

# Airline industry's sustainability for climate change



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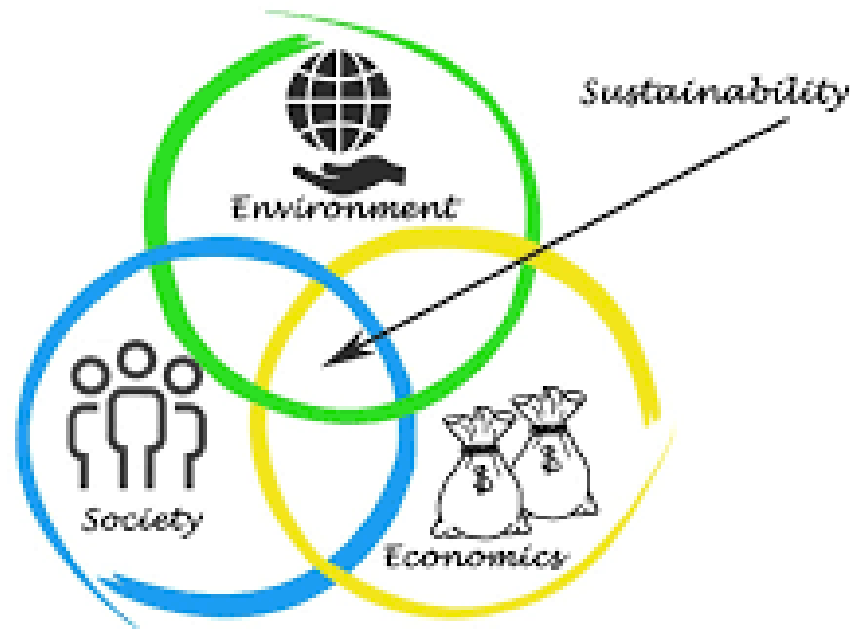
The Chinese University of Hong Kong



- ✓ Overview
- ✓ Legal framework
- ✓ CORSIA
- ✓ Regulatory and non-regulatory approach

# Sustainability

- ✓ Sustainability is “the ability to continue or be continued for a long time” defined through the following interconnected pillars: environmental, economic and social.

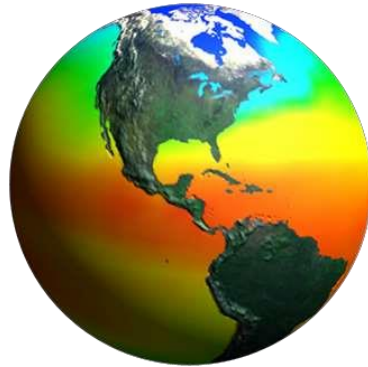
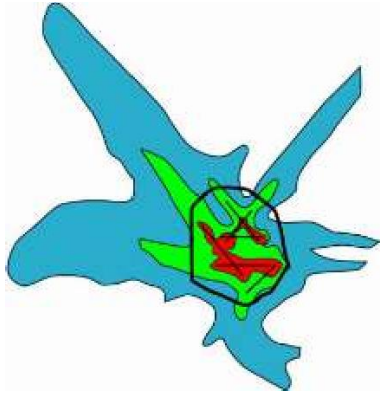




# Introduction

- ✓ The growth of aviation has come concerns regarding noise, air quality, water quality and impacts on climate.
- ✓ Public awareness of environmental issues, and political pressure to manage environmental impacts, have increased dramatically.

# Aviation Environmental Issues



## **Global climate**

The potential impact of aviation on global climate

## **Community Noise Impacts**

Dealing with significant aircraft noise impacts around airports

## **Water Quality**

Limiting or reducing impact of aviation on water quality

## **Air Quality**

Limiting or reducing impact of aviation on local air quality

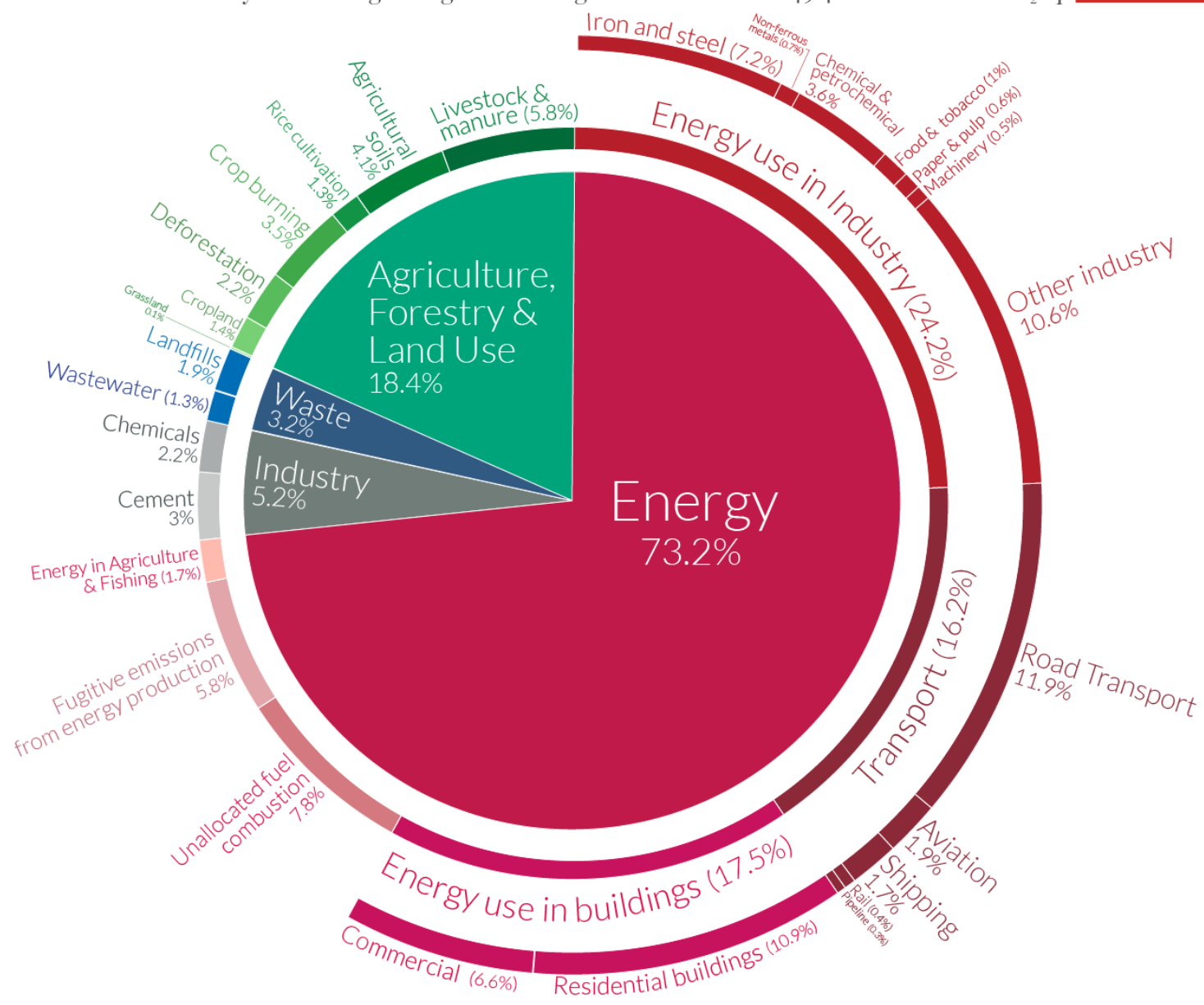


# Impact of Aviation on Climate

- ✓ Aircraft emit chemical species and produce physical effects that affect climate.
- ✓ CO<sub>2</sub> is a greenhouse gas that causes an increase in global temperatures.
- ✓ Because of the very long timescales for the global carbon cycle, CO<sub>2</sub> may remain in the atmosphere and affect the climate for 500 years after it is emitted.

# Global greenhouse gas emissions by sector

This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO<sub>2</sub>eq.







# FLYGSKAM

THE FEELING OF SHAME FROM  
FLYING IN AN  
AIRPLANE, KNOWING  
HOW MUCH  
CARBON POLLUTION IT CAUSES

EMOTIONALGRANULARITY.COM



# Kyoto Protocol to the United Nations Framework

- ✓ Article 2, paragraph 2

*“The Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases not controlled by the Montreal Protocol from aviation and marine bunker fuels, **working through the International Civil Aviation Organization** and the **International Maritime Organization**, respectively.”*

# Progress under ICAO's Leadership?

- ✓ Annex 16: Environmental Protection
- ✓ Committee on Aviation Environmental Protection
- ✓ Group on International Aviation and Climate Change
- ✓ No global sectorial approach until 2016
- ✓ The Role of EU



## EU Milestones

- ✓ Dec. 2006: Commission presented draft legislation aimed at including aviation in the Emissions Trading Scheme.
- ✓ June 2008: EU leaders reached a deal on the details of plans to include aviation in the EU's Emissions Trading Scheme as of 2012.
- ✓ Oct. 2008: EU justice ministers approved a compromise deal on including aviation activities in the EU ETS
- ✓ Jan 2009: Directive 2008/101/EC to include aviation into the EU Emissions Trading Scheme (ETS) was published in the Official Journal.
- ✓ Jan 2012: Target date for aviation sector to start trading CO<sub>2</sub>.



## EU's "stop the clock" of ETS and ICAO A38-18

- ✓ The EU Commission announced in November 2012 that it would "stop the clock" for a year and refrain from applying the ETS to flights to and from the European Union.
- ✓ It was conditioned on the ICAO 38th Assembly's taking "meaningful international action"
- ✓ ICAO General Assembly Resolution A38-18 (Oct. 2013) was adopted.
- ✓ It was accepted that the aspirational "medium term" goal calls for neutral carbon growth only after 2020.



# Finally, Carbon Offsetting and Reduction Scheme for International aviation (CORSA) 2016

- ✓ **Resolution A39-3:** Consolidated statement of continuing ICAO policies and practices related to environmental protection – Global Market-based Measure (MBM) scheme



✓ **Why?**

Aviation's contribution of GHG emissions continues to increase.

✓ **What?**

The design and implementation of market-based measures (MBMs) for international aviation

✓ **Who?**

ICAO, not by individual states' unilateral actions

✓ **When?**

From 2021 (pilot phase) / From 2024 (first phase)

✓ **Where? (geographical coverage)**

Most International Flights





## Resolution A39-3

*“20. Requests the following actions be taken, with a view to establishing necessary mechanisms for implementation of the CORSIA from 2020: Regarding the implementation of the MRV system,*

*a) the Council to develop, with the technical contribution of CAEP, the **SARPs** and related guidance material for the implementation of the MRV system under the CORSIA, including simplified MRV procedures, for adoption by the Council by 2018;*

*b) all Member States whose aircraft operator undertakes international flights to develop the necessary arrangements, in accordance with the MRV **SARPs**, for implementation from 1 January 2019;”*



## **SARPs - Annex 16 Volume IV**

- ✓ The First Edition of Annex 16 — Environmental Protection, Volume IV — Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) was adopted by the Council of ICAO on 27 June 2018.

# ICAO ANNEXES

<b>ANNEX 1</b>	<b>Personnel Licensing</b>
<b>ANNEX 2</b>	<b>Rules of the Air</b>
<b>ANNEX 3</b>	<b>Meteorological Service for International Air Navigation</b>
<b>ANNEX 4</b>	<b>Aeronautical Charts</b>
<b>ANNEX 5</b>	<b>Units of Measurement to be Used in Air and Ground Operations</b>
<b>ANNEX 6</b>	<b>Operation of Aircraft</b>
<b>ANNEX 7</b>	<b>Aircraft Nationality and Registration Marks</b>
<b>ANNEX 8</b>	<b>Airworthiness of Aircraft</b>
<b>ANNEX 9</b>	<b>Facilitation</b>
<b>ANNEX 10</b>	<b>Aeronautical Telecommunications</b>
<b>ANNEX 11</b>	<b>Air Traffic Services</b>
<b>ANNEX 12</b>	<b>Search and Rescue</b>
<b>ANNEX 13</b>	<b>Aircraft Accident and Incident Investigation</b>
<b>ANNEX 14</b>	<b>Aerodromes</b>
<b>ANNEX 15</b>	<b>Aeronautical Information Services</b>
<b>ANNEX 16</b>	<b>Environmental Protection</b>
<b>ANNEX 17</b>	<b>Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference</b>
<b>ANNEX 18</b>	<b>The Safe Transport of Dangerous Goods by Air</b>
<b>ANNEX 19</b>	<b>Safety Management</b>



ICAO

International Standards  
and Recommended Practices

## Annex 16 to the Convention on International Civil Aviation

### Environmental Protection

Volume IV, Carbon Offsetting and Reduction Scheme for  
International Aviation (CORSIA)  
First Edition, October 2018



The first edition of Annex 16, Volume IV, becomes applicable on 1 January 2019.

For information regarding the applicability of the Standards and Recommended Practices, see Foreword.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

# ICAO SARPs – Chicago Convention 1944

- Art 54

The Council shall...Adopt international standards and recommended practices, designate them as Annexes to this Convention

- Art 37

States undertakes to collaborate in securing highest practicable degree of uniformity in regulations, standards, procedures...

- Art 38

impracticable to comply international standards... give immediate notification

# **CORSIA in Bilateral Air Services Agreements?**

# ESG



## ENVIRONMENTAL

Climate change strategy,  
Biodiversity,  
Water efficiency,  
Energy efficiency,  
Carbon intensity,  
Environmental  
management system



## SOCIAL

Equal opportunities,  
Freedom of association,  
Health and safety,  
Human rights,  
Customer &  
products responsibility,  
Child labour



## GOVERNANCE

Business ethics,  
Compliance,  
Board independence,  
Executive compensation,  
Shareholder democracy

# Thank you.

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