Aviation Noise & Emissions Symposium 2021

Climate Change and Aviation: Opportunities in the midst of adversity

The Road to Aviation Recovery - A European Perspective

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EUROCONTROL Air Traffic Scenarios

Jan-Jun 2021 Vs 2019

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Partial improvement during Q2</td>
<td>-64%</td>
<td>-72%</td>
<td>-72%</td>
<td>-68%</td>
<td>-61%</td>
<td>-55%</td>
</tr>
<tr>
<td>B. No improvement during Q2</td>
<td>-64%</td>
<td>-74%</td>
<td>-77%</td>
<td>-78%</td>
<td>-75%</td>
<td>-70%</td>
</tr>
</tbody>
</table>

EUROCONTROL Air Traffic Scenarios - 28 January 2021 (base year 2019)

EUROLEAVE: 2020 HEADLINE IMPACTS

1. **€56.2 billion net** losses for airlines, airports & ANSPs
2. **1.7 billion fewer** passengers
3. Massive negative impacts on European flights:
   - **5.0 million** flights 2020 vs 11.1 million 2019 = annual loss of **6.1 million** flights
   - Intra-European traffic **54%** down
   - Europe-Rest of the World traffic **59%** down
   - Low-cost carrier flights **62%** down
   - Scheduled carrier flights **59%** down
4. Markets down by **40%**-**73%**:
   - **1.3 million** flights less in the UK (-61%)
   - **1.2 million** flights less in Germany (-56%)
   - **1.0 million** flights less in Spain (-61%)
   - **0.9 million** flights less in France (-54%)
   - **0.8 million** flights less in Italy (-60%)
5. Leading aviation groups down by **53%**-**67%**:
   - Lufthansa Group -67% daily average flights (2020: 1,102 flights, 2019: 3,295)
   - Ryanair -59% flights (2020: 951, 2019: 2,323)
   - Air France-KLM -55% flights (2020: 920, 2019: 2,053)
   - IAG -65% flights (2020: 825, 2019: 2,342)
   - Turkish Airlines -53% (2020: 626, 2019: 1,331)
   - easyJet -67% flights (2020: 547, 2019: 1,671)
6. **51%** of aircraft in Europe grounded at year-end (4,118 out of 8,048 airframes)
7. **191,000** announced direct job losses in Europe
Five-Year Forecast Scenario for Europe 2020-2024

Optimistic and pessimistic scenarios COVID-19 recovery were explored

- Scenario 1 - vaccine 2021, recovery 2024
- Scenario 2 - vaccine 2022, recovery 2026?
- Scenario 3 - vaccine not effective, recovery 2029?

* Europe – ECAC 44 Member States
** Forecast 2020 based on scenario 2
The European Green Deal

Climate neutrality by 2050
- 55% GHG vs. 1990 in 2030
- 90% aviation emissions in 2050

Source: European Commission
Through the implementation of this strategy, we will create an irreversible shift to zero-emission mobility while making our transport system more efficient and resilient.

EUROPEAN COMMISSIONER FOR MOBILITY AND TRANSPORT ADINA VĂLEAN
KEY ELEMENTS

- **Three objectives**: making the European transport system more sustainable, smart and resilient
- **10 flagship areas** with key milestones
- **Action plan** with a list of concrete policy actions

- ReFuelEU Aviation
- Incentives for cleaner & quieter aircraft
- Clean airports
- Single European Sky
- ‘Drone Strategy 2.0’
- CORSIA to internalise cost of CO2 emissions for aviation globally
- Renew partnerships for aviation: SESAR and Clean Aviation Partnership
- Empowering consumers: Developing an environmental label for aviation

Source: European Commission
AVIATION SUSTAINABILITY CHALLENGES

FINAL REPORT

Updated analysis of the non-CO2 climate impacts of aviation and potential policy measures pursuant to the EU Emissions Trading System Directive Article 30(4)

Contract reference: MOVE/ES/45/320/ES/05/02
Date: September 2020
Collaboration and Optimisation

Operational excellence programme
Let’s make it happen!

European CCO / CDO Action Plan
Released 6th November 2020

https://www.eurocontrol.int/publication/european-cco-cdo-action-plan

1,200 network restrictions removed during the pandemic.
26,000 nautical miles per day are saved
Airspace Re-configuration - High Level Assessment

(Comparison btwn the Current situation and SCEN 2C)

Current situation

SCEN 2C
West Area and East Area
# Traffic and flight efficiency comparison

## Scenario Economy (Potential gains/losses)

<table>
<thead>
<tr>
<th>Total impacted flights</th>
<th>Length (NM)</th>
<th>Time (min)</th>
<th>Fuel (kg)</th>
<th>CO2 (kg)</th>
<th>NOx (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily (28 JUN 2019)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>20 516</td>
<td>-221582</td>
<td>-30 976</td>
<td>-1 491 992</td>
<td>-4 714 755</td>
<td>-20 798</td>
</tr>
<tr>
<td><strong>Yearly</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 539 320</td>
<td>-59 827 247</td>
<td>-8 363 531</td>
<td>-402 837 966</td>
<td>-1 272 983 942</td>
<td>-5 615 503</td>
</tr>
</tbody>
</table>

The table above compares the daily and yearly traffic and flight efficiency in terms of total impacted flights, length, time, fuel, CO2, and NOx emissions. The gains and losses are highlighted in the table.
"In 2020, aircraft operators have been flying trajectories that consumed around 5% less fuel than in 2019 (8.6% versus 3.5%)"
The strategy needed to navigate this crisis and allow for a sustainable recovery identifies joint actions in four domains:

- Restoring the public’s confidence in air travel is an absolute priority and an urgent prerequisite for the start of the recovery.

- A comprehensive Aviation Relief Programme is needed at European level to rebuild the sector and to preserve the Aviation Single Market.

- An EU Pact for Sustainable Aviation is required, setting out the steps necessary to guarantee a cleaner and quieter aviation system that puts the interests of the people and the aviation workers first.

- A set of accompanying measures necessary to ensure a resilient sector capable of withstanding future crises.

All stakeholders, including policy makers, to work together to reach net zero CO₂ emissions by 2050.
Aviation Community – European Climate Targets

ZEROe: 3 H₂ concept aircraft

Source: Airbus

LAUNCHING EARLY 2021
A ROUTE TO NET ZERO EUROPEAN AVIATION
“Aviation offers irreplaceable benefits today and the promise of a sustainable transport tomorrow”

October 2020 - Airbus
Questions?
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