

**CLIMATE ACTION
TAKES FLIGHT**



COMMUNICATING AVIATION'S CLIMATE ACTION IN 2016

GENEVA, JANUARY 2016

TELLING OUR STORY

THIS YEAR IS A VITAL ONE IN THE AVIATION CLIMATE CHALLENGE.

After three years, governments meeting at the International Civil Aviation Organization will conclude their work, encouraged and strongly supported by the aviation industry, to develop a global market based measure (MBM) addressing our sector's climate change impact. With pressure on ICAO to deliver the framework for an MBM for sign-off at its Assembly in September / October, and the renewed focus on the climate impact of different sectors driven by last years' Paris Agreement, the aviation industry will need to be consistent and forthright in its external messaging over the coming months.

We have a lot to be proud of as a sector. The economic and social benefits of aviation are recognised and our action to reduce aviation's environmental impacts both at a strategic and technical level is impressive. With the UN looking not only to political solutions coming out of the Paris COP21 meeting, but also pushing an 'agenda of solutions' for business and individual innovation, we want to make sure that our own successes are well communicated.

Good messaging also means we can make clear the necessary steps governments need to take in order to help us achieve our goals of carbon-neutral growth from 2020 and a halving of aviation CO₂ by 2050, and push the successes we have had even further.

This document is designed to provide a messaging platform that industry can use as a basis for communication in the coming period. Not all parts of the industry have the same focus in their communications and we understand that climate change issues are not always top-of-mind for all parts of the world. However, our sector has a great story to tell about how we are meeting our own climate change goals and we think it is a story worth telling.

Above all, we would encourage all parts of the industry to simply get out and talk about the things they are doing to cut emissions and reduce the environmental impact of our vital global sector!

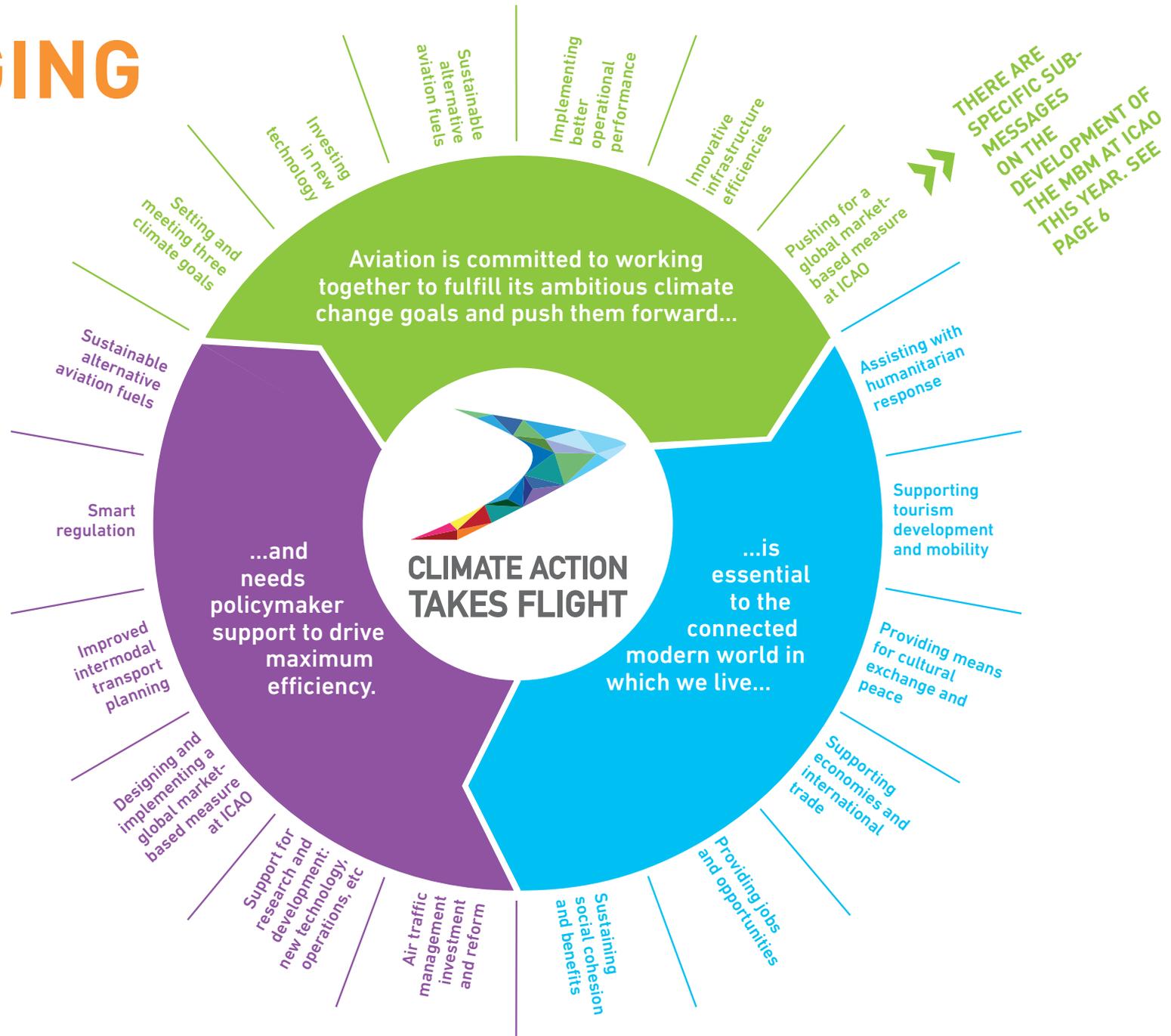
MESSAGING WHEEL

The framework is meant to reflect the great distance the industry has come in the past ten years in recognising, assessing and limiting its climate change impact. The industry has made remarkable progress and should be proud of its achievements and its future goals.

The aviation industry has set impressive goals to reduce its climate impact. The next years should be about demonstrating how we are meeting those goals and showing policymakers how they can help us increase efficiency even further.

While we strongly recommend that aviation industry communicators use the supporting messages throughout this guide in their everyday engagement with stakeholders, these should not be taken as strict statements, but used as a tool to help develop their own climate messaging.

» For more information on the aviation sector's climate action framework, see page 14.



Aviation is committed to working together to fulfill its ambitious climate change goals and push them forward...

Highlighting the important steps that industry has made (and is making) to cover its environmental impacts and to profile the sector as 'best in class' when it comes to commitment and action on climate change.

KEY MESSAGES

- » Since 2009, the aviation sector has had a common set of goals for taking climate action and is meeting these goals:
 1. 1.5% per annum average fuel efficiency increase until 2020, followed by;
 2. Stabilising net CO₂ emissions from aviation from 2020; and
 3. Cutting net CO₂ emissions by 2050 to half of what they were in 2005
- » These targets are ambitious and robust, particularly for a sector that is growing to meet the needs of the world's economies and society.
- » The industry has been taking impressive collaborative efforts to meet these goals, with representatives from airlines; airports; air traffic management; and the manufacturing sector all taking part in the process.
- » *For further details about the industry-wide climate action framework, see page 14.*

DETAILS

The aviation industry is already meeting its first goal through the first three pillars of the industry's four pillar strategy: better operations, new technology and more efficient use of infrastructure

- Our goal is a global average annual fuel efficiency improvement of 1.5%
- Since 2009, our global average annual fuel efficiency improvement has been 2.4% (*January 2016 update*)
 - › *Further information on our efficiency performance is available from ATAG*

While the industry will continue to make use of the first three pillars, the goal of stabilising net CO₂ from 2020 will primarily be pursued through the fourth – a global market-based measure (MBM) for aviation.

- Carbon-neutral growth can be achieved through continued operational, technological or innovative infrastructure improvements and the adoption of a global market-based measure.
- The industry has been pushing governments to develop this MBM and is supporting efforts at the UN specialised aviation agency, ICAO, to bring this into force.

By 2050, aviation has committed to halving net CO₂ emissions based on 2005 levels.

- We are working towards this goal already:
 - › New technologies and concepts are being pursued by the industry's technology providers and research institutions. Some of these technologies will bring incremental efficiency improvements to aircraft entering service in the next 10-20 years.
 - › A world-first CO₂ Standard for new aircraft has been agreed at ICAO and will help drive efficiency technology further
 - › Further out, we could be flying in radical new designs that will significantly cut CO₂ emissions.
 - › New, alternative low-carbon fuels will enter everyday service on airlines in 2015. These new fuels have the potential to reduce lifecycle carbon emissions by as much as 80% below traditional jet fuels.

Collaboration is key

- Aviation is an industry that collaborates extremely well – every one of our 100,000 daily flights is an exercise in coordinated activity across a range of players in the industry. We use this approach in safety as well and are now collaborating on environmental goals.
 - › Strategically: to bring about policy change through our proactive industry goals.
 - › Systematically: to bring about change through network decisions.
 - › Tactically: to bring about change on an operational level for each flight.
- We are also collaborating outside of the industry: with governments, research institutions, the United Nations and by learning from other sectors.

Spoke	Message statement(s)	Proof point(s)
SETTING AND MEETING THREE CLIMATE GOALS	<ul style="list-style-type: none"> » We have set ourselves ambitious climate change goals. » We have a strategy in place to meet our climate action obligations – through four pillars of technology, operations, infrastructure and a global market-based measure. 	<ul style="list-style-type: none"> + 2008 and 2012 industry declarations and the 2015 Open Letter to Governments: www.enviro.aero/openletter + Meeting the first (pre-2020) goal already, working to meet the second (carbon-neutral growth from 2020) and third (50% reduction in net CO₂ by 2050). + The industry also worked with ICAO to deliver a strong commitment at the UN Climate Summit in September 2014: http://bit.ly/1rjbxE
INVESTING IN NEW TECHNOLOGY	<ul style="list-style-type: none"> » Replacing old aircraft with new models can help provide a step-change in efficiency. 	<ul style="list-style-type: none"> + There are around 25,000 aircraft in service with the world's airlines. + New generations of aircraft are normally 15%-20% more efficient than the aircraft they replace. + Over \$1 trillion has been spent by airlines since 2009 to purchase 8,245 new, more efficient, aircraft. + The makers of aircraft, engines and their components spend around \$15 billion each year on research which will help improve aircraft efficiency. + A world-first CO₂ Standard for new aircraft has been agreed at the International Civil Aviation Organization (ICAO), which will help drive further efficiency by making CO₂ emissions control part of the aircraft certification process + www.enviro.aero
SUSTAINABLE ALTERNATIVE FUELS	<ul style="list-style-type: none"> » The development and deployment of sustainable, alternative aviation fuels could help reduce lifecycle CO₂ emissions by up to 80% compared to the fossil fuel it replaces. » The technology is ready, we need to scale-up the production which will help drive down the cost of this new energy source. » Manufacturers, airlines and airports have joined forces to push for the development of alternative fuels for aviation. » Collaborative projects are underway around the world, bringing together industry, governments, research institutions, civil society and other parts of the supply chain. 	<ul style="list-style-type: none"> + Over 2,000 commercial airline flights on alternative fuels have taken place by end of 2015. + www.flyonbiofuels.org + First half of 2016 will see regular alternative fuel flights taking place from Los Angeles Airport and Oslo Airport, with others to follow. + Airlines have invested significant sums in the development of this new energy source (see commitments by airlines such as UA, CX, LH, KL, BA and SK). + Currently, alternative fuels for aviation can cost up to five times as much as regular jet fuel – mainly due to the limited supply and small-scale production of these fuels. + The global Sustainable Aviation Fuels Users Group (SAFUG) brings together key industry partners to ensure that the fuels used for aviation are sustainable and from next-generation sources: www.safug.org
IMPLEMENTING BETTER OPERATIONAL PERFORMANCE	<ul style="list-style-type: none"> » The whole industry is working to implement changes in the operational performance of their fleets, individual flights, and the whole system. » These changes usually bring about small incremental efficiency gains, but when added up can have a significant effect. 	<ul style="list-style-type: none"> + Continuous descents and other tactical operational projects (RNP, ADS-B) being implemented around the world. Many can bring co-benefits such as reduced noise for some local communities, or increasing system efficiency. + Light-weighting by airlines: new seats, new cabin equipment, providing tablet computers for pilots. + New forms of taxiing: single-engine, EGTS. + Better use of flexible routing to take advantage of weather conditions.
INNOVATIVE INFRASTRUCTURE EFFICIENCIES	<ul style="list-style-type: none"> » The way airlines fly aircraft can have a big impact on efficiency, but often it is out of their control which route they use. » Air traffic management organisations are working with industry partners to design airspace better, using latest technology. » Airports are also playing a big role in cutting emissions from their own facilities. 	<ul style="list-style-type: none"> + Systematic improvements in airspace design. + Performance improvement programmes by air traffic management organisations. + The global Airport Carbon Accreditation programme: www.airportcarbonaccreditation.org + Solar power and other alternative energy solutions at airports around the world. + Energy efficiency systems in airport terminal buildings. + Airports are installing fixed electrical ground power and pre-conditioned air supplies to allow pilots to power-down generators when on the ground. + Collaborative decision making between airlines, airports and air navigation service providers improves efficiencies and reduces delays on the ground and in the air. + Performance-based navigation (PBN) allows aircraft to fly precisely defined paths without relying on ground based radio navigation systems. + ADS-B – using satellites to more accurately track aircraft positions – allowing lower separation distances and thus more flexible routes and greater capacity. + Continuous Descent Operations and Continuous Climb Operations – optimised flight trajectories that save fuel and reduce emissions (between quarter to half a tonne of CO₂ each departure or arrival). + Flexible routing – flying the shortest possible, wind-adjusted routes that save on fuel and time.
PUSHING FOR A GLOBAL MARKET-BASED MEASURE AT ICAO	<ul style="list-style-type: none"> » The aviation industry has been calling for a global market-based measure for aviation since 2009. » An MBM helps offset the emissions left over once technology, operations and infrastructure measures have been implemented. » It will help the sector meet its carbon-neutral growth goal. 	<ul style="list-style-type: none"> + Governments committed to develop a global market-based measure for aviation through the International Civil Aviation Organization (ICAO), in October 2013. + The industry is actively supporting the development of the MBM through the ICAO process and is encouraged by the progress being made so far. + http://bit.ly/1saU6bz

COUNTDOWN TO ICAO ASSEMBLY

Aviation is committed to working together to fulfill its ambitious climate change goals and push them forward...

FEBRUARY



MARCH



APRIL



MAY



JUNE



JULY

AUGUST

SEPTEMBER



THEME:

“The best post-COP21 policy response for our sector”

RATIONALE:

Ties in with recent events, answers the question of a policy vacuum for aviation and allows us to present our case in a global context.

SUB-MESSAGE:

- » All other sectors have their climate marching orders through the historic Paris Agreement, aviation also has such a future outlook.
- » ICAO is the right place for this to be decided.
- » If ICAO does not take leadership, other organisations (which do not have the expertise about the sector) will take over.

“Environmentally and economically responsible”

Focusing on the balance between economic and environmental objectives, this phase of messaging will be more regional and analytical in approach.

- » Aviation is an engine of the global economy and we must ensure it is still able to drive trade, tourism and connectivity well into the future.
- » A global market-based measure will enable growth, whilst taking environmental action.
- » Importantly, it needs to ensure that developing and emerging economies are treated fairly, whilst the industry in those regions also meets its climate responsibility.

“A positive outcome at ICAO will support the sustainable future of aviation”

A longer-term view of the need for a sustainable aviation sector, this messaging is more emotional – tying the future of our industry to important 2016 action.

- » This is about securing the future of a global sector about which we are all passionate.
- » For the next generation of aviation executive, engineer or crew, sustainable growth is a key driver of their professional interest.
- » We need to ensure that aviation is an industry people still want to join, well into the future.

NOTE: MORE DETAILED SUB-MESSAGES ARE AVAILABLE FROM ATAG.

TOOLS:



Climate Action Takes Flight is an overview of the industry's climate action framework.



Aviation Climate Solutions is a compendium of case studies outlining real-world climate action taking place across the industry globally.



We will be detailing progress towards the ICAO Assembly on the blog (www.enviro.aero/blog) and on twitter (www.twitter.com/enviroaero).



We have a range of tools available, including a standard industry powerpoint and fact sheets for downloading. Ask Calum Smith (smithc@atag.org) for access to the industry toolkit page.

...is essential to the
connected modern world in
which we live.. .

Complementing
aviation's ambitious
climate action with
an acknowledgment
of the enormous
societal and
economic benefits it
provides.

KEY MESSAGES

- » For the past 100 years aviation has been making a major contribution to the social and economic development of our world.
- » The robust climate commitments driven forward by industry are especially important given the crucial role aviation plays in sustaining a truly cohesive and global society.

DETAILS

The air transport industry is a driver of the global economy by providing jobs and opportunities

- We already support over 58 million jobs and \$2.4 trillion in global GDP.
- Around 8.7 million people work directly in the industry itself while over 9.8 million indirect jobs globally are supported through the purchase of goods and services by companies in the air transport industry. There are also nearly 4.6 million induced jobs globally which are supported through employees in the air transport industry (whether direct or indirect) using their income to purchase goods and services for their own consumption. Moreover, conservative analysis suggests that aviation supports 35 million jobs within the tourism industry.

A third of all international trade by value is sent by air – aviation is a key component of global business.

- \$6.4 trillion in cargo value is sent by air.
- Today, air transport is a vital component of many industries' global supply chains, used primarily for the transfer of time-sensitive goods. The industry is also supporting sustainable development. For example, it is estimated that 1.5 million livelihoods in Africa depend on such exports to the UK market alone. In Kenya, 90,000 jobs (and 500,000 livelihoods) depend on the cut flower industry, which supports 1.6% of the national economy, generating around \$1 billion in foreign exchange each year.

Aviation brings the world's people and cultures together like no other form of transport.

- Fast, reliable and safe services with greater value are allowing more people to experience the world and supporting the world's number one industry – tourism.
- Aviation has a crucial role in the tourism sector. Over 52% of international tourists now travel by air. In Africa, for example, the jobs of an estimated 2.5 million people directly employed in tourism are supported by overseas visitors arriving by air, representing 30% of all tourism jobs in Africa. Overall, air transport supports 35 million jobs within tourism, contributing around \$807 billion a year to world GDP.
- In addition, for areas of the world with non-existent or poor road infrastructure, aviation is the community's lifeline. Over 1,000 communities in northern Russia are inaccessible by road; the number in Alaska is more than 200. Throughout Norway, thanks to an extensive network of regional airports and airline services, 99.5% of the remote population is able to travel to Oslo and back on the same day; around 400,000 patients are transported annually on scheduled flights between their homes and hospitals.
- Air services also play an essential role during times of natural or humanitarian emergency. They are particularly important in situations where access is a problem, delivering aid, search and rescue services and medical supplies.
- Since 1987, cabin crew and airline ground-staff around the world have collected more than \$120 million in unused currency from passengers to support UNICEF's global Change for Good programme.
- Aviation provides support by assisting with the evacuation of victims of conflict while underpinning democracy and peace. Airports become staging points for rescuers and relief supplies, cargo deliveries and refugee transfers.

Aviation has achieved so much in the last 100 years and will do so much more in the future.

- We will continue to drive both economic and social change in the future whilst constantly improving environmental performance.
- Air transport is forecast to support a total of 103 million jobs and \$5.8 trillion in GDP to the world economy by 2032.

**NOTE: AN UPDATE
TO MANY OF THESE
FIGURES WILL
BE RELEASED BY
ATAG IN MAY 2016,
WITH THE UPDATED
AVIATION: BENEFITS
BEYOND BORDERS
REPORT.**

Spoke	Message statement(s)	Proof point(s)
SUPPORTING ECONOMIES AND INTERNATIONAL TRADE	<ul style="list-style-type: none"> » Aviation is a vital engine of the global, interconnected, economy. » Air transport is a key component of global supply chains, particularly for high-value goods. 	<ul style="list-style-type: none"> + Air transport supports \$2.4 trillion in global economic activity. + Over 35% of world trade by value is sent by air (compared with 0.5% of exports by volume). + www.aviationbenefits.org
PROVIDING JOBS AND OPPORTUNITIES	<ul style="list-style-type: none"> » Aviation provides high-value jobs directly and supports millions of jobs across the economy. » Airports can provide local communities with opportunities for employment, skills development, and produce. » Often, the benefits of aviation go far beyond the airport fence or those people able to fly. 	<ul style="list-style-type: none"> + Over 58 million jobs are supported by air transport.
SUSTAINING SOCIAL COHESION AND BENEFITS	<ul style="list-style-type: none"> » Modern families are spread around the world, taking advantage of job opportunities, education and lifestyle. » Air travel helps to keep family bonds alive across borders. » There are other social benefits which come from travel – broadening minds and experiences for example. 	<ul style="list-style-type: none"> + It is estimated that 230 million people around the world do not live in the country in which they were born. + Essay on democratisation of air travel: http://bit.ly/14XHcrj
ASSISTING WITH HUMANITARIAN RESPONSE	<ul style="list-style-type: none"> » Air transport often plays a vital role in assisting with the delivery of aid to areas impacted by both natural and man-made disasters. 	<ul style="list-style-type: none"> + Haitian earthquake. + Philippines Typhoons in 2013 and 2014. + Getting aid to conflict zones and evacuating displaced people. + Ensuring medical personnel and equipment can reach remote regions affected by war, famine and outbreaks such as ebola. + The United Nations Humanitarian Air Service (UNHAS) flights, coordinated by the United Nations World Food Programme, serve Central Africa, Yemen and Afghanistan and in 2012 carried 353,000 passengers and nearly two million tonnes of cargo. In 2013, the agency assisted over 80 million people in 75 countries with food and aid deliveries.
SUPPORTING TOURISM DEVELOPMENT AND MOBILITY	<ul style="list-style-type: none"> » Aviation plays a vital role in helping to develop tourism. » Tourism is playing an increasingly important role in economies around the world as governments move away from primary industries. » Tourism, when planned and executed carefully, can be a positive and sustainable source of national income and jobs with long-term benefits. 	<ul style="list-style-type: none"> + 51% of international tourists travel to their destination by air. + Tourism is expected to support some 347 million jobs and \$11 trillion in global GDP by 2024 – 10% of the global workforce.
PROVIDING MEANS FOR CULTURAL EXCHANGE AND PEACE	<ul style="list-style-type: none"> » When citizens of countries trade with each other, learn from each other and visit each other, conflicts can be harder to start. » Multilateralism through the United Nations other regional governmental groups (not to mention sporting events), relies on face-to-face dialogue facilitated by air transport. 	<ul style="list-style-type: none"> + Any UN conference, ASEAN, APEC, Olympics, Commonwealth Games, World Cup, etc. + Essay on aviation and soft power: http://bit.ly/1xLEagL

NOTE: AN UPDATE TO MANY OF THESE FIGURES WILL BE RELEASED BY ATAG IN MAY 2016, WITH THE UPDATED AVIATION: BENEFITS BEYOND BORDERS REPORT.

...and needs policymaker support to drive maximum efficiency.

Highlighting the important contributions needed from all governments so that industry can meet its ambitious goals, especially in the context of the ICAO-driven global MBM.

Stressing that the aviation industry is a willing partner of governments and society in enacting meaningful change.

KEY MESSAGES

- » Aviation needs ambitious policy that is conducive to both mitigating the environmental impact and promoting the sustainable growth of an essential industry.
- » Together we should all work to support:
 1. Operational improvements both on the ground and in the air.
 2. Incentivising new technologies so that industry can more easily invest in them.
 3. Infrastructure improvements such as harmonising airspace and shortening flight routes.
 4. The design of global market-based measures to curb emissions.

DETAILS

Policymakers must support operational improvements and incentivise the research and development of new technologies.

- Industry is already making massive improvements in efficiency a reality through the deployment of new technology aircraft, retrofits to existing aircraft and improved operational practices.
- Governments can help by promoting academic and industrial research into new technologies for future use by the industry and by encouraging science, technology, engineering and mathematics education.
- Where needed, support should also be given for improvements in operational measures such as the use of alternative energy ground services.
- Currently, intermodality is placed high on the political agenda in Europe (and increasingly so in other parts of the world). As major transportation hubs, many airports also have significant intermodal transport exchanges – Heathrow Airport in London, for example, has extensive public transport links, with over 40% of passengers arriving by public transport. Many airports also encourage on-airport staff to either take public transport or have organised car-pooling schemes.

Governments must help incentivise the use of alternative fuels for aviation

- The industry has been making rapid progress on delivering a new energy stream for use in aircraft.
 - › Studies have shown that the use of sustainable alternative fuels could reduce CO₂ by as much as 80% when compared with traditional jet fuel – a huge opportunity to reduce aviation emissions.
 - › Co-benefits can include reduction in particulate matter, better fuel efficiency and the development of new green energy economy jobs.
- Sustainable alternative aviation fuels from next-generation sources have been through the development, research, testing and certification processes and have already been deployed on nearly 2,000 passenger flights worldwide.
 - › Some airlines have also taken the bold step of putting substantial investment in the up-scaling of production facilities for alternative aviation fuel.
- Currently, these fuels are significantly more expensive than traditional jet fuel because of the small scale of production, however as production increases, so too is the cost expected to reduce.
- De-risking the construction of production facilities and incentivising the use of these fuels will help kick-start this new energy industry and help deliver a low-carbon future for aviation.
- Sustainability criteria for these fuels is key to ensuring their long-term use. The industry believes globally-harmonised criteria will be a vital part of the future of sustainable alternative aviation fuels.



...and needs policymaker support to drive maximum efficiency.

Policymakers should work together to provide infrastructure efficiencies.

- States can help further the goal of safe, seamless and harmonised airspace by delegating service provision to other States and/or designate a service provider to provide service coverage for a larger area of airspace.
- Reformed air traffic management systems and harmonisation of airspace in the United States and Europe will significantly cut emissions.
 - › Shortening flying times by a minute saves at least 100kg of CO₂ per flight.
- In Europe, the Single European Sky is meant to be a step-by-step process towards a less fragmented airspace. Currently, it is estimated that each year around 8 million tonnes of CO₂ are emitted unnecessarily because of the slow implementation of the single European sky.
 - › The SESAR research project is delivering efficiency through joint action on specific projects, but systemic change is needed for the full environmental and other benefits to be achieved.
- In the US, the NextGen project is already delivering significant benefits to service levels and environmental efficiency. However, these improvements are taking place in a patchwork across the country.
 - › For real progress to be made, system-wide change needs to be accelerated.
- Around the world, governments must make the necessary steps to implement the International Civil Aviation Organization's (ICAO) Aviation System Block Upgrade project.
 - › This will increase system efficiency, increase capacity, ensure safe operations and cut delays.

A well-designed, global, market-based measure for aviation is essential

- Activating smart economic measures can provide a bridging solution until even more environmental friendly technologies and operations can achieve the industry's targets.
- Aviation is subject already to some \$7 billion worth of fuel- and emissions-related taxes and charges in various places around the world.
- Industry is playing a leadership role by proactively encouraging governments to design and implement a global market-based measure (MBM) that accounts for emissions only once and ensures that passengers do not face multiple layers of taxation.
 - › This is being pursued at the International Civil Aviation Organization (ICAO).
 - › The industry is encouraged by the steady progress being made to develop the global MBM and the willingness of all parties to play a positive role in the design of such a scheme.
 - › Ideally, the scheme will be agreed at the September 2016 ICAO Assembly, with implementation from 2020.
 - › Industry's preference is for a mandatory global offsetting scheme, being the most cost-effective and easiest to implement whilst maintaining environmental integrity.
- A well-designed global MBM should replace other environmental taxes and charges to provide for a comprehensive, fair and non-distortive measure at the global level, for our global industry.
- When deployed, economic measures should also be used to encourage the research, development and deployment of new technologies as well as industry investment.

Spoke	Message statement(s)	Proof point(s)
AIR TRAFFIC MANAGEMENT INVESTMENT AND REFORM	<ul style="list-style-type: none"> » In order to realise the great efficiencies possible in streamlining air traffic systems, a new way of thinking needs to be pursued. » Many ATM service providers are constrained by political pressures from reforming the way they are structured and operate. Many are owned and regulated by the same body creating conflicts of interest; there should be separation between regulation and service provision. » New technologies and procedures can help significantly cut emissions, as long as the investment is undertaken early and political problems are addressed. 	<ul style="list-style-type: none"> + Two very large markets with congestion issues have projects in planning – Single European Sky and NextGen in the United States. Both could offer significant fuel burn reductions, but are hampered from realising their full potential by political malaise. + For other regions (e.g. Middle East) lessons can be learnt from the over-prescriptive top-down approach in Europe; we should instead be looking to build from the bottom up by making cross border changes incrementally at the operational level. + ATAG publication <i>Revolutionising Air Traffic Management</i>: http://bit.ly/1CH2OUu
SUPPORT FOR RESEARCH AND DEVELOPMENT: NEW TECHNOLOGY, OPERATIONS, ETC	<ul style="list-style-type: none"> » Advanced research can help bring about new technologies, materials, operational practices and infrastructure opportunities, if supported by governmental direction. » Collaborative research programmes between government, academia and industry can deliver significant results. 	<ul style="list-style-type: none"> + The SESAR and CleanSky projects in Europe are great examples of partnerships to promote green growth. + The deployment phase of the SESAR project has begun and partners across the industry are working together to make it a success.
DESIGNING AND IMPLEMENTING A GLOBAL MARKET-BASED MEASURE AT ICAO	<ul style="list-style-type: none"> » Governments need to support the work being undertaken at ICAO on developing and then implementing a global MBM for aviation. » This work is ongoing now and needs to be delivered by the 2016 ICAO Assembly. » Aviation is a global industry that needs one common global solution – regional or differentiated schemes will create market distortions. » The aviation industry has united behind a sensible global sectoral approach to dealing with aviation emissions from 2020 – governments must do the same thing in 2016. 	<ul style="list-style-type: none"> + For further information, see this webpage on the industry position and the 2013 ICAO Assembly: http://bit.ly/1ABL3U4 + In 2015, the industry sent an Open Letter to Governments about the MBM: www.enviro.aero/openletter
IMPROVED INTERMODAL TRANSPORT PLANNING	<ul style="list-style-type: none"> » Transport is a system and while aviation is a unique global mode of transport, the system as a whole must be planned and designed for maximum efficiency. » While high-speed rail can play a positive role in some city-pair routes, aviation will always be needed for longer journeys or to connect less dense urban centres. » Transport networks should be planned as intermodal exchanges, with rail and air connecting seamlessly with urban buses and watercraft. » There is also a role for intermodal freight systems. 	<ul style="list-style-type: none"> + Examples such as the Lufthansa partnership with Deutsche Bahn and the Paris – Brussels – Amsterdam route show how good planning and cooperation can bring greater convenience to passengers and make best use of transport infrastructure.
SMART REGULATION	<ul style="list-style-type: none"> » Smart regulation solves real, not imagined problems; takes advantage of broad consultation – including with industry; rigorously weighs costs and benefits with a keen awareness to avoid unintended consequences; and respects global standards where they exist. 	<ul style="list-style-type: none"> + IATA web page on smarter regulation: http://bit.ly/1J1WCbq + The Montreal Convention of 1999, which has been adopted by over 100 countries, is a recent example of states adopting global standards.
SUSTAINABLE ALTERNATIVE AVIATION FUELS	<ul style="list-style-type: none"> » A key component of future aviation sustainability will be the use of sustainable alternative aviation fuels. » Governments can support their uptake and deployment through: <ul style="list-style-type: none"> › Promoting research into new fuel feedstocks, processes and refining technologies; › De-risking the construction of production plants and processing facilities; › Ensuring that aviation is seen as a priority user of liquid biofuel in the future, by removing policy barriers for use of alternative fuels by airlines today. 	<ul style="list-style-type: none"> + Further information is available in the ATAG publication <i>Powering the Future of Flight</i>: http://bit.ly/1BtAqrS

IDEAS AND TOOLS

The global industry has set up the enviro.aero and aviationbenefits.org websites to act as a focal point for industry climate action and benefits information.

INDUSTRY-WIDE BRAND

We have developed a brand that can be used to link industry efforts to reduce emissions under the banner **Climate Action Takes Flight**. We encourage any industry partner wishing to undertake communications activities in 2016 to use this brand, available in several formats (as seen below). This could be on articles, websites, advertisements, presentations, videos, etc. The brand is designed to be generic and neutral so any part of the industry is able to use it. However, we would need to know what it is to be used for, to ensure quality control.

Brand examples:



NORMAL
AVAILABLE IN: EPS, JPEG, PNG



WHITE (NEGATIVE)
AVAILABLE IN: EPS, JPEG, PNG



HORIZONTAL
AVAILABLE IN: EPS, JPEG, PNG

- » For the design-ready files of the logo in any format, and for permission to use the brand, please contact Calum Smith at ATAG: smithc@atag.org

SPEAKING TO EXTERNAL AUDIENCES

As an industry, we often get criticised for ‘speaking to ourselves’. We want to change that in 2016 and encourage partners across the industry to reach out to non-traditional audiences, particularly climate change and sustainable development conferences.

- + Because associations like ATAG, IATA, ACI, and CANSO (and their regional counterparts) cannot attend every event, we would like to make sure that there is as wide a possible representation from industry, telling aviation’s climate action story. If your organisation is invited to speak at such an event and either is not able to or doesn’t feel it is the right thing to do, please pass on the invitation to us – we may be able to find another aviation partner able to tell our story.
 - + We also encourage you to seek out opportunities to speak at events such as: local, national and regional government climate change conferences; university climate innovation days; APEC, African Union, European Union or other regional forum climate discussions.
 - + In order to help facilitate these presentations and deliver our industry stories, ATAG has developed a standard PowerPoint presentation that can be used by all in the industry and can accompany information on how your organisation is meeting the climate challenge with its own projects.
- » To request a copy of the industry PowerPoint, or to let us know about a speaking opportunity, please contact Calum Smith on smithc@atag.org

Watch for tweets from @enviroaero and our industry associations and use the hashtag #ecofly

SOCIAL MEDIA

We encourage all partners across the aviation world to promote their climate action through social media channels.

- + Use your Facebook and LinkedIn communities to outline the ways your organisation is working to reduce CO₂ emissions and other environmental activities.
 - + It would be helpful if you outline industry-wide emissions-reduction goals (messaging points earlier in document).
 - + Feel free to link to the www.enviro.aero resource for case studies, news and background about industry-wide efforts to cut emissions.
 - + Try using Instagram or YouTube to post multimedia elements outlining your emissions-reduction efforts, particularly in the weeks and days leading up to the ICAO Assembly (which starts on 27 September). For example: new winglets installed on aircraft, solar panel installation, slimline seats on board aircraft or a new ADS-B antenna.
 - + On Twitter, in the week leading up to the Assembly, post a tweet per day on one of your company's efforts to respond to climate change tag them #ecofly.
 - + Encourage your followers to support the ICAO process at www.enviro.aero/support
- » We also need your stories! If your organisation is going to issue a climate-related press release this year, or has a great case study we can put up on www.enviro.aero, please let us know! doddh@atag.org

PASSENGER COMMUNICATIONS

Throughout 2016, we would urge airlines and airports to communicate their climate actions to passengers, these could be through:

- + Articles in in-flight or airport magazines.
- + Passenger announcements by pilots if new fuel-saving techniques are being used (“You may not notice, but today we will be using a new landing technique called continuous approach which will help us save *xx* kilograms of fuel and *xx* tonnes of CO₂” or “Welcome aboard our new aircraft, you might see this is fitted with winglets – these devices will help us save *xx*% of fuel and reduce CO₂ emissions”).
- + Highlighting environmental equipment in terminal buildings – solar panels, signs in gate lounges pointing out fixed electrical ground power, etc.

INTERNAL COMMUNICATIONS

Don't forget your employees (and other on-airport staff) – they are often great ambassadors for the industry, particularly when it involves efforts that they are making. It might be a good idea to highlight how their environmental project can fit into the overall aviation picture and how their efforts are helping the industry meet its goals.

- + Highlight the industry goals in internal company newsletters, intranets or at employee training sessions.
- + In the lead-up to the ICAO Assembly, make sure employees are aware of how your organisation is helping to mitigate climate impacts.
- + A growing number of pilots and cabin crew are active on Twitter and other social networks – make sure they are informed of your organisation (and the industry's) climate action.
- + Encourage your colleagues to support the ICAO process at www.enviro.aero/support in company newsletters and on intranets

MEDIA ENGAGEMENT

- + Ensure that any new projects your organisation is undertaking in order to reduce emissions is communicated to media (and make sure you send copies to smithc@atag.org for upload to the www.enviro.aero website!).
- + The lead-up to COP21 may be the perfect opportunity to talk about progress on projects launched in recent years.
- + We would encourage partners across the industry to mention the global industry emissions-reduction goals in any press material – we are happy to help work with you on wording for these mentions.

AVIATION'S CLIMATE ACTION FRAMEWORK

PROACTIVE CLIMATE ACTION FROM A KEY GLOBAL SECTOR THROUGH
3 GLOBAL GOALS UNDERPINNED BY AN INDUSTRY-WIDE 4-PILLAR STRATEGY.

GOAL 1

1.5% AVERAGE ANNUAL FUEL EFFICIENCY IMPROVEMENT FROM 2009 TO 2020.

PROGRESS:

Currently tracking well above goal, although figure expected to normalise.

HOW?

Through the first three pillars of climate action.



GOAL 2

STABILISE NET AVIATION CO₂ EMISSIONS AT 2020 LEVELS THROUGH CARBON-NEUTRAL GROWTH.

PROGRESS:

Industry is pushing for action at an intergovernmental level.

HOW?

All four-pillars, including a global MBM developed at the International Civil Aviation Organization (ICAO)



GOAL 3

REDUCE AVIATION'S NET CO₂ EMISSIONS TO 50% OF WHAT THEY WERE IN 2005, BY 2050.

PROGRESS:

Significant research efforts underway, scaling-up of alternative fuels has begun.

HOW?

Two main areas of action: sustainable alternative fuel and radical new aircraft and engine technology.



TECHNOLOGY (incl. SUSTAINABLE ALTERNATIVE FUELS)

- Each new generation of aircraft reduces emissions 15-20%.
- Airlines have been replacing old models with new efficient aircraft – over 8,245 since 2009 at a cost of \$1 trillion.
- Manufacturers of aircraft and engines spend \$15 billion a year on research to produce more efficient aircraft.
- Governments, industry working on CO₂ Standard for aircraft.
- Sustainable alternative fuels could cut CO₂ by up to 80%.
- Over 2,000 alternative fuel flights have taken place so far.



OPERATIONS

- Aircraft already in service can have efficiency measures, such as wingtip devices, added to cut their emissions.
- Lightweight seats, food trolleys and cargo containers can help reduce fuel-burn and emissions.
- Using new satellite navigation technology can significantly cut emissions from the landing and take-off cycle.
- Airports, airlines and air traffic control work collaboratively.



INFRASTRUCTURE

- Airports are using alternative energy for ground equipment and to illuminate and heat terminal buildings.
- Air traffic management providers routinely work with airlines to shorten routes or use flexible routing to cut CO₂.
- More systematic airspace changes need to be implemented (such as the Single European Sky) which could help reduce aviation emissions significantly.



A GLOBAL MARKET-BASED MEASURE

- Once the first three pillars have been explored, market-based measures can help bring down aviation emissions to the desired levels.
- Any MBM for aviation must be global in nature, ensuring fairness and undistorted competition between airlines.
- Industry is working with governments to pursue this under the auspices of ICAO (see timeline to the left).

2009	Industry presents governments with a pathway to emissions reductions, through ambitious goals and a four-pillar strategy which includes a global sectoral market-based measure (MBM) to be developed through ICAO.
2013	ICAO Assembly 38: governments agree to develop the modalities for a global MBM for aviation » Governments, industry work on technical and political elements of an MBM.
2016	ICAO Assembly 39: proposal for global MBM to be presented to ICAO member states » Governments, industry prepare for implementation of MBM.
2020	Global MBM for aviation starts operating, carbon-neutral growth ensures aviation can continue to provide economic and social benefits, whilst stabilising net CO ₂ emissions.