

PP08: ECO-EFFICIENT AVIATION: AN OVERVIEW ON FIRST RESULTS FROM THE WECARE PROJECT

Volker Grewe
German Aerospace Center (DLR)

Abstract. Aviation guarantees global mobility. It is also a growing economy and the contribution to climate change by aviation is currently estimated to be roughly 5% of the total anthropogenic warming. A sustainable development is a challenge. The DLR project WeCare contributes to the understanding of mitigation options by taking advantage of spatial variability of non-CO₂ climate effects, i.e. NO_x effects on ozone and methane as well as contrail-cirrus. Various approaches are tested, which range from re-routing of individual aircraft in order to reduce the climate effect with respect to contrail-cirrus and NO_x to new operations, such as intermediate stop operations, and new aircraft concepts. All these concepts have different advantages and disadvantages. They vary in their cost-effectiveness. They also have impacts on travel time, air space controllers work load, etc. These effects are quantified within WeCare and we give here a summary of first results.