The value of air cargo to the global economy

GSF briefing

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# contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>About GSF</td>
<td>3</td>
</tr>
<tr>
<td>About GACAG</td>
<td>3</td>
</tr>
<tr>
<td>Value of air cargo and its contribution to the global economy</td>
<td>4</td>
</tr>
<tr>
<td>• The air freight market</td>
<td>4</td>
</tr>
<tr>
<td>Carbon emissions</td>
<td>6</td>
</tr>
<tr>
<td>• The work of ICAO and carbon reduction</td>
<td>6</td>
</tr>
<tr>
<td>• Global climate change deal and aviation</td>
<td>7</td>
</tr>
<tr>
<td>Case studies showing sky-high value of air cargo</td>
<td>8</td>
</tr>
<tr>
<td>• DHL</td>
<td>8</td>
</tr>
<tr>
<td>• Asda</td>
<td>9</td>
</tr>
<tr>
<td>• Sound Moves</td>
<td>9</td>
</tr>
<tr>
<td>• Pharmaceutical company</td>
<td>10</td>
</tr>
<tr>
<td>• Ford</td>
<td>10</td>
</tr>
<tr>
<td>Conclusions</td>
<td>11</td>
</tr>
</tbody>
</table>
Airfreight is an essential mode of transport for many industry sectors, ranging from high end manufacturing, engineering, pharmaceuticals, retailing and the automotive sectors. It can take a month to take goods from Europe to the Far East by ship, it takes a day by air. There are also time-sensitive goods such as medicines and documents which cannot travel any other way. Yet, its importance to the global economy is often overlooked with the focus almost exclusively centred on passenger and business travel. Aviation is a key enabler of global economic growth and social development.

This briefing has been compiled to illustrate the importance of air cargo and how industry is making a contribution to carbon reduction. It features case studies on the value of air cargo to companies operating within global supply chains, as well as the current state of the airfreight market.

Aviation is also often presumed to be an environmentally damaging form of transport when, in reality, the industry has been taking extensive action to reduce emissions. GSF also examines in this publication how the aviation sector is reducing emissions including industry targets and the work of the International Civil Aviation Organization (ICAO). It is imperative that we recognise the inherent advantages of airfreight and also tackle the growing challenge of climate change. GSF aims to champion the ‘value’ of airfreight.

In 2010 GSF joined with the International Air Transport Association (IATA), the international federation of freight forwarders, FIATA and The International Air Cargo Association (TIACA) to set up the Global Air Cargo Advisory Group (GACAG) to promote the sustainable and efficient air cargo services essential to international trade. Today, GACAG is campaigning on measures to lower the carbon footprint of air cargo, such as efforts to develop alternative fuels, more efficient and quieter engines, carbon offsetting and a methodology for measuring air cargo’s carbon footprint.

GACAG also has a Sustainability Task Force agenda focusing on:

- environmental action – industry's on-going efforts to reduce its carbon footprint
- economic growth – the importance of air cargo to global trade
- social responsibility – the need to attract, develop and retain talents in the air cargo industry

GACAG is also working with national and international government organisations on developing cargo security regimes and harmonising international security arrangements. It supports the development of an e-commerce initiative, to find acceptable electronic protocols for cargo information, which will benefit the industry’s commercial sustainability and security.

The Global Shippers’ Forum (GSF) is the international body for global shippers established by over 20 national and regional shippers’ organisations worldwide. It fosters best practice and lobbies international policy makers across the globe. It believes that air freight is core to making supply chains operate efficiently and notes the challenge for industry to respond to the climate change challenge.

Introduction

About GSF

About GACAG
Value of air cargo and its contribution to the global economy

Freight is a direct representation of the health of the global economy and while airfreight may be a tiny proportion of all freight by tonnage, (2–3%) nonetheless it can represent a significant amount of countries’ total imports and exports by value, typically between 35–40% in many advanced economies. The highest value goods, most essential shipments and most sensitive commercial documents are flown across the world for safety, security and essential speed. Bellyhold capacity on long haul passenger flights is a key driver of airfreight.

The case for increases in connectivity leading to GDP growth is essential for the ongoing health of the global economy. High-value trade links must be supported by airfreight and businesses must be allowed to move into developing international markets.

The air freight market

As 2014 drew to a close, many of the world’s major economies were slowing down, with the notable exception of the US. Reports of the lowest annual GDP growth for China in 25 years and the signalling of quantitative easing in the Euro Zone, both pointed to a significant drop-off in the global economy.

This was reflected in airfreight where the market showed continuing underperformance compared to sea, with transportation prices winning out over customer sensitivity to speed of delivery. Airfreight volumes were mixed during 2014, with some routes stagnating, Southern Africa deteriorating and growth mainly confined to the Far East and the Americas (see figure 1).
Previously, airfreight had rebounded in 2010, partly led by inventory rebuilding after the economic downturn, together with rising consumer demand, however it was not sustained (figure 2).

IATA (International Air Transport Association) also reports that growth in world trade has slowed over the past several years, which has led to a new (slower) normal for airfreight growth. However, moderate expansion in airfreight is expected to continue, and there is scope for some further gains alongside improvements in the global economy.

The USA remains by far the biggest country for movement of air freight volumes due to its size and geography, followed by China (figure 3).
Carbon emissions

Air transport currently represents around two per cent of global carbon emissions, but is expected to increase to three per cent by 2050. The aviation sector has recognised the need to address the global challenge of climate change and under the International Air Transport Association (IATA) has established ambitious targets to reduce carbon emissions from aviation.

- A cap on aviation carbon emissions from 2020 (carbon-neutral growth)
- An average improvement in fuel efficiency of 1.5 per cent from 2009 to 2020
- A reduction in carbon emissions of 50 per cent by 2050, relative to 2005 levels

IATA has also set a carbon methodology for aviation as a model to encourage consistent reporting across the sector and to enable shippers to calculate their emissions for Scope 3 requirements (e.g. report indirect emissions from transport providers for carrying goods).

The work of ICAO and carbon reduction

The International Civil Aviation Organization (ICAO) is also under a global obligation to develop a market-based measure (MBM) by 2016 for aviation to reduce carbon. Current MBMs identified are:

- mandatory offsetting
- mandatory offsetting with additional revenues
- a global emissions trading scheme

A firm proposal for a global MBM is now expected to be made at the next ICAO Assembly in 2016, with implementation from 2020. The following issues are of key concern.

- Deciding the most appropriate ways to measure aviation emissions, so that reporting by countries and airlines is consistent
- Deciding what the best quality offsets are and acceptable uses of revenue raised
- Deciding whether all countries need to take part as there are a number of very small aviation markets which combined would account for minimal emissions
- How to reconcile the need to ensure good coverage, whilst taking account of markets in the developing world

Offsetting is the airline industry’s preferred option, at least initially through the purchase of carbon credits in the global market. It is seen as the simplest to implement and could be used by all countries. An Emissions Trading Scheme...
(ETS) is considered overly complicated with the complexities of a global marketplace. Under pressure, the European Union (EU) has halted its own regional ETS to allow negotiations to take place at ICAO. Industry also believes that green taxes are not a viable solution because they are deemed to drain the sector of financial resources needed for investment into research and development.

Additionally, ICAO has agreed on a comprehensive strategy to progress technology, operations and alternative fuels to reduce emissions. There are four areas of action identified to reduce emissions.

1. Investing in new technology (including sustainable aviation biofuels)
   Each generation of aircraft is around 20 per cent more fuel efficient. Sustainable alternative aviation fuels are already being used on a small scale in commercial flights, and could have the potential to cut emissions by up to 80 per cent compared to traditional jet fuel.

2. Flying using more efficient operations
   A move towards a lighter and more efficient fleet and using air traffic control techniques to save emissions, e.g. adding wingtip devices to an aircraft can reduce fuel use by 4 per cent.

3. Building and using efficient infrastructure
   Reforming air traffic management systems can shorten flying times and save carbon.

4. Applying effective, global market-based measures
   Economic measures can be applied alongside technology and more efficient operations.

ICAO is also developing a certification standard for carbon emissions from aircraft. The standard will set limits for carbon emissions from aircraft in relation to their size and weight. The aim is to reach an agreement on a fully developed standard in 2016.

At the global New York Climate Change Summit in September 2014, the aviation sector joined other business and government groups to announce a commitment on climate action between ICAO and the aviation industry represented by the Air Transport Action Group (ATAG).

Reducing emissions is also a top environmental priority for airlines. Approaches being taken include replacing older model aircraft with newer more efficient models, improving fuel efficiency and trialling alternative fuels.

Global climate change deal and aviation

As the UN talks progress towards a global climate change deal, aviation as an international sector, like maritime, will come under increasing scrutiny. International aviation is not covered under the existing Kyoto Protocol, due to the difficulty in allocating these emissions to specific countries. It is already being considered for a separate emissions reduction target by the UN Framework Convention on Climate Change (UNFCCC) and could be expected to contribute to the Green Climate Fund (GCF) for climate change adaptation for developing countries.
The following case studies from companies operating internationally demonstrate how shippers and the logistics industry uses air cargo and the important role it has within the global economy. The case studies also show that with the requirement for airfreight, industry also needs to consider how it will contribute towards reducing carbon emissions, and how emissions are reported along the supply chain, to ensure consistent carbon measurement.

**DHL**

DHL uses all major modes of freight transport across its global network and operates in more than 220 countries and territories.

DHL's Global Forwarding and Express divisions are particularly reliant upon aviation to move freight internationally. DHL Express, for example, moves time-critical or high-value parcels and packages (including products such as IT, telecoms, aerospace components, pharmaceuticals and contract documents) predominately from business to business, securely and efficiently. DHL sees the forwarding and express freight markets as vital to the health and growth of the UK economy.

DHL Express alone flies material on over 1,500 aircraft per week at Heathrow, as well as being the largest pure airfreight operator based on the number of rotations. For the year ending April 2013, its Heathrow bellyhold airfreight alone equated to in excess of 17 million kilos inbound and 24 million kilos outbound.

“We support airlines in wanting additional aviation and airfreight capacity at Heathrow to allow UK businesses to compete globally. Without this, DHL may potentially face challenges in achieving the connectivity needed to meet customer demand for key destinations including Brazil, Russia, India, China, South Africa, Latin America, the Far East, Indonesia, and Australia,” says Danny Pedri, MD, DHL Express Hubs and Gateways, UK & Nordics.

DHL says that capacity at Heathrow should be increased to meet growing demand for freight services. DHL supports the continuation of existing inbound night-time passenger flights that also carry business critical airfreight for the UK from the growing economic trading regions of the Far East and India.

DHL Express also operates a fleet of 24 inbound and outbound freighters per night at East Midlands Airport. Nonetheless, “Heathrow gives us access to countries that are not directly served by our own aircraft. Capacity constraints at Heathrow could impact on DHL’s ability to move material around the world as quickly and efficiently as our customers require,” says Pedri.

“We are already seeing some impact of capacity constraints at Heathrow and increased competition from European airports. These constraints are eroding Heathrow’s dominance [as a freight hub] and threaten the UK’s position as a key destination for airfreight,” says Pedri.

“This poses a potential threat to the long-term viability of operations around the South East of the UK.”
Asda

Asda prioritises environmentally-friendly freight movements and cost-effectiveness, so air freight is usually a contingency measure in response to unexpectedly high demand for product or supplier delays. The only exceptions to this are flowers, and some fresh produce which originates in Africa. Clothing typically comes from the Indian sub-continent and general merchandise from China.

Although Asda uses northern airports as a point of UK entry wherever this will prove more economical in term of final-leg delivery or cost, supply chain manager for imports Lee Hodgkin says: “Ultimately Heathrow capacity does affect us. We use it on a regular basis.”

Its choice of airport is determined by final destination and the services available. As Asda aims to move as much freight by sea as possible, or by sea-air combination, it rarely uses freighter services and consigns urgent material to the bellyhold of passenger services. Its aim overall is to restock UK store shelves as efficiently and quickly as possible.

Key points of origin are Hong Kong, Bangladesh and Sri Lanka. “Modern retailers use airfreight in different ways,” says Hodgkin. “Some choose it as a strategic transport method and their price structure allows that. However, Asda uses airfreight primarily when there is no other option. It is still important to us though that the inbound capacity and service levels from our key destinations are maintained at Heathrow.

“If capacity or investment levels at Heathrow fall, we would have to examine the impact of that on our business very carefully,” he says.

Sound Moves

Sound Moves is a specialist international logistics operation supporting bands and artists on global tours. It ensures that essential equipment for artists, such as Beyoncé, U2, the Rolling Stones and Katy Perry, once dismantled after each show arrives at the next venue on time, even if the journey spans continents. It puts 70 movements a week through Heathrow, usually in consignments of 1,200 to 1,400kg, travelling on passenger flights.

“Heathrow is essential to our business,” says tour principal John Corr. “It is no coincidence that suppliers to the music industry, as with other sectors such as motor sport, are clustered in the West London area. Heathrow’s multiple daily departures for a huge number of international destinations are crucial to the company meeting the ever tightening time pressure on tour schedules.”

Although there are dedicated cargo planes flying out of East Midlands Airport which can serve some of Corr’s needs, the frequency, destination list and distance from the airport all limit their usefulness. Gatwick handles very little freight in comparison to Heathrow, and Stansted is located too far away and doesn’t have wide-body aircraft passenger flights on which the majority of Sound Moves shipments fly.

“There are European airports which can offer a similar service to Heathrow and, if Heathrow does not receive the continued investment it needs to maintain capacity and frequency of flights, artists and their suppliers will relocate to Amsterdam, Frankfurt or Paris,” says Corr.

Sound Moves has an annual turnover of approximately £16m, and Corr stresses that this is a fraction of the economic weight of the sector.

“The specialist trucking firms tours use, the suppliers to the music industry and the other logistics co-ordinators such as ourselves add huge economic value to the region and we rely upon Heathrow’s strength,” he says. “The industry demands an array of next-day services, because the distances are too great for trucks and the timescale far too short for shipping by sea.”
Pharmaceutical company

A UK home counties-based manufacturer of diagnostic and therapeutic medical products relies upon Heathrow to ship goods to hospitals all over the world on the day they are made.

The strategic logistics manager explains: “Our products are used in scanning for, and treating, serious health conditions. However, our products decay continually, so it is essential that we can make and ship the product on the same day a clinician orders it, so that they receive a useable amount. Any delay can impact the healthcare of up to hundreds of patients at a critical time.”

The company sends out up to 20 shipments a day through Heathrow, or 3,600 shipments and 16,000 packages a year to 64 destinations in 54 countries. Although it can ship in greater quantity with freighters, the number of these services available at Heathrow has contracted, and it increasingly relies upon the flexibility and frequent scheduling of passenger planes. These, however, have more stringent restrictions for hazardous materials.

Heathrow is an essential hub for this pharmaceutical company as nowhere else can offer the range of direct flights and airlines, with minimal transportation by road. If the product must be transhipped from one plane to another mid-route, its usability can be compromised. These medical products could be seen as the ultimate in just-in-time deliveries.

“We need Heathrow and we need it to be a primary hub. It is essential that it receives investment for a new runway because we will start to lose airlines and services to other countries where the hub airports are getting investment and slots are not under so much pressure,” says the strategic logistics manager.

“If we fail to invest, Heathrow will stop being a key hub for global aviation.”

“Like many companies, we are seeing new markets in the developing world and we need to be able to reach them. We can ship through other hubs but it adds risk, complexity and, above all, time, and we do not have that time to spare.”

Ford

Ford sends as much freight across its international production network by road and sea as it can. However, should contingencies arise, such as increased or short-notice demand, parts often need to be sent urgently by air.

Ford's air forwarder partners will use whichever airport is most convenient for the products, taking into account the timescale, destination and price. However, as most UK airfreight, and almost all for long-haul destinations such as the US, China, South America, Canada or Asia, goes through Heathrow, the airport's capabilities are essential to Ford's service schedules.

Ford has no particular loyalty to any airport but expects its logistics suppliers to use the hub with the most competitive and comprehensive services. Should Heathrow fail to provide the best value and service going forward, Ford's freight would be re-routed via other hubs such as Cologne and Frankfurt, which currently handle some of its European product.

Ford's airfreight needs can vary considerably, from a handful of parts to significant volumes. These can be sent by air in response to scheduling or engineering changes and Ford can also airfreight prototype parts, urgent replacement parts for customer vehicles and occasionally complete vehicles for auto shows or short-notice testing under different conditions.

Some shipments, such as airbags or engines, can contain hazardous material and a variety of air services will be used, including freighters and charters, where bellyhold space would not be viable.

Generally the automotive industry will use the most competitive airfreight services, which offer the best solutions in terms of price, capacity and destinations. If the best service is not found in the UK, then Ford will expect its logistics supplier to go elsewhere and will move freight by road to other European airports if necessary.
On the surface airfreight seems an expensive and environmentally challenging way to ship goods, but for many high-value and high-end manufactured goods it is either the only, or the best, way to transport them as the case studies show.

It is crucial that airfreight makes a contribution to reducing carbon emissions. Industry has made significant progress to date by setting targets, establishing a carbon footprint methodology and working on market-based measures. The outcome of global climate change talks in December 2015 will be influential on how aviation as a whole will be required to decarbonise.

This publication will be revised and updated with additional case studies during 2016.

GSF will continue to work within the Global Air Cargo Advisory Group and with the main international agencies, such as the International Civil Aviation Organization on raising the profile of air cargo and its contribution to economic growth and the environmental agenda.

About the GSF

The Global Shippers’ Forum (GSF) was created in 2006 as the successor to the Tripartite Shippers’ Group, first organised in 1994. The GSF represents the interests of various national and regional shippers’ organisations in Asia, Europe, North and South America, and Africa; its work is focused on the impact of commercial developments in the international freight transportation industry and the policy decisions of governments and international organisations which affect shippers and receivers of freight. The GSF was formally incorporated and registered as a non-governmental organisation in the UK in June 2011.

For further details, visit www.globalshippersforum.com