



A STAR ALLIANCE MEMBER 



Aviation & Climate Change

Communicating Effectively and Working in Partnership

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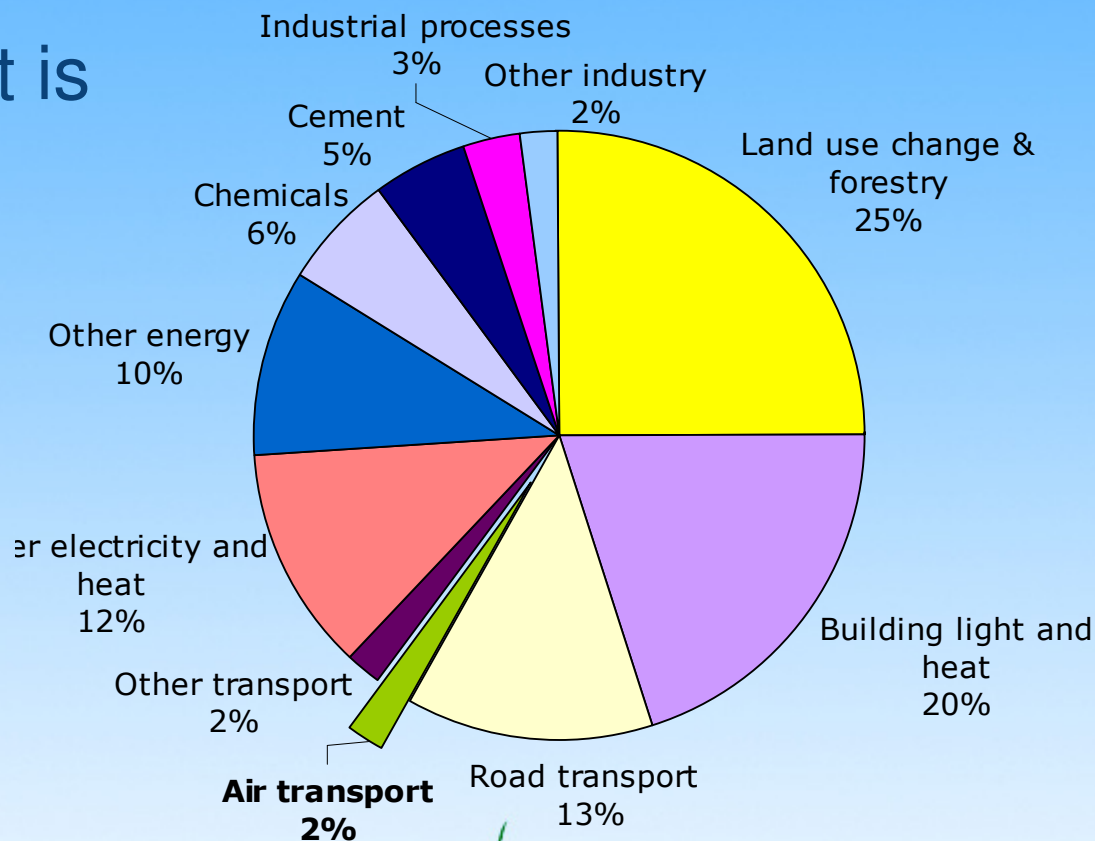
Aviation's Contribution to CO₂ Emissions

➤ Our carbon footprint is small and it will be small in the future

➤ From 2% today to 3% in 2050 (IPCC forecast)



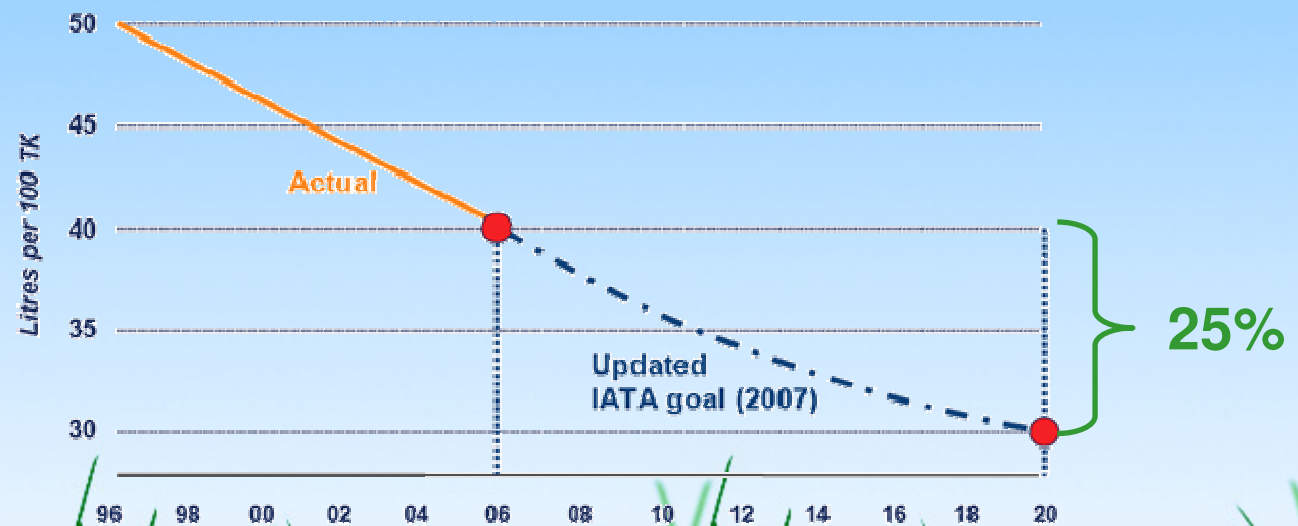
Global CO₂ Emissions



Strong Industry Track Record

- Over the last 40 years
 - Soot has been eliminated
 - Noise reduced 75%
 - Fuel efficiency improved 70%

Further 25%
improvement
by 2020



Carbon Footprint is still Growing

- Future traffic growth: 5.2% p.a.
- Emissions growth: ~3% p.a.
- Decoupling traffic and emissions growth
- Constrains:
 - Safety first
 - Long implementation timelines
 - Single fuel technology
 - Dependence on governments



Aviation Industry Vision and Strategy

- Carbon neutral growth via 4-pillar strategy
- Long term vision for carbon free technology
- Industry must work in partnership
 - Airlines, manufacturers, airports, ATM
- Requires government support
 - Infrastructure
 - Economic Incentives



Four-pillar Strategy

To achieve carbon neutral growth

➤ Technology

- New airframes, engines
- Cleaner bio-fuels, new energy sources

➤ Infrastructure

- Improve air routes, ATM and airport procedures

➤ Aircraft operations

- Drive for maximum efficiency and minimum weight

➤ Economic instruments

- Incentives to finance technology R & D
- Carbon offsets and trading



Communication Challenge Worldwide

- Our environmental responsibility is not well explained in some parts of the world
 - Some inaccurate and negative messages getting widespread media coverage
 - Some people use aviation as a target

Why?

- Flying still seen as a luxury
- Aviation is very visible
- We are an easy target!

Communicating Effectively

- Aviation industry must work together
 - Global communication campaign
 - Agree in facts, figures and key messages

- The *enviro.aero* initiative
 - To correct misunderstandings about aviation industry environmental impact
 - Facilitate and support the industry players in promoting their environmental responsibility

Facts and Figures

Did you know?

Aircraft operations have become **20% more fuel-efficient** since 1997

Did you know?

The global economic impact of aviation is estimated at **8% of world GDP**

Did you know?

The aviation industry devotes up to **15% of its turnover** to research

Did you know?

Today's aircraft fly more than **3 times as far** with the same amount of fuel as they did **40 years ago**

Did you know?

Aviation generates **29 million jobs** worldwide, more than the total employed population of **France**

TAP Communication Strategy

- Supporting and promoting *enviro.aero* initiative
 - Get the facts about aviation and the environment
www.enviro.aero
- Internal environmental campaigns
 - To promote environmental awareness in all employees
- Cooperating with environmental NGO's
- Annual Report and Sustainability Report
- In-flight environmental video and magazine adds



Our CO₂W

...al problem and airlines are partly responsible.
...2% of global CO₂ emissions. But it might surprise you to
...the CO₂ produced worldwide by cattle.
...king hard to limit the environmental impact of flying by inve
...t and pushing for shorter routes and improved air traffic co

Our 2020 vision means we're not short-sighted

Air travel will be 25% more fuel-efficient by 2020. This will help limit the 2% of CO₂ emissions attributed to air transport.
Besides investing in new, more fuel-efficient aircraft, we're also working hard to shorten routes and improve air traffic control.
Climate change is a reality. And we are doing our utmost to make air travel an even greener form of transport.

1. But it'll still be 50

...e that air transport is growing.
...missions. This is a figure that we are working hard
...orter routes and better air traffic control.
...planet, our share of emissions will remain small,
...ll be 3% by 2050.

To preserve the ice cap we've cut down on the

CO₂ is a significant factor in global warming. And air transport acco
That's a figure airlines are working hard to limit - investing in new, a
we push for shorter routes and improved air traffic control.
We're also making a lot of small changes that, when applied over
difference. For instance, to make aircraft lighter, we've even revise
carried onboard.
So what's an ice cube in the grand scheme of things? At the v
we take our responsibilities seriously.

Flying's a wonderful thing

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...v thing

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We take our environmental responsibility very seriously and are committed to work in partnership to tackle climate change

We strongly encourage other to join us!





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