



**Climate Change,**

**Air Travel**

**& You**

For most people, the decision to take a single flight (that is longer than 10 hours), represents **the single act that will make their greatest Co2 equivalent contribution to climate change in any given year.**



Source: Plane Truth. Aviation's Real Impact on People and the Environment. Rose Bridger. Pluto Press. 2013 (page 16)

# Carbon Calculator

The following slide is a screen grab from a reputable internet based carbon offsetting provider.

**The environmental footprint of a return trip from Australia to Europe for one person is equivalent to 8.1 tonnes of Co2.**

**Calculate Flight Emissions**

select your carbon credit standard

Gold Standard info

VCS info

My flight is:  Return  One way

Please enter the first three letters of the airport name or the international flight code and wait for your airport to appear.

From: Sydney (Kingsford Smith), New Sout

To: London (Heathrow), England, Uniter

Number of trips/people: 1

Cabin Class: Economy

**Total Emissions**

**8.1**  
Tonnes  
Distance: 34037 km

**\$293.44** AUD

ADD TO CART

A single return trip for one individual flying to Europe from Australia **is greater than** the operational foot print of a massive unsustainable home for one year – a **McMansion**, or driving a large **SUV** 20,000 km.



The following slide is a summary of **David Gravina's** entire environmental footprint for one year.

David is a passionate environmental activist. For an Australian citizen, his footprint is **exemplary**, it is about  $\frac{1}{4}$  of the Australian national average.



# Dave's no fly footprint in 2011:

- Vegetarian, organic/local + some processed food
- No car
- Mostly cycles
- Light public transport & taxi use
- Apartment living
- Minimal consumerism
- Recycler

**6.49**  
**tonnes...**

Source: <http://www.climatefriendly.com>

Dave's footprint should he also fly to Europe in 2011:

**14.59**  
**tonnes...**

Source: <http://www.climatefriendly.com>

The climate impact of aeroplanes is not confined to the carbon they produce. Jet planes release several kinds of gases and particles, some of which cool the planet, some of which heat the planet. **Overall the impact** according to the Intergovernmental Panel on Climate Change is **a warming effect 2.7 times** that of the carbon alone.

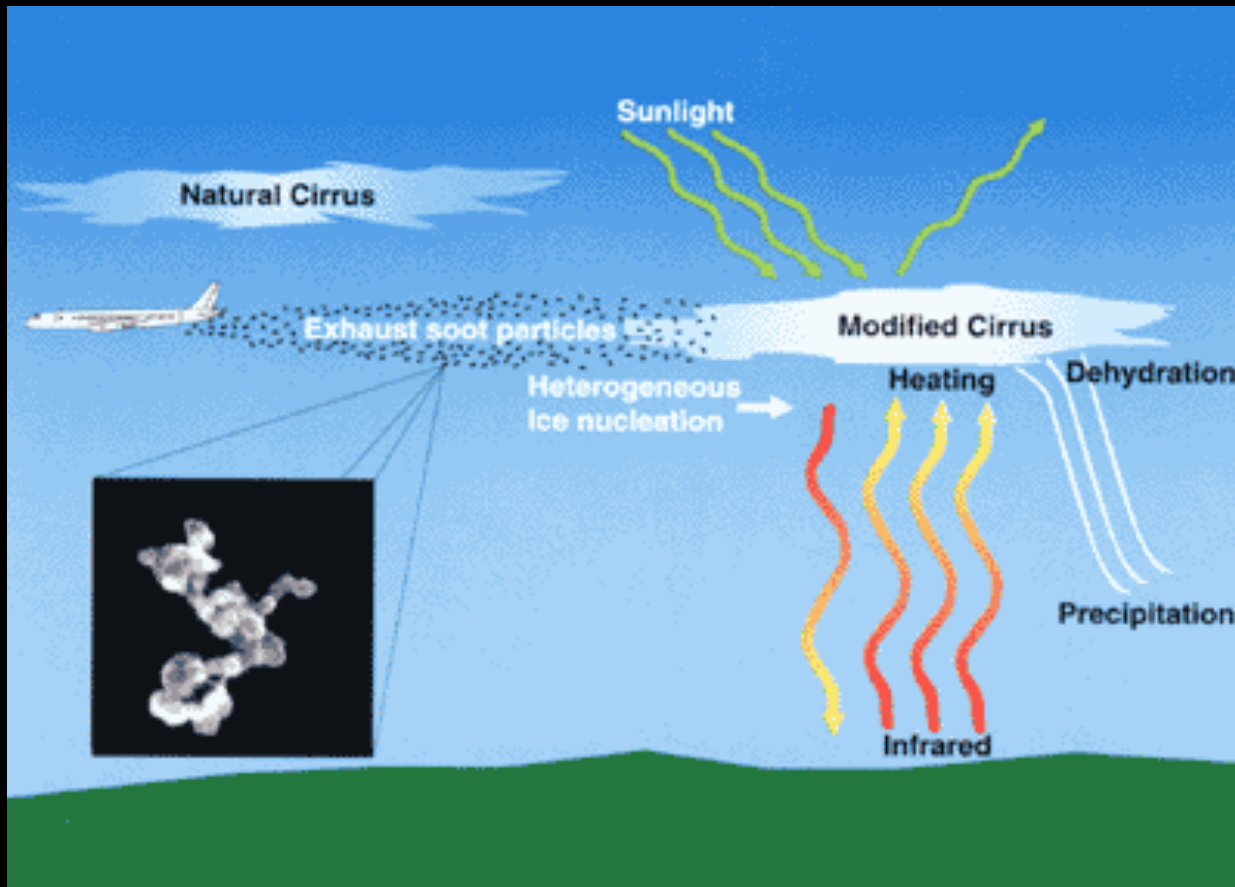
This is mostly a result of mixing warm and cool in the upper troposphere – this forms condensation trails that in turn form cirrus clouds. These cirrus clouds trap heat in the atmosphere – especially at night.

[http://www.grida.no/publications/other/ipcc\\_sr/?src=/climate/ipcc/aviation/064.htm](http://www.grida.no/publications/other/ipcc_sr/?src=/climate/ipcc/aviation/064.htm)



The most important number to remember:

**x 2.7**



In this sense **jet planes** are one of the **most efficient ways** to use fossil fuels **to bring about climate change.**

The carbon Jet planes' burn has almost 3 times the climate warming impact of burning fossil fuels in a car ...



Source: [www.ipcc.ch/organization/organization.shtml#.UJnF8IVhPq0](http://www.ipcc.ch/organization/organization.shtml#.UJnF8IVhPq0)

In Australia, the National Department of Infrastructure and Regional Development web site states that aviation accounts for 3.1% of Australia's climate change emissions.

**Secretary Mike Mrdak**, that **department's chief bureaucrat concedes** that this figure does not factor in the Intergovernmental Panel on Climate Change's established multiplier ratio X 2.7. **Hence Australia's aviation emissions are X 2.7 greater than official records and statistics currently reveal.**

<http://www.infrastructure.gov.au/aviation/environmental/emissions/index.aspx>

A copy of Mr Mrdak's letter is posted on the Infrequent Flyer web site.

In 2011 Australian passenger numbers grew by **11%**. Globally growth has been approximately 5% for decades.

Based on current trends, by **2030** the aviation industry will be the planet's biggest single climate change contributor.

The fifth busiest air corridor in the world is Sydney to Melbourne:

**9,371,184**  
passengers per  
year.

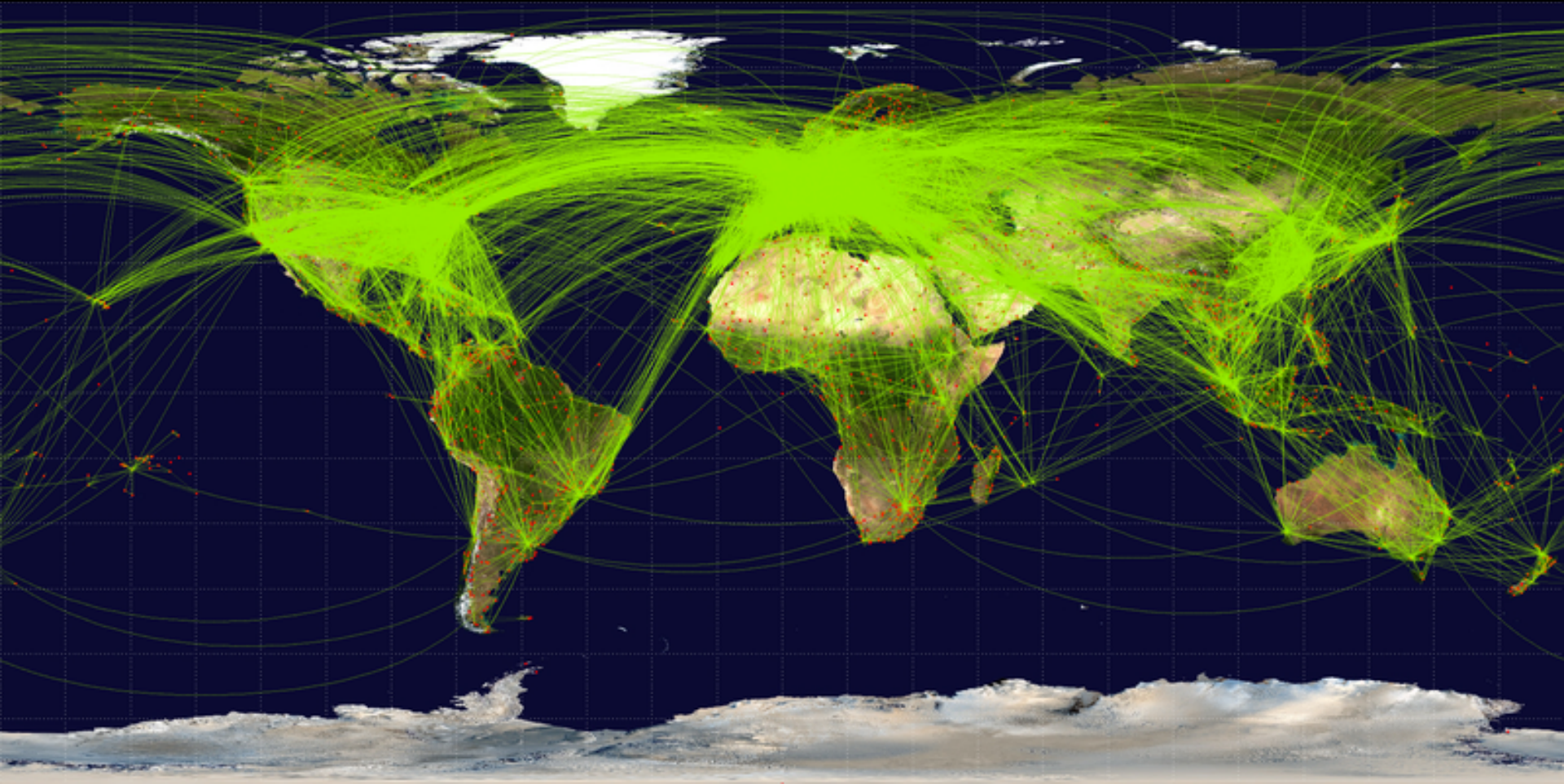


**15.2 million**

passengers flew  
overseas from  
Australia in 2013.

Source: <http://www.abs.gov.au/ausstats/abs@.nsf/products/961B6B53B87C130ACA2574030010BD05>

Earth now has **3700** airports, **23,000** planes, making **30 Million flights / year.**



In 2013, there  
were **3 billion**  
global passengers.



Source: <http://www.iata.org/Pages/default.aspx>



**\$6.4 trillion**

of goods travelled  
by air – that's 35% of all  
world trade by value.



Source: <http://www.iata.org/Pages/default.aspx>

The aviation industry's revenues from ticket sales and freight charges in 2011 was

**\$598 billion**

which enabled it to buy and burn

**\$177 billion**

worth of fuel.



The aviation industry is  
funded by consumers  
like

**you.**



Just 2-3 % of the global population take an  
international flight every year ...

A study of highly mobile travellers found 'a very minor share of humanity accounts for a large part of the overall kms travelled'.

In 2006 it was estimated that, **per annum, only 2-3 % of the global population take an international flight.**

Source: Plane Truth. Aviation's Real Impact on People and the Environment. Rose Bridger. Pluto Press. 2013 (page 18)

Purchasing air-freighted goods like books, clothes, flowers and food dramatically increases people's ***environmental footprints.***



Air travel and air freight facilitates **more consumption of everything** over a shorter period time.

Most flying is recreational, a lot is 'business' and some is migration based. **About 5% of passenger travel could be described as essential** – high level political meetings, urgent scientific research, mobilisations during disasters, troop delivery for peace missions and wars ... The rest can be done over the phone or on Skype or sent via train and boat.



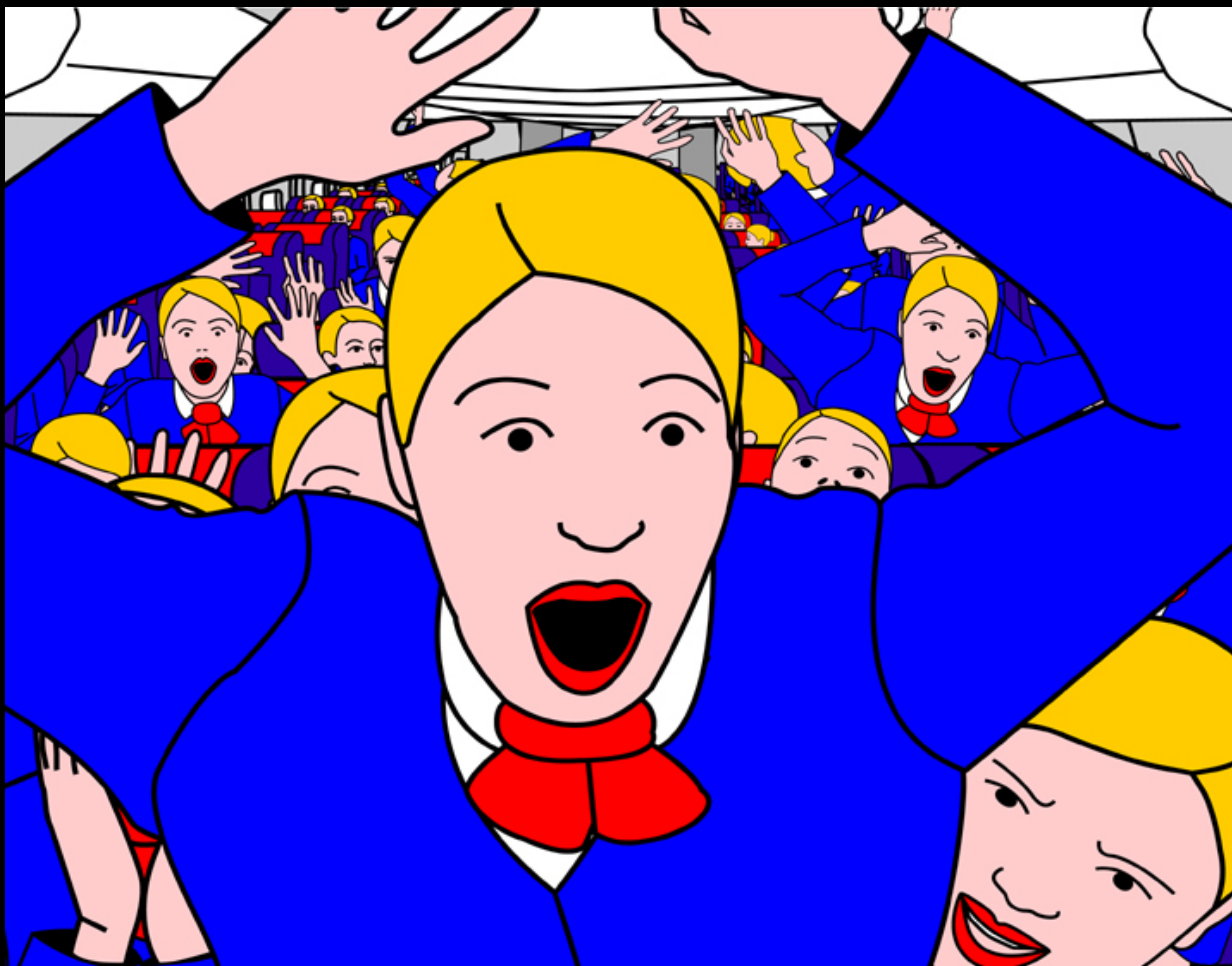
Jet planes are climate change machines





**Airports are climate change factories**

**Should we be panicking?**



No, it's okay.

In 2008 The  
International Air  
Transport Association  
(IATA) signed a  
**summit declaration**  
stating they will take  
action on climate  
change.

# Commitment on climate change



**Aviation Industry Commitment to Action on Climate Change**

As leaders of the aviation industry, we recognise our environmental responsibilities and agree on the need to:

- build on the strong track record of technological progress and innovation that has made our industry the safest and most efficient transport mode; and
- accelerate action to mitigate our environmental impact, especially in respect to climate change while continuing our driving role in the sustainable development of our global society.

Therefore, we, the undersigned aviation industry companies and organisations declare neutral growth and aspire to a carbon-free future.

To this end, in line with the four-pillar strategy unanimously endorsed at the 2007 ICAO Assembly, we will:

1. Push forward the development and implementation of new technologies, including cleaner fuels;
2. Further optimise the fuel efficiency of our fleet and the way we fly;
3. Improve air routes, air traffic management and airport infrastructure; and
4. Implement positive economic instruments to achieve greenhouse gas reductions wherever they are most effective.

We urge all governments to participate in these efforts by:

1. Supporting and co-financing aerospace research and development in the pursuit of greater technological breakthroughs;
2. Taking urgent measures to improve airspace design including optimality allocation, air traffic management innovation and procedures for approving needed airport development; and
3. Developing and implementing a global, equitable and stable emissions management framework for aviation through ICAO in line with the United Nations roadmap agreed in Bali in December 2007.

Our efforts and commitment to work in partnership with governments, other industry and representatives of civil society will provide meaningful benefits on tackling climate change and other environmental challenges.

We strongly encourage others to join us in this endeavour.

**Signatories:**

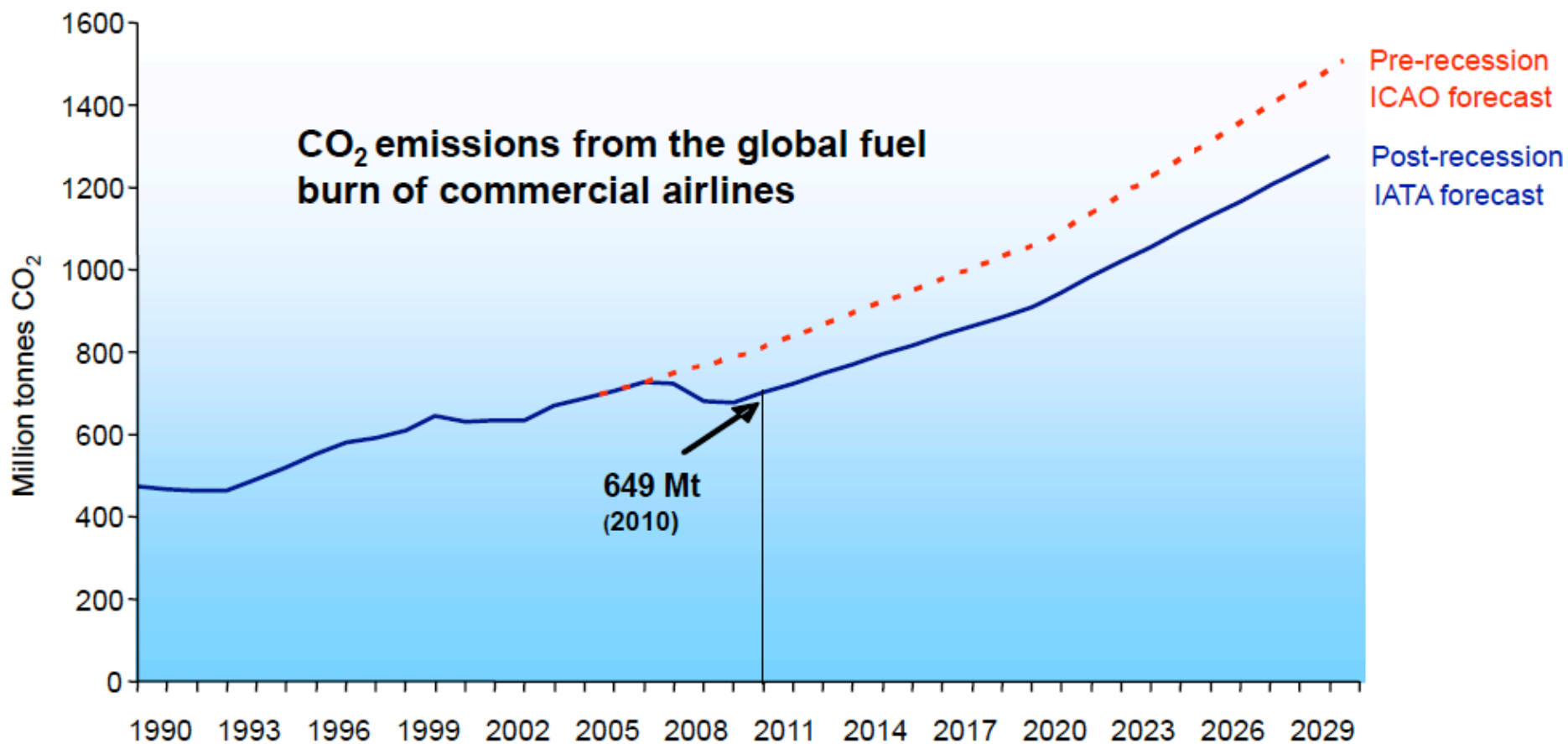
- AMERICAN AIRLINES
- IATA
- AIRBUS
- BRITISH AIRWAYS
- DELTA AIRLINES
- EMBRASER
- FRANCE AIR
- QANTAS
- ROYAL AIRBUS
- SWIRE
- UNITED AIRLINES
- WESTJET

Geneva, 2008

Green house gases from the aviation industry since 2008 have **risen 5% each year**. Aviation is the fastest growing contributing sector to global green house gases.

IATA's own Graph (on the next slide) shows **a doubling of Co2** emissions in the next 20 years...

# Aviation faces emissions challenge



Fortunately the  
IATA have their  
**best brains** working  
on the problem ...





What do you think – will it fly?

This configuration has about the **same chance of flying** as does the IATA of meeting it's industry carbon reduction goals...



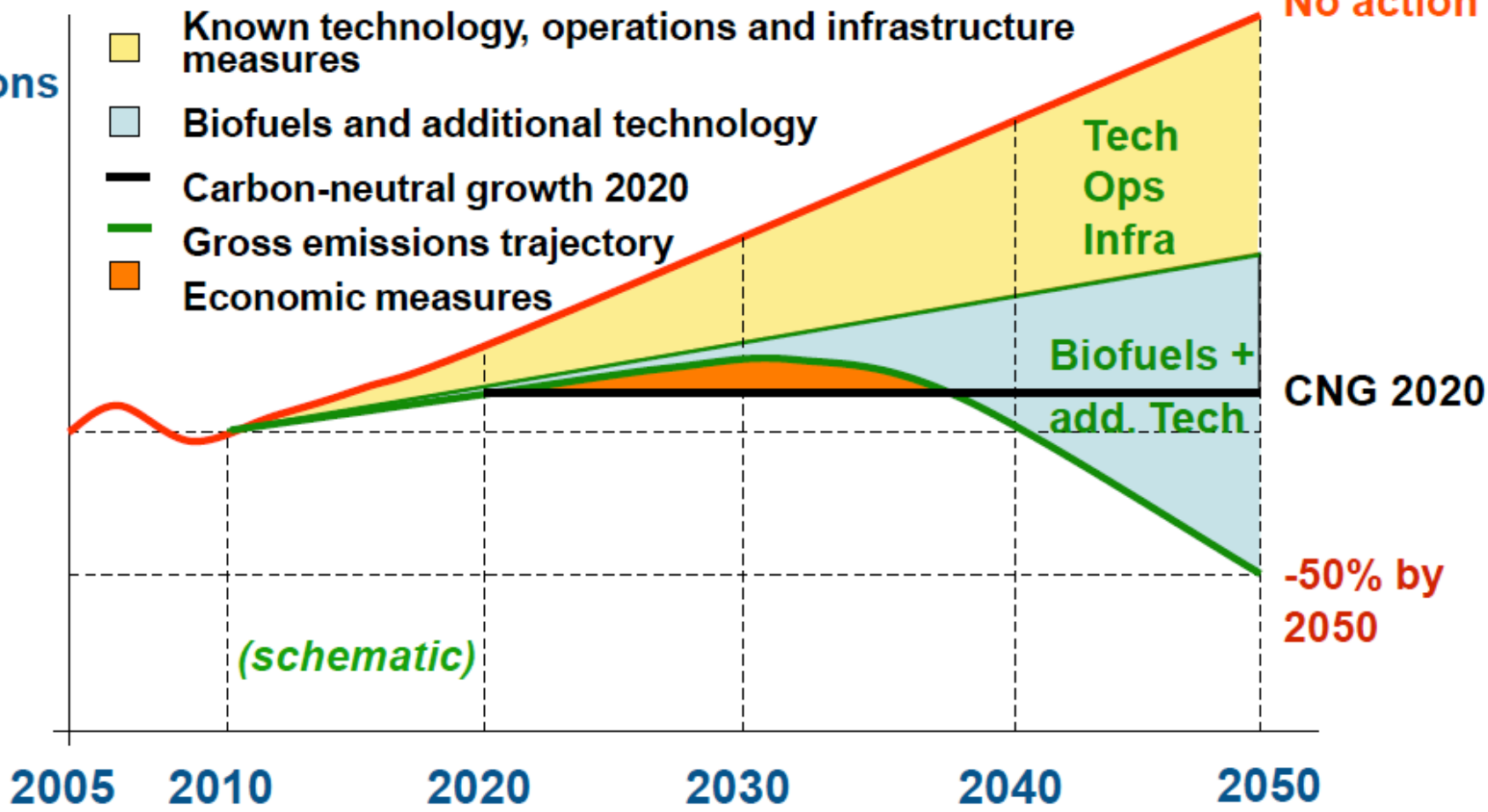
The following IATA document is **grossly misleading.**

The IATA suggests that bio fuels will help reduce the impact of the aviation industry:

# Emissions reduction roadmap

- “Frozen technology” emissions
- Known technology, operations and infrastructure measures
- Biofuels and additional technology
- Carbon-neutral growth 2020
- Gross emissions trajectory
- Economic measures

CO<sub>2</sub> emissions



*(schematic)*

No action

CNG 2020

-50% by 2050

Tech  
Ops  
Infra

Biofuels +  
add. Tech

**Bio fuel weighs twice as much as kerosene** (a fuel used in aviation because it is light). The A380 carries 369 tonnes of fuel – imagine doubling that weight and trying to take off ...

Bio fuels, even when only small amounts are mixed with kerosene **turn to jelly and block fuel lines** at high altitudes ...

To service the bio fuel needs of the airline industry – huge amounts of **the world's cropping lands** would have to be set aside - already a billion people go hungry every day on the planet.

Sure there have been successful bio fuel flights – with one out of 4 engines running on **10 % bio fuel**.

Source: [Plane Truth. Aviation's Real Impact on People and the Environment](#). Rose Bridger. Pluto Press. 2013 (page 2-3)

A Boeing 747 **100% biofuel** flight from London to Amsterdam (1.16 hours long) would **use 3 million coconuts.**



Source: Plane Truth. Aviation's Real Impact on People and the Environment. Rose Bridger. Pluto Press. 2013 (page 28)

This is called:

***green wash...***

when corporations and industries deceive consumers about the environmental impact of their industries or products.

It is unlikely you will hear about the massive environmental impact of the aviation industry in commercial media such as TV and news papers.

They earn **vast advertising revenues from the aviation industry.**







# CARBON AIR

THE LATEST IN LUXURY CLIMATE CHANGE MACHINERY



The travel section of weekend newspapers is one big **adver-torial** for the airline and tourism industry...



# The master of **Green Wash**

Sir **Richard Branson** has spent his life profiting from his airline business, whilst advocating environmental issues ...



**Branson at his green washing best:** <http://blog.nature.org/conservancy/2013/05/28/dialogues-on-the-environment-qa-with-sir-richard-branson/0>

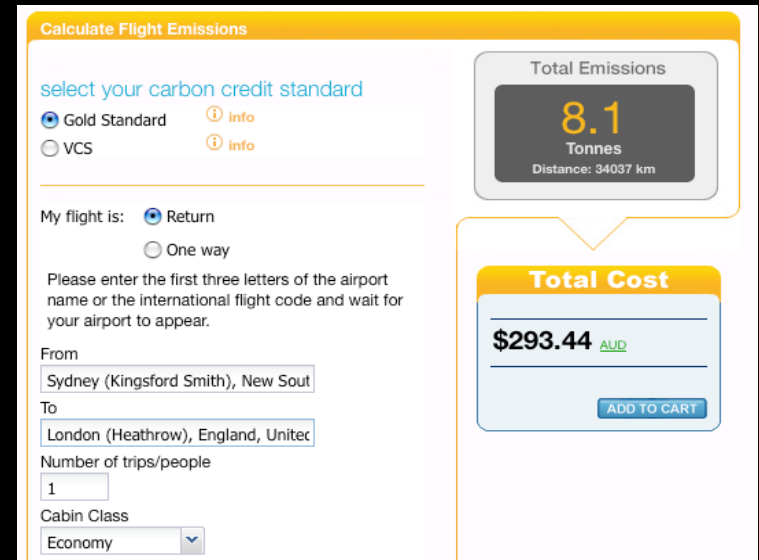
You might have heard of **Branson's** latest business venture—space travel for the 1%... It is an environmental folly of gigantic proportions. Visit the link below and learn about 'black carbon'



<http://www.good.is/posts/the-final-frontier-a-new-polluting-industry-takes-flight>

The **off-setting** offered by the airlines has very **dubious environmental credentials.**

Climate Friendly gold standard offsetting is about 10 times more expensive than the off setting offered by the major airlines.



**Calculate Flight Emissions**

select your carbon credit standard

Gold Standard info

VCS info

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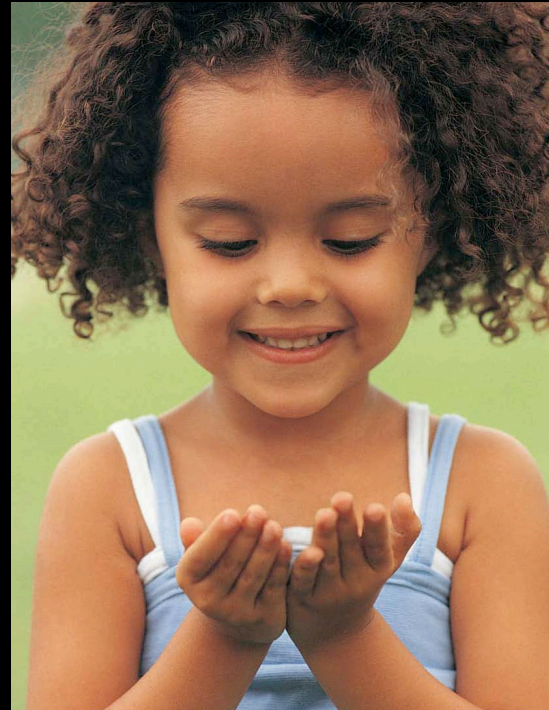
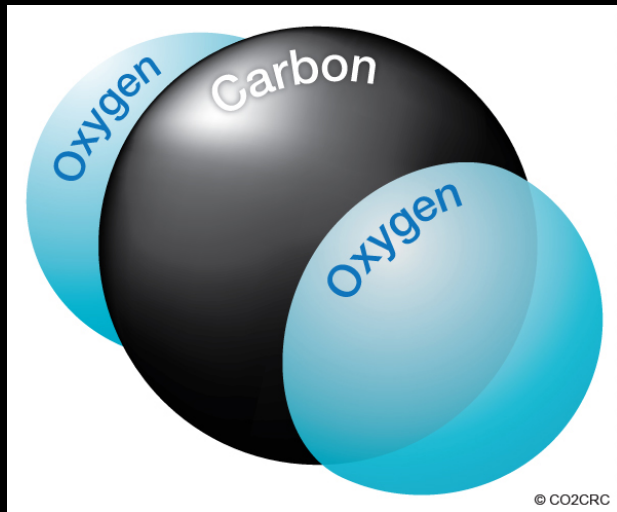
Earth does not have the offsetting **ecological reserves** to offset the aviation industry's carbon footprint (let alone essential services like food production, building and electricity generation).



The Co2 created during a flight, will stay in the atmosphere for

**100 years**

during which it will act as a potent green house gas – trapping the earth's heat and bringing about climate change.

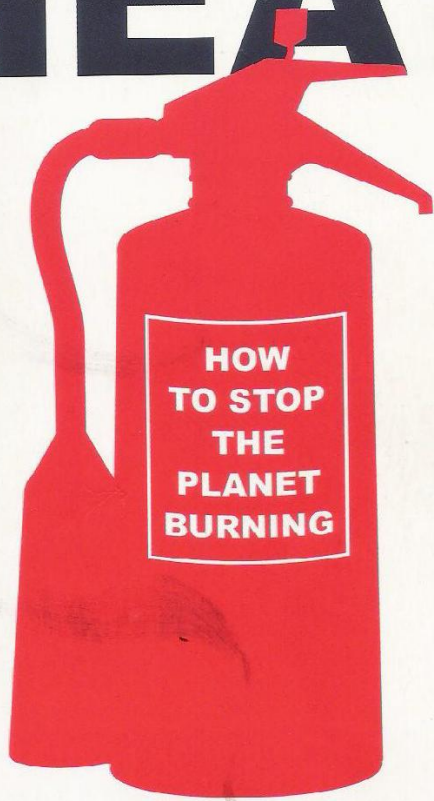


What impact on **her future** will your flight have?



There are **no silver bullets** when it comes to jet travel – both George Monbiot and Tim Flannery come to this conclusion in their books.

# HEAT



GEORGE MONBIOT

'At last the global movement has found a vision' *Independent on Sunday*

# THE WEATHER MAKERS

'THIS IS THE BOOK THE WORLD HAS BEEN  
WAITING FOR.' PETER SINGER



TIM  
FLANNERY

WITH A NEW INTRODUCTION

**The only way to reduce the  
environmental impact of air  
travel is to fly less.**

To stabilize Co2 levels each global citizen's Co2 per capita allowance needs to be around **2.4 tonnes** of Co2 / year.

Australia's per capita emissions are **27.1** Tonnes Co2, the highest in OECD.

India's per capita emissions are **1.38** tonnes / person.



Source: <http://www.amberlinks.org/sustainable-living/what-is-a-sustainable-carbon-footprint.html>

The presentation is uncompromising because it needs to be—since 1990 global Co<sub>2</sub> emissions levels have **increased 61 %**.



Global atmospheric CO<sub>2</sub> for October 2013, 393.66ppm

50 years ago... very few people flew and they were perfectly happy – **they danced in the streets...**



There are  
alternative,  
cheaper  
and more  
sustainable  
forms of  
transport...



# Slow travel



It is about the journey...



The Infrequent Flyer team believes that **Environmentalists** have to encompass, make *real*, a *lived* successful alternative to current unsustainable consumer based practices and economies. In doing so, we can create an alternative vision for humanity – one not of environmental collapse and social and political calamity, but rather a compelling sustainable future based on sound environmental principles.

INFREQUENT FLYER

