

AGENDA

# Decarbonising Air Transport

EXPERT WORKSHOP

**24-25 February 2020**

Organisation for Economic Co-operation and Development  
Room D, OECD Château  
2 rue André Pascal, 75016 Paris  
France

## ■ INTERNATIONAL TRANSPORT FORUM

The [International Transport Forum](#) (ITF) at the OECD is an intergovernmental organisation with 60 member countries.

It acts as a think tank for transport policy that covers all modes of transport. The ITF is also a platform for discussion of transport policy issues. It analyses trends, shares knowledge and promotes exchange among transport decision-makers and civil society.

The ITF's mission is to foster a deeper understanding of the role of transport in economic growth, environmental sustainability and social inclusion and to raise the public profile of transport policy.

## ■ DECARBONISING TRANSPORT INITIATIVE

The [ITF Decarbonising Transport \(DT\)](#) initiative seeks to help governments and aviation stakeholders translate climate ambitions into actions. The initiative gathers partners from ITF member countries, academia, and the industry to track progress and evaluate the contribution of current mitigation measures to reaching CO<sub>2</sub> emissions reductions objectives. The DT initiative's main objectives are to:

- develop in-depth sectoral and focus studies to identify effective policies for specific modes (e.g. road transport) and thematic areas (e.g. cities);
- bring policies together in a catalogue of measures to support countries in developing their CO<sub>2</sub> emissions mitigation and reduction strategies in the transport sector; and
- support the policy dialogue, leveraging on extensive engagement with the United Nations Framework Convention on Climate Change (UNFCCC), including the ITF's designation as focal point for transport of the Marrakesh Partnership for Global Climate Action (MP-GCA).

Building on these discussions, the second phase the DT initiative will aim to establish common interest groups on low-and zero-emissions-enabling solutions, focusing on four mode-specific areas: light duty road vehicles, heavy duty road vehicles, aviation, and maritime transport.

Each interest group will aim to:

- bring together governments interested in learning from best practice;
- facilitate dialogue among governments, the private sector, and other stakeholders; and
- enable access to expertise in each area from the ITF and its partners.

The interest groups will provide input and updates to the ITF's catalogue of measures and analysis of the effectiveness of different policies.

## ■ DECARBONISING AIR TRANSPORT

Air transport currently contributes to about 2.5% of global CO<sub>2</sub> emissions and 13% of global transport CO<sub>2</sub> [emissions](#). While the industry has delivered significant fuel efficiency improvements over the past few decades, the rapid growth of passenger numbers has consistently outweighed these improvements. If the industry remains on its current path, by 2020, emissions from international aviation are projected to be around 70% higher than in 2005. The International Civil Aviation Organization (ICAO) forecasts that they could grow by a further [300%](#) by 2050.

By facilitating the movements of goods and services, people, ideas, knowledge, and investment, air transport provides direct benefits to the users of aviation and wider benefits to the entire economy through positive impacts on productivity and economic performance. However, the rapid increase in demand for air travel poses significant climate change challenges. One [study](#) found that by 2050 aviation could take up a quarter of the world's carbon budget, or the amount of CO<sub>2</sub> emissions allowed to keep global temperatures from rising under 1.5 degrees Celsius above preindustrial levels.

As a global industry, aviation is governed by an array of multilateral and bilateral agreements between countries. Whilst emissions from domestic aviation fall within the scope of countries' Nationally Determined Contributions (NDCs), the Paris Agreement does not cover CO<sub>2</sub> emissions from international aviation. A global agreement on reducing CO<sub>2</sub> emissions from

international aviation has been discussed under the auspices of ICAO, [as requested by the Kyoto Protocol](#). ICAO coordinates global efforts to ensure that emissions from international aviation are compatible with the Paris Agreement targets. In this vein, ICAO has set the international aviation sector two [targets](#): to achieve carbon-neutral growth from 2020 to 2040 and average fuel efficiency improvements of 2% per annum until 2050. In Europe, intra-EEA aviation emissions are part of the [Emissions Trading Scheme](#). Some countries have also implemented national policies aiming to reduce aviation emissions, such as taxing domestic aviation fuels, levying a duty on air passengers, or requiring the uptake of electric aircraft in the future.

According to the [ITF Transport Outlook 2019](#), if countries scale up their ambition, develop and introduce sustainable fuels and encourage the use of electric planes for short-haul flights, aviation CO<sub>2</sub> emissions in 2050 may fall to 40% of what they were in 2015. To achieve success, governments and industry need to work together and understand each other's objectives and constraints. The ITF would like to facilitate such a dialogue by organising a workshop on Decarbonising Air Transport.

## ■ THE WORKSHOP

The workshop will take place on 24-25 February 2020 at the OECD Headquarters. It is a closed (by invitation only) event and discussions will be organised under the [Chatham House Rule](#) to encourage free debate.

The workshop will gather representatives from the government sector, the industry, civil society, and academia to discuss different options available to policy-makers and the industry to decarbonise the air transport sector. In terms of its scope, the workshop will discuss CO<sub>2</sub> emissions from air transport, i.e. aircraft and airport operations. As such, the workshop will not look into non-CO<sub>2</sub> emissions from air transport. While tackling these emissions is an important consideration, it lies beyond the scope of ITF's DT initiative. As the workshop focuses on CO<sub>2</sub> emissions from air transport, it will focus on CO<sub>2</sub> emissions from aircraft, including the carbon footprint of aviation fuels, and airport operations. The workshop will not look beyond that scope, e.g. to CO<sub>2</sub> emissions produced by aircraft manufacturers.

The aim of the workshop is to further develop the ITF catalogue of measures that policy makers could use to reduce the aviation sector's carbon footprint. The following aspects of different measures will be discussed: CO<sub>2</sub> mitigation potential and cost effectiveness, and interaction with other decarbonisation measures for the aviation sector as well as other sectors of the economy.

The ITF Secretariat will publish a report summarising the conclusions from the workshop by the end of the year. This report will feed into ITF's DT initiative.

## ■ AGENDA

### Day 1: 24 February 2020, 09:30 – 17:30

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**09:30 – 10:00**      **Welcome coffee and registration**

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**10:00 – 11:15**      **Setting the scene: Challenges and Commitments**

*Chair: Jagoda Egeland, Advisor to the Secretary-General, ITF*

The outlook on CO<sub>2</sub> emissions from aviation to 2050 based on different policy scenarios:

- *Dimitrios Papaioannou, Modeller/Analyst, ITF*
- *Andreas Schäfer, Professor of Energy and Transport, UCL*

The ITF's draft catalogue of measures to decarbonise air transport:

- *Orla McCarthy, Modeller/Analyst, ITF*

The results of the participants' survey:

- *Juliette Lassman, Junior Policy Analyst, ITF*

UNFCCC, ICAO and ATAG will take the stock of international and industry commitments with respect to reducing CO<sub>2</sub> emissions from aviation:

- *Ryo Hamaguchi, Programme Officer, UNFCCC*
- *Jane Hupe, Chief of the Environmental Unit, ICAO (TBC)*

- *Michael Gill, Executive Director, ATAG*

A civil society representative will talk about responsibility of accounting for CO<sub>2</sub> emissions from international aviation in the context of the Paris Agreement:

- *Andrew Murphy, Aviation Manager, Transport & Environment*

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**11:15 – 12:45**

### **Towards a greener management of airspace and airports**

*Chair: Jagoda Egeland, Advisor to the Secretary-General, ITF*

This session will focus on the CO<sub>2</sub> reduction potential of more efficient use of airport capacity, airspace management, and initiatives taken by airports to decarbonise on the ground.

The possibilities offered by improved airspace management and measures to reduce emissions from airport congestion on approach and departure:

- *Robin Deransy, Senior Expert, EUROCONTROL*

Challenges and obstacles to airspace optimisation programmes:

- *Marina Efthymiou, Assistant Professor in Aviation Management, DCU*

US NextGen: overview and comparison to the EU's Single European Sky:

- *Jim Hileman, Chief Scientific and Technical Advisor for Environment and Energy, Office of Environment and Energy (AEE-3), FAA*

How airports can contribute to the decarbonisation of the sector:

- *Marina Bylinsky, Head of Sustainability, ACI Europe*

Environmental sustainability of an airport – Schiphol's Sustainability Roadmap 2030:

- *Michelle Samson, Advisor Corporate Responsibility, Royal Schiphol Group*

Can optimising existing and building new capacity at airports help improve fuel and emissions efficiency?

- *Hans-Martin Niemeier, Professor, City University of Applied Sciences Bremen*

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**12:45 – 14:00**

### **Lunch break**

Please note: A family photo will be taken at 13:55, outside of the meeting room.

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**14:00 – 15:30**

### **Towards sustained energy efficiency improvements and new aircraft technology**

*Chair: Pierpaolo Cazzola, Advisor, Energy, Technology & Env. Sustainability, ITF*

This session will look at different options for improving the energy efficiency of aircraft.

Industry roadmaps for decarbonising air transport; accelerating efficiency increases through improvements to propulsion systems, aerodynamics and weight reduction; the use of composite materials, improved aerodynamics, weight reductions in cabin interiors and other system developments (e.g. electrification of taxiing); novel airframe configurations:

- *Nicolas Jeuland, Future Fuels Expert, Safran*
- *Alain de Zotti, Head of Aircraft Architecture and Integration, Airbus*

Cost assessment of near- and mid-term technologies to improve new aircraft fuel efficiency:

- *Daniel Rutherford, Programme Director for Maritime and Aviation, Regional Lead (Japan), International Council on Clean Transportation (ICCT)*

Projections of efficiency improvements for aircraft to 2050:

- *Dai Richards, Economist, UK Department for Transport*

What can we expect from electric aircraft in terms of range and capacity?

- *Andreas Schäfer, Professor of Energy and Transport, UCL*

How policy can help the industry accelerate efficiency improvements:

- *Ron van Manen, Head of Strategic Development, Clean Sky 2 JU*

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**15:30 – 16:00**     **Coffee break**

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**Towards sustainable aviation fuel (SAF): A technological perspective**

**16:00 – 17:30**     *Chair: Pierpaolo Cazzola, Advisor, Energy, Technology & Env. Sustainability, ITF*

This session will consider different SAF technologies – their cost, scope, feasibility, and CO<sub>2</sub> emissions reduction potential from a life cycle perspective. Speakers will discuss oleochemical, thermochemical, biochemical, and hybrid biofuel production pathways, as well as electrofuels and hydrogen.

An overview of SAF:

- *Pharoah Le Feuvre, Energy Analyst, Renewable Energy, Bioenergy Markets, IEA*

An overview of aviation biofuels and opportunities from co-processing biomass-based feedstock in refineries:

- *Jack Saddler, Professor of Forest Products, UBC*

Hydro-treatment of waste oils and vegetable oils:

- *Anselm Eisentraut, Head of Market Intelligence, Strategy, Neste*

Electrofuels and hydrogen:

- *Cédric Philibert, Independent Expert, formerly IEA*
- *Harry Lehmann, General Director, Environmental Planning and Sustainability Strategies, Federal Environment Agency of Germany*

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**Networking drinks and dinner (self-paid)**

**18:00 – 22:00**     [Restaurant Aéro Paris-Passy](#), 3 Place de Passy, 75016 Paris

*The drinks will start at 6pm and dinner reservations will be made for 7pm.*

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**Day 2: 25 February 2020, 09:00 – 18:00**

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**9:00 – 10:30**     **Substitution and complementarity of other transport modes with air transport**

*Chair: Delia Dimitriu, Strategic Advisor, COMOTI, Romania*

This session will look at the role of other less carbon-intensive transport modes, particularly rail, in improving air travel's carbon footprint.

Complementarity, competition, and challenges to rail-air integration – a Dutch airline perspective and inputs from French survey data:

- *Esmée van Veen, Sustainability Manager, KLM Royal Dutch Airlines*
- *Kévin Guittet, Director for Forecasting and Economic Studies, DGAC*

Can more sustainable short-haul flights compete with rail in reducing transport's carbon footprint?

- *Marc Hamy, Vice-President, Airbus*
- *Marc Guigon, Passenger Director, Coordinator Latin American Region, International Union of Railways (UIC)*

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**10:30 – 11:00**     **Coffee break**

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**What role for government policy in decarbonising air transport?**

**11:00 – 12:30**     *Chair: Cathal Guiomard, Assistant Professor in Aviation Management, DCU*

This session will focus on the role of different national and multilateral policy measures (e.g.

aviation taxes and caps, public procurement, fuel mandates, carbon taxes, and offsets) in making the decarbonisation of air transport a reality.

An overview of policies to decarbonise aviation and the transport sector:

- *Delia Dimitriu, Strategic Advisor, COMOTI, Romania*

What can economics tell us about the effectiveness of different fiscal and regulatory policy measures?

- *Volodymyr Bilotkach, Associate Professor, Singapore Institute of Technology*

National approaches to decarbonising aviation:

- *David Joffe, Head of Carbon Budgets, UK Committee on Climate Change*
- *Olav Mosvold Larsen, Manager, Carbon Reduction Programme, Avinor, Norway*
- *Jim Hileman, Chief Scientific and Technical Advisor for Environment and Energy, Office of Environment and Energy (AEE-3), FAA, USA*
- *Linda van Wamelen-Sibbes, Senior Policy Advisor, Ministry of Infrastructure and the Water Management, The Netherlands*
- *Philippe Lenne, Policy Officer, Aviation Policy Unit, DG MOVE, European Commission*

What prospects and challenges to national and multilateral policies for decarbonising aviation?

- *Patrick Gandil, Focal Point for Environmental Matters, ECAC*
- *Colin Murphy, Deputy Director of the Policy Institute, University of California Davis*

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**12:30 – 14:00**      **Lunch break**

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**Towards greener flights: What policies to help the industry decarbonise?**

**14:00 – 15:30**

*Chairs: Pierpaolo Cazzola & Jagoda Egeland, ITF*

This session will go over the technological solutions and policy measures discussed in the previous sessions. The speakers will discuss their perspective on what regulations and policy measures could help decarbonise the aviation sector.

- *Eirik Pitkethly, Head of Transport Energy Policy, BP*
- *Marc Hamy, Vice-President, Airbus*
- *Michel Adam, Senior Manager, Aviation Environment, IATA*
- *Olav Mosvold Larsen, Manager, Carbon Reduction Programme, Avinor*
- *Colin Murphy, Deputy Director of the Policy Institute, University of California Davis*
- *Elena Campelo, Senior Aviation Specialist, Mobility Department, European Investment Bank (EIB)*
- *Bill Hemmings, Independent Consultant, formerly Transport & Environment*
- *Patrick Horgan, Director, Global Government Relations, Rolls Royce*

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**15:30 – 16:00**      **Coffee break**

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**Debate: challenges and way forward**

**16:00 – 17:30**

*Chair: Jagoda Egeland, Advisor to the Secretary-General, ITF*

Participants will discuss the most promising solutions for decarbonising aviation in light of the main obstacles to their implementation and the ways in which governments can best help overcome these challenges.

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**17:30 – 18:00**      **Conclusions and next steps**

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