



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



ICAO EUR Environment Task Force Meeting Environment Capacity Building Activities

ICAO State Action Plan on CO₂ emissions reductions of Switzerland

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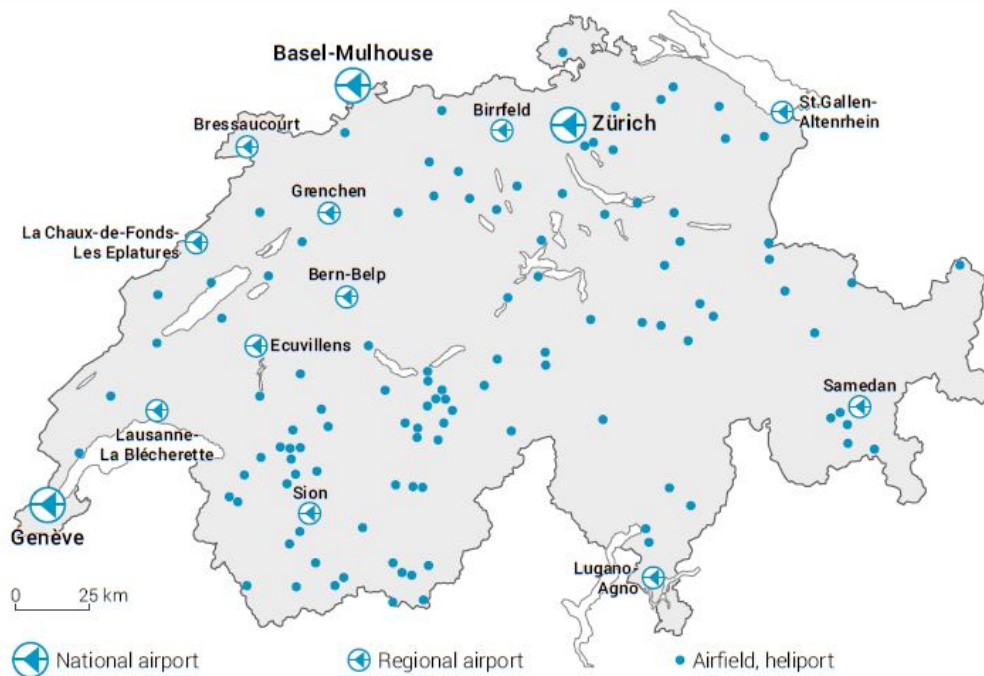
Outline

- A. Current State of Aviation in Switzerland
- B. Comprehensive approach at European level
- C. ICAO State Action Plan of Switzerland
- D. National Measures taken by Swiss Stakeholders
- E. Next Steps



Current State of Aviation in Switzerland: Swiss aerodromes

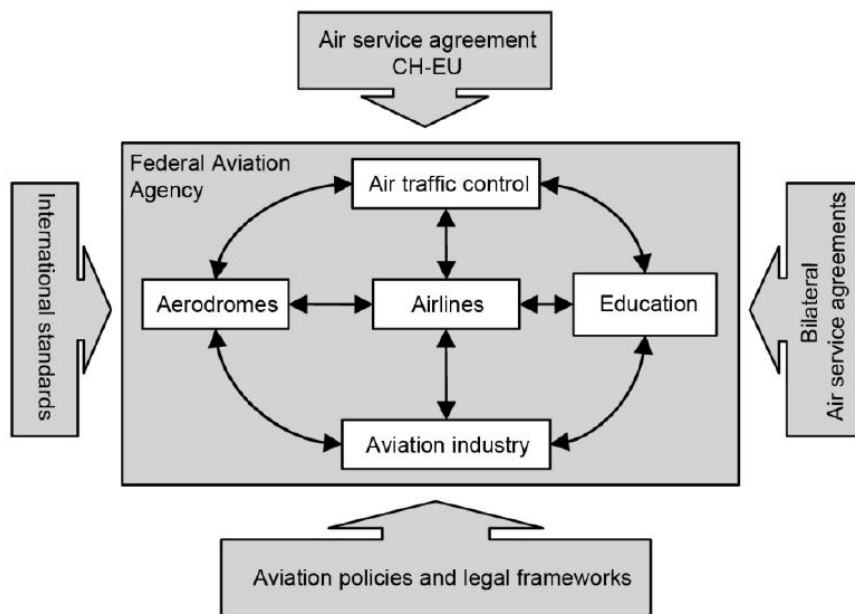
Civil aerodromes, 2019



- 3 national airports
- 11 regional airports
- 39 airfield
- 24 heliport
- 40 mountain landing site



Current State of Aviation in Switzerland: Swiss Aviation Policy



- Framework for the development of civil aviation in Switzerland.
- Swiss Aviation Policy takes into account the economic, environmental and social dimensions of sustainability.
- Ensure that Switzerland has optimal connections to all major European and global centers.
- Sectors of Aerodromes, Air traffic control, Aviation industry and Education have to be considered as a whole system and are strongly linked.
- The state has the role of the regulator.



Comprehensive approach at European level: European Civil Aviation Conference (ECAC)



Albania
Armenia
Austria
Azerbaijan
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France

Georgia
Germany
Greece
Hungary
Iceland
Ireland
Italy
Latvia
Lithuania
Luxembourg
Malta
Moldova
Monaco
Montenegro

Netherlands
Norway
Poland
Portugal
Romania
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
The former Yugoslav Republic of Macedonia
Turkey
Ukraine
United Kingdom



Comprehensive approach at European level

- Swiss State Action Plans includes:
 - (a) a section common to all European State Action Plans presenting the quantified mitigating measures taken collectively and including a robust European baseline scenario provided by EUROCONTROL, which was developed collectively and endorsed by the DG's.
 - (b) a national section, which further describes the national contribution to the European measures, and additional measures.
- The European approach to the submission of State action plans was endorsed at ECAC DGCA/136, as well as the supranational section,
- The decision on the European approach was reaffirmed after each update of the corresponding ICAO resolutions (A38/18-A39/2) as well as the subsequent updates of the common section.
- More on the European approach for the update of State Action Plans will be presented tomorrow

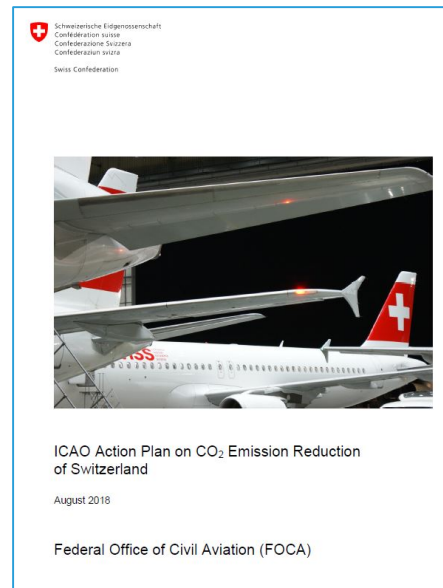
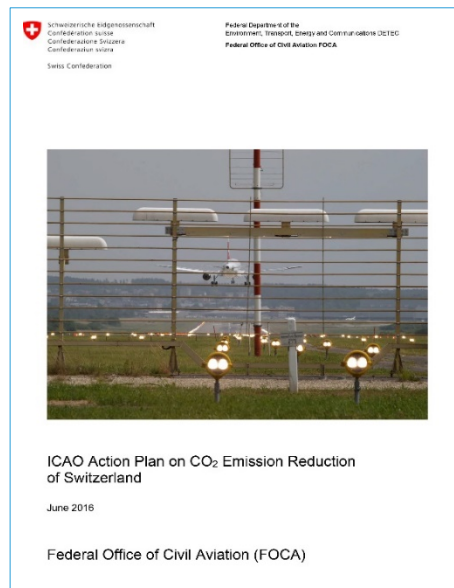


ICAO State Action Plan of Switzerland

First Edition
June 2012

Second Edition
June 2016

Third Edition
August 2018



Fourth Edition
June 2021



ICAO State Action Plan of Switzerland

- Showcase and communicate both at the national and international level, Switzerland's efforts to address the CO₂ emissions from international aviation (also for the Stakeholders).
- Enables communication with stakeholders.
- The Swiss State Action Plan has also been made part of the Swiss Sustainable Development Strategy 2016-2019 of the Federal Council. The Sustainable Development Strategy will be updated for the period 2021-2023.

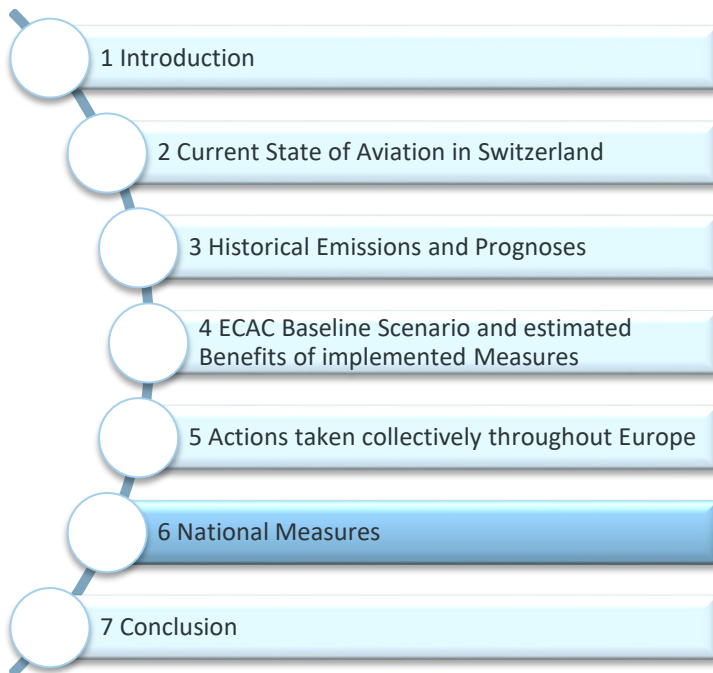


ICAO State Action Plan of Switzerland: Contents

- 1 Introduction
- 2 Current State of Aviation in Switzerland
- 3 Historical Emissions and Prognoses
- 4 ECAC Baseline Scenario and estimated Benefits of implemented Measures
- 5 Actions taken collectively throughout Europe
- 6 National Measures
- 7 Conclusion



National measures taken by Swiss Stakeholders



- Aircraft related technology development
- Alternative Fuels
- Improved Air Traffic Management and Infrastructure Use
- More efficient operators
- Economic / Market-Based Measures
- Regulatory Measures / Other
- Airport Improvements
- Other



National measures taken by Swiss Stakeholders

- FOCA organised in February 2012 an event for aerodromes, air traffic control and aviation industry stakeholders as well as other public administrations.
- The aim of this event was to inform all relevant parties in the Swiss aviation system about the ICAO State Action Plan and to evaluate possible measures to reduce CO₂ emissions undertaken by these stakeholders.
- For the update of the Swiss Action Plan in 2015 and 2018 FOCA contacted the relevant stakeholder directly, because the Action Plan was already known as an important instrument to show the effort Swiss stakeholder are undertaking.



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation

Federal Department of the
Environment, Transport, Energy and Communications DETEC
Federal Office of Civil Aviation FOCA
Division Aviation Policy and Strategy

Action Plan on Aviation and Climate Change: The Swiss Action Plan Description of Actions

Name of Stakeholder

Title of Action

Description of Action

Estimated reduction of CO₂ in tonnes due to action (if possible per year)

Duration of Action (beginning and ending date)

Kind of Action (according to categories of basket of measures, see document basket of measures)

Contact

Further information/documents

- To facilitate the feedback in a harmonised manner, FOCA developed an simple template for the measures taken by Stakeholders.
- Estimated reduction of CO₂ due to action (if possible per year).
- The submitted national measures were numerous.



Improved Air Traffic Management and Infrastructure Use

Greener Wave (1/3)

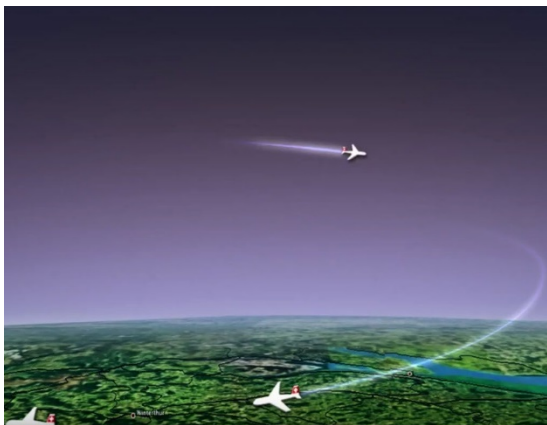


- SWISS Int. Air Lines, Skyguide and Zurich Airport defined an alternative approach system “Greener Wave” in 2009 (SESAR (AIRE)).
- Zurich Airport has a night curfew (2330-0600 LT).
- The long-haul flights on approach to Zurich have historically done so on a ‘first come, first served’ basis.
- The result was often a backlog of flights in the early morning sky over Zurich – which entails unnecessary noise and CO₂ emissions.



Improved Air Traffic Management and Infrastructure Use

Greener Wave (2/3)



- New Tactical Time of Arrival (TTA) between 6.10 and 6.30 am in the form of a three-minute arrival time window.
- Allows to modify the flight accordingly.
- One tonne of CO₂ emission reduction per flight, about 1800 t CO₂ per year for SWISS Int. Air Lines.
- Follow-up project: calculation of more precise arrival windows; application for the 3rd arrival wave.



Improved Air Traffic Management and Infrastructure Use

Greener Wave (3/3)

- Greener Wave is an AIRE project (Atlantic Interoperability Initiative to Reduce Emissions).
- Integrated into the common section.
- Nonetheless Switzerland chose to highlight the importance of the project for Swiss Stakeholders and showed this measure in the national part of the State Action Plan.



Airport Improvements

Enhanced Ground Support Equipment (GSE) management:



- Both national airports Zurich and Geneva have aircraft positions with pre-conditioned air (PCA) and electricity (400Hz). The use of these facilities has been made mandatory at equipped positions. The use of aircrafts APU is prohibited.
- The airport of Zurich estimates a reduction of 42'000 t CO₂ per year from their aircraft stands.
- The airport of Geneva estimates a reduction of 31'800 t CO₂ per year.



Economic / Market-Based Measures

Emissions charges



- Aircraft engine emission charges are based on the certification LTO emission mass of NO_x on an individual aircraft/engine basis.
- Revenue neutral, but levies are used to finance measures that reduce emissions from any airport related sources.
- This measure doesn't lead to less CO_2 emissions but to better local air quality around airports.



Next steps

- For the upcoming update of the Swiss Action Plan FOCA will contact the relevant stakeholder directly to update the national section.
- Integrate the common section and update the current state of Aviation in Switzerland.
- Submit the Action Plan by end of June 2021.

