

# AVIATION BENEFITS BEYOND BORDERS

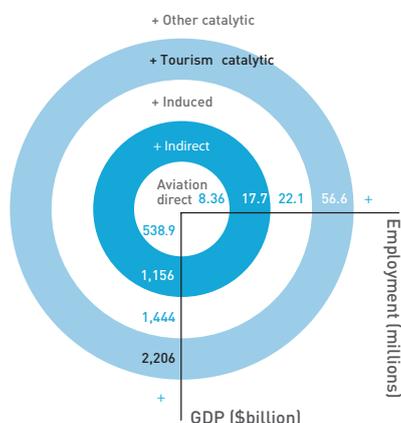
## KEY FACTS

FROM THE ATAG REPORT RELEASED IN MARCH 2012

**56.6 million**

Jobs supported by aviation worldwide.

Aviation's global employment and GDP impact



**\$2.2 trillion**

Aviation's global economic impact (including direct, indirect, induced and tourism catalytic).

**19<sup>th</sup>**

If aviation were a country, it would rank 19th in size by GDP, around the same as Switzerland and Poland.

**\$5.3 trillion**

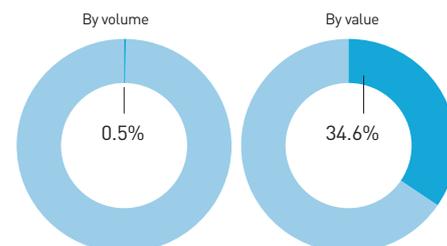
Value of cargo handled in 2010.

**3.5%**

Of global GDP is supported by air transport.

**35%**

Air transport carries around 35% of world trade by value and only 0.5% by volume.



## EXECUTIVE SUMMARY

*Aviation: benefits beyond borders* provides a global view of one of the most global industries. Oxford Economics has worked over the last two years to analyse the economic and social benefits of aviation at a national level in over 50 countries and used the results of that assessment to build the most comprehensive global picture of air transport's many benefits. Working with partners across the industry, ATAG has expanded the analysis to build a view of the air transport system that provides jobs, trade, connectivity, tourism, vital lifelines to many remote communities and disaster response.

### Air transport is a major contributor to global economic prosperity

Aviation provides the only rapid worldwide transportation network, which makes it essential for global business and tourism. It plays a vital role in facilitating economic growth, particularly in developing countries.

Airlines transport over 2.6 billion passengers annually with revenue passenger kilometres (RPK) totalling nearly 5 trillion in 2010. The USA followed by China and then the UK were the top three countries in terms of RPK.

Nearly 48 million tonnes of freight were carried by air in 2010, amounting to 172 billion freight tonne kilometres (FTK). The USA followed by China and then Germany were the top three countries in terms of FTK.

Air transport facilitates world trade, helping countries participate in the global economy by increasing access to international markets and allowing globalisation of production. The total value of goods transported by air represents 35% of all international trade.

Aviation is indispensable for tourism, which is a major engine of economic growth, particularly in developing economies. Globally, 35% of international tourists travel by air.

Connectivity contributes to improved productivity by encouraging investment and innovation; improving business operations and efficiency; and allowing companies to attract high quality employees.

Aviation's global economic impact (direct, indirect, induced and tourism catalytic) is estimated at \$2.2 trillion, equivalent to 3.5% of world gross domestic product (GDP).

These figures do not include other economic benefits of aviation, such as the jobs or economic activity that occur when companies or industries exist because air travel makes them possible, or the intrinsic value that the speed and connectivity of air travel provides. Nor do they include domestic tourism and trade. Including these would increase the employment and global economic numbers several-fold.

Over 1,500 airlines operate a total fleet of nearly 24,000 aircraft. They serve almost 4,000 airports through a route network of several million kilometres managed by around 190 air navigation service providers.

### Air transport is a major global employer

The air transport industry generates a total of 56.6 million jobs globally.

It provides 8.4 million direct jobs: airlines, air navigation service providers and airports directly employ 7.6 million people and the civil aerospace sector (manufacture of aircraft systems, frames and engines) employs 0.8 million people.

There are 9.3 million indirect jobs generated through purchases of goods and services from companies in its supply chain.

Industry employees support 4.4 million induced jobs through spending.

Aviation-enabled tourism generates around 34.5 million jobs globally.

### Air transport invests substantially in vital infrastructure

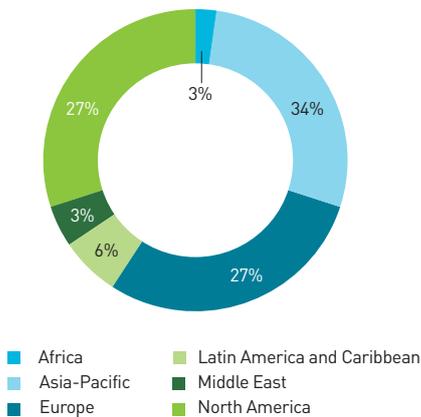
Unlike other transport modes, the air transport industry pays for a vast majority of its own infrastructure costs (runways, airport terminals, air traffic control), rather than being financed through taxation and public investment or subsidy (as is typically the case for road and railways).

In 2010, airports invested \$26 billion in construction projects, creating jobs and building new infrastructure.

The benefits to society of research and development spending by the aerospace industry are estimated to be much higher than in manufacturing as a whole – every \$100

# 2.7 billion

Passengers carried by airlines in 2010 (in 2011 it was 2.8 billion). Graph shows regional split.



# 26.7 million

Aircraft movements worldwide in 2010.

# 649 million

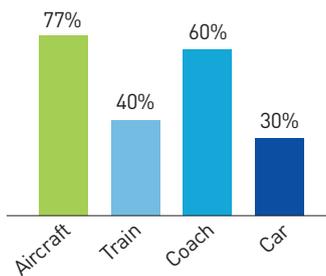
Tonnes of CO<sub>2</sub> emitted by airlines in 2010 (in 2011 it was 676 million tonnes), just under 2% of the global total man-made CO<sub>2</sub> of 34 billion tonnes.

# \$140 billion

Cost of fuel to airlines in 2010, this is 26% of airline operating costs (in 2011 it was \$176 billion).

# 77%

Average aircraft occupancy (in 2011, it was 78%), higher than other forms of transport.



## Climate targets:

### 1.5%

Aviation will improve its fleet fuel efficiency by 1.5% per annum between now and 2020.

## Stabilise

From 2020, net carbon emissions from aviation will be capped through carbon-neutral growth.

### 50%

By 2050, net aviation carbon emissions will be half of what they were in 2005.

## Air transport is working to mitigate its environmental impact

Airline operations produced 649 million tonnes of carbon dioxide (CO<sub>2</sub>) in 2010 (and 676 million tonnes in 2011), just under 2% of the total human carbon emissions of over 34 billion tonnes.

The aviation industry agreed in 2008 to the world's first set of sector-specific climate change targets. The industry is already delivering on the first target – to continue to improve fleet fuel efficiency by 1.5% per year until 2020. From 2020, aviation will cap its net carbon emissions while continuing to grow to meet the needs of passengers and economies. By 2050, the industry has committed to reduce its net carbon footprint to 50% below what it was in 2005.

Companies across the sector are collaborating to reduce emissions using a four-pillar strategy of new technology, efficient operations, improved infrastructure and economic measures to fill the remaining emissions gap.

Modern jet aircraft are 75% quieter than the first models that entered into service and each new generation of aircraft continues this downward trend.

Over 1,500 passenger flights operating partially on sustainable biofuels have taken place so far. It is expected that carbon reduction from moving to biofuels could be up to 80% over traditional jet fuel.

When implemented, Europe's Single Sky programme can deliver a 10-15% reduction in environmental impact alone as it will

DOWNLOAD THE REPORT:

WWW.AVIATIONBENEFITSBEYONDBORDERS.ORG

# 1,568

Commercial airlines.

# 3,846

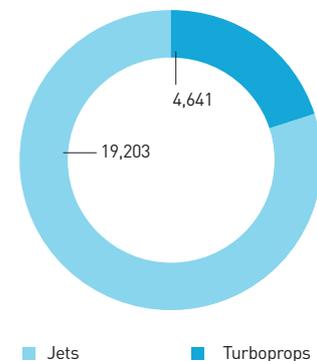
Commercial airports.

# 192

Air navigation service providers.

# 23,844

Commercial aircraft in service.



# 34,756

City-pair routes served globally.

million of spending on research eventually generates additional GDP benefits of \$70 million year-after-year.

## Air transport provides social benefits

Air transport contributes to sustainable development. By facilitating tourism and trade, it generates economic growth, provides jobs, improves living standards, alleviates poverty and increases revenues from taxes.

Increasing cross-border travel is a reflection of the closer relationships developing between countries, both from an individual perspective and at a country level. In the same way, eased restrictions on the movement of goods and people across borders facilitates the development of social and economic networks that will have long-lasting effects. This improved flow of people and goods benefits both the host and the originating countries, encouraging increased social and economic integration.

Air transport offers a vital lifeline to communities that lack adequate road or rail networks. In many remote communities and small islands, access to the rest of the world – and to essential services such as health care – is often only possible by air.

Aviation's speed and reliability are perhaps most immediately apparent in the delivery of urgently needed assistance during emergencies caused by natural disaster, famine and war. Air services are particularly important in situations where physical access is problematic.

save 300-500 kilogrammes of fuel and 948 to 1,575 kilogrammes of CO<sub>2</sub> per flight. Similarly NextGen in the USA is expected to yield significant benefits in terms of reducing delays, fuel savings, additional capacity, improved access, enhanced safety, and reduced environmental impact.

## Air transport will continue to provide jobs

In 2030, forecasts suggest that there will be nearly 6 billion passengers and aviation will support nearly 82 million jobs and \$6.9 trillion in economic activity.

However, if growth were to slow by just 1%, the total number of jobs supported by the air transport sector (including air transport supported tourism) would be over 14 million lower than the base forecasts and the contribution of the air transport sector to world GDP would be \$646 billion (2010 prices) lower, with an additional \$542 billion lost through lower tourism activity.

## Air transport is a vital component of modern life

When Iceland's Eyjafjallajökull volcano erupted in 2010, a week-long disruption of air traffic in Europe caused 10 million passengers to be affected and cost the global economy \$5 billion.

It was not only passengers impacted: parts of the automotive industry were forced to slow production as supply chains remained grounded and African economies lost up to \$65 million in exports of time-sensitive perishable goods.