics. The PROMETHEE method has been developed by MOSI

ASTR-UCL has gained a worldwide reputation for the study of climate dynamics and mesoscale meteorology, is widely known for its contributions to the astronomical theory of paleoclimates and has also a great deal of expertise in atmospheric mesoscale modelling

CONTACT INFORMATION

Website of the project:
http://dev.ulb.ac.be/ceese/ABC_Impacts/abc_home.php

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Follow-up Committee

For the complete and most up-to-date composition of the Follow-up Committee, please consult our Federal Research Actions Database (FEDRA) by visiting http://www.belspo.be/fedra or http://www.belspo.be/ssd

SSD SCIENCE FOR A SUSTAINABLE DEVELOPMENT

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