

The Price of Net Zero



The research

In this study, SEO Amsterdam Economics (SEO) and Royal Netherlands Aerospace Centre (NLR) calculate the expenditures necessary to achieve net zero aircraft CO₂ emissions along the Destination 2050 pathway. The investment needs and associated cost are identified for the four main mechanisms of emissions reduction: technology, air traffic management (ATM) and operations, sustainable aviation fuels (SAF) and economic measures.

Results

Expenditures needed to reach net zero aircraft emissions for European aviation by 2050 require considerable additional efforts compared to business as usual. The premiums paid towards new aircraft technologies, air traffic management, sustain-able aviation fuels and negative emissions amount to €820 billion over the 32-year period. A successful, on-time decarbonization therefore requires sufficient access to finance and public investments, which in turn depend on supportive legislation.

Method

The starting point for this investment and cost analysis are the measures proposed in the Destination 2050 pathway to achieve net zero CO₂ aircraft emission for flights within and departing from the EU+ region by 2050. Consistent with that report, the present study is limited to emissions resulting from the combustion of kerosene. According to the measures defined in the pathway, investments and costs are determined bottom up through literature research, expert interviews and desk research.