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World
Forward



A ZERO-CARBON FUTURE FOR THE AVIATION SECTOR



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THE INTERNATIONAL TRANSPORT WORKERS' FEDERATION (ITF) IS A DEMOCRATIC, AFFILIATE-LED GLOBAL FEDERATION OF 670 TRADE UNIONS IN 147 COUNTRIES, REPRESENTING OVER 18 MILLION WORKING MEN AND WOMEN IN ALL TRANSPORT SECTORS. THE ITF PASSIONATELY CAMPAIGNS FOR TRANSPORT WORKERS' RIGHTS, EQUALITY AND JUSTICE.

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HOW AVIATION WORKERS WILL LEAD THE JUST TRANSITION NEEDED FOR SUSTAINABLE AVIATION

Sustainable aviation policy

ITF Civil Aviation Section

August 2022

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A GLOBAL CLIMATE EMERGENCY: THE AVIATION INDUSTRY MUST TRANSITION TO CLIMATE-FRIENDLY JOBS



CODE RED FOR HUMANITY: Governments back emissions cuts of 40% by 2030 and net-zero by 2050 to stop climate devastation.¹

The International Transport Workers' Federation's vision for a zero-carbon world is one rich in secure jobs, with safe work and reliable, decent pay. Widespread and systematic change is needed to speed up the aviation industry's transition to a zero-carbon future.

THE CLIMATE EMERGENCY

We are in a race against time to secure a sustainable future for people and the environment. Millions of aviation workers are experiencing the effects of global warming first hand as climate change makes the aviation workplace more dangerous. Increasing air turbulence poses a major risk to passengers and flight crew, extreme heat is disrupting airport operations and rising sea levels threaten to inundate airports.

A GLOBAL JOBS CRISIS

Relentless cuts to labour standards by aviation companies have weakened its business model. Endless deregulation, subcontracting, and obsession with competition have hurt everyone. This model of corporate greed is exhausted and cannot continue. Aviation workers want a meaningful stake in the industry and a say in their future with representation on all key national and industry bodies.

The far-reaching changes the industry requires will only be possible if the knowledge and expertise of workers are fully engaged. Workers are demanding a jobs plan for the industry which takes account of climate policies and new technology. Just Transition Committees at national policy, corporate and airport governance levels must give aviation workers a seat at the decision-making table in order to design a sustainable industry with secure jobs, wages and working conditions.



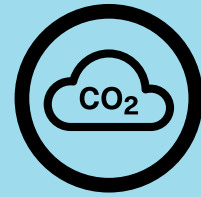
AT RISK:

98.3 million aviation jobs globally.²



AT RISK:

40% of aviation workers lost their jobs during the pandemic.



2-3%

of global CO2 emissions come from aviation.³

FUTURE OF AVIATION AT RISK

Without taking steps to reduce emissions, the aviation industry will come under increasing pressure to decrease in size and put in place limits on flying. Despite these urgent needs, the industry is not held directly accountable for action on climate change. Emissions from international aviation are not reported under the landmark Paris Agreement, the international treaty on climate change adopted in 2015 by the United Nations Framework Convention on Climate Change (UNFCCC). Instead, responsibility has been delegated to the International Civil Aviation Organization (ICAO), the UN body regulating international aviation, to develop its own targets. These targets fall far short of what is needed and will expose workers and the industry to a financially unstable and insecure future.

INVESTING IN A SUSTAINABLE FUTURE

Only a strong and sustainable aviation industry can secure the jobs of the future. The aviation industry needs to start its journey to zero

carbon by shifting to a sustainable business model and investing in a sustainable future. Major investments from governments and industry in decarbonisation technologies are needed to transition to climate friendly aviation jobs, reduce emissions and secure the future of the industry. Sustainable aviation fuels (SAFs) will require a large increase in industrial production, serious planning, and massive investment, to be effective at a global scale. This cannot be done by any single stakeholder alone.

GOVERNMENTS MUST PLAY THEIR PART

To decarbonise aviation, we must also recognise it as a public good. Governments have a key role to play in providing the conditions for investment in technological advances at the necessary speed and scale. Greater democratic oversight of the industry is required to make sure that aviation delivers benefits for all groups in society. It also means developing and promoting public ownership models for key parts of the industry, including airlines, airports, and air navigation operations.

PHASING OUT FOSSIL JET FUELS REQUIRES ADDITIONAL ANNUAL INVESTMENTS OF USD \$300 BILLION COMPARED WITH BUSINESS AS USUAL.⁴

ICAO MUST STEP UP

The UN body responsible for regulating international aviation is threatening the future of sustainable aviation with weak targets. Currently, ICAO targets allow continued growth in flights from 2019 levels so long as such growth is carbon neutral. However, this relies on unproven technological advances like carbon capture and storage (CCS) as well as their Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) which lacks transparency and overstates the true global impact of its carbon credits.⁵

IT MUST START WITH A JUST TRANSITION FOR WORKERS

Workers will lead the transition to a zero-carbon future for the aviation industry. With the inside knowledge of their industry and the will to reduce emissions, workers are at the forefront of finding solutions to secure the future of their industry.

From airport workers implementing new electrified systems, to flight crew handling hydrogen aircraft, to air navigation staff working on more efficient routing, the industry will rely on millions of workers to make decarbonisation a reality. Engaging aviation workers means addressing critical issues that have placed the workforce under intolerable strain over many years. These issues include employment security, access to decent work, equality for women and young workers, robust health and safety protections, and improved worker representation. Establishing Just Transition Committees, with worker representation at all levels, is the pathway to ambitious climate plans.

To respond to the twin threats of the global climate emergency and the jobs crisis, aviation workers' extensive experience and expertise must be at the heart of the development of decarbonisation plans.



Stephen Cotton,
ITF General
Secretary



**Edgardo Anibal
Llano, ITF Civil
Aviation Section
Chair**

ITF DEMANDS

01. A JOBS PLAN FOR THE AVIATION INDUSTRY

Workers must have an essential role in sustainable aviation: without worker knowledge, expertise, participation, and support, new climate change initiatives to make decarbonisation a reality in the industry will fail.

02. JUST TRANSITION COMMITTEES AT ALL LEVELS

Democratic processes and public investment in aviation must be strengthened. Decarbonising the industry requires acknowledging aviation as a public good.

03. FAIR EMISSIONS TARGETS FOR THE GLOBAL SOUTH

All sustainable aviation efforts must acknowledge the primary source of emissions in the industry. Climate change targets must require equity for the Global South.

04. CARBON-NEUTRAL GROWTH MUST BE GENUINE

A sustainable industry must begin now. Any aviation growth beyond 2019 emission levels must be truly carbon neutral.

05. INVESTMENT IN FOSSIL-FREE FUELS

Sustainable aviation requires both technology and global coordination. Governments, finance, employers, and workers must work together to scale up the use of sustainable aviation fuels.

06. LEAVE NO ONE BEHIND

The aviation industry must change how it does business. Changes to operations will be needed to become more sustainable, but they should not harm workers in the process.

THE CURRENT JOBS CRISIS

As aviation employers move past the worst effects of the global pandemic in 2022, many find themselves with the opposite problem from when the downturn in air travel began. Having lost at least 40 percent of aviation jobs globally from the impacts of Covid-19, few airlines and airports have been able to lure enough workers back to meet rising consumer demand. Massive queues at airports, flight delays, cancellations, and poor working conditions have become the 'new normal' just two years after the biggest layoffs in industry history. These massive employment swings not only highlight the need for employers to sustain quality, stable jobs, but also to conduct better industry planning. A reliable, experienced and consistent workforce will be essential for addressing climate change and any other crises that may develop in the future of the industry.



PRINCIPLES FOR A JUST TRANSITION TO SUSTAINABLE AVIATION

01. A JOBS PLAN FOR THE AVIATION INDUSTRY

Aviation workers are facing the twin threats of the climate emergency and the global jobs crisis. Criticism of aviation greenhouse gas (GHG) emissions has created job-loss fears for many aviation workers. Although it is understood that decarbonisation will involve many changes, and that some jobs and functions may change, it is important to mitigate this as far as possible with long-term planning. Recent experience demonstrates how harmful short-term thinking can be. An average of 40 percent of aviation workers lost their jobs during the Covid-19 pandemic. As the industry recovers, it is now facing critical labour shortages with vast amounts of expertise being lost to the industry forever. Employment security for all workers can be built around a long-term employment road map.

An aviation jobs plan that assesses the industry's long-term employment requirements must be completed as a matter of priority. It must model the mix of skills and number of workers required to implement decarbonisation measures. On workforce numbers, it should take into account retirement rates and also additional workforce demands that could create future employment

opportunities, for example from proposed climate measures such as reducing flight distances and slower cruising speeds. The assessment must also include quantifiable equality measures that consider the specific needs of women and young workers, such as equal opportunities for career development, quality entry-level jobs and training pathways.

The assessment will also provide the basis for employment security, skills upgrading, and career development. Every effort must be taken to retain workers in their existing roles. Where this is not possible, the assessment must provide a road map for retraining workers for different roles within the industry. Where redeployment is necessary, it must come with equal levels of pay, skill levels, and trade union representation.

The results of the long-term employment assessment must be built into all industry road maps for decarbonisation. This is vital that the industry can retain the necessary skills and expertise and avoid short-term job cuts that will harm the industry's ability to conduct the transition most effectively.



02. JUST TRANSITION COMMITTEES AT ALL LEVELS OF THE INDUSTRY

Workers need a bigger say at all levels of the industry, whether in multinational airlines, airport-wide governance, or in national aviation plans and policies. This must include all groups, including women and young workers.

All aviation employers should engage their workers and unions around climate change issues through corporate-level Just Transition Committees. Such committees should be built into collective bargaining structures and work toward enterprise-wide plans for emissions reductions while creating high quality jobs and upskilling plans.

Airport workers must be integrated into multi-employer efforts to create zero-carbon facilities. New green measures will not only reduce the carbon footprint at airports, but they also will have direct impacts on the health and safety of airport workers. Their full value cannot be realised without an equal voice for workers alongside the many management and government representatives needed in airport-wide coordination. Equally, airports need to revise their governance systems to become more cohesive across all stakeholder types, as currently wide variances in policies

of different airport employers hinder both the effectiveness of climate change mitigation efforts and the just transition of their collective workforces to a greener economy.

Nationally (or regionally in some cases, such as the EU), Just Transition Committees in the aviation industry must be formed that complement processes at the enterprise and airport levels. Worker, employer, and government participants should represent all key stakeholders and help formulate climate change policies that single employers and locations could not implement on their own. These include tax measures, funding mechanisms, operational regulations, safety net provisions, and cross-sector training initiatives.

A Just Transition Civil Aviation Task Force should also be established at the international level between workers and their unions (as represented by ITF), employers (such as the International Air Transport Association (IATA) and Airports Council International (ACI), and international government agencies (International Labour Organization (ILO) and ICAO).



03. THE ONLY GOOD JOBS ARE SUSTAINABLE JOBS

A just transition to a sustainable industry means upgrading working conditions as well as technology. Over the last three decades, aviation workers have suffered from longer working hours, intensification of work, more invasive technological surveillance, higher levels of stress and fatigue, higher risks to mental health, and lower pay. If these trends continue, workers will bear the cost of the transition.

High quality jobs must be the cornerstone of the industry going forward. The ILO's 2019 Future of Work Commission lays out elements of decent work that are critical for the future of aviation, including limits on working hours, human sovereignty over technology and data, and lifelong learning.⁶

Decent work must also involve strong equality measures. Building a fairer industry means tackling gender-based occupational

segregation, where men still make up the largest share of some professions like pilots and mechanics, while women make up majority of cabin crew. This must include identifying and remedying the range of barriers that restrict women from entering and advancing in all occupations. It must also include a focus on the gender-specific impacts of technology.

Young workers must also have access to decent work, and career progression through apprenticeships and training pathways. Young workers must not be used by the industry as a second-tier workforce with inferior pay and conditions.

Progress on decent work and equality must be measured just as closely as the industry's GHG emissions. Concrete targets and indicators are needed that will hold employers and governments accountable for delivering a just transition for aviation workers.



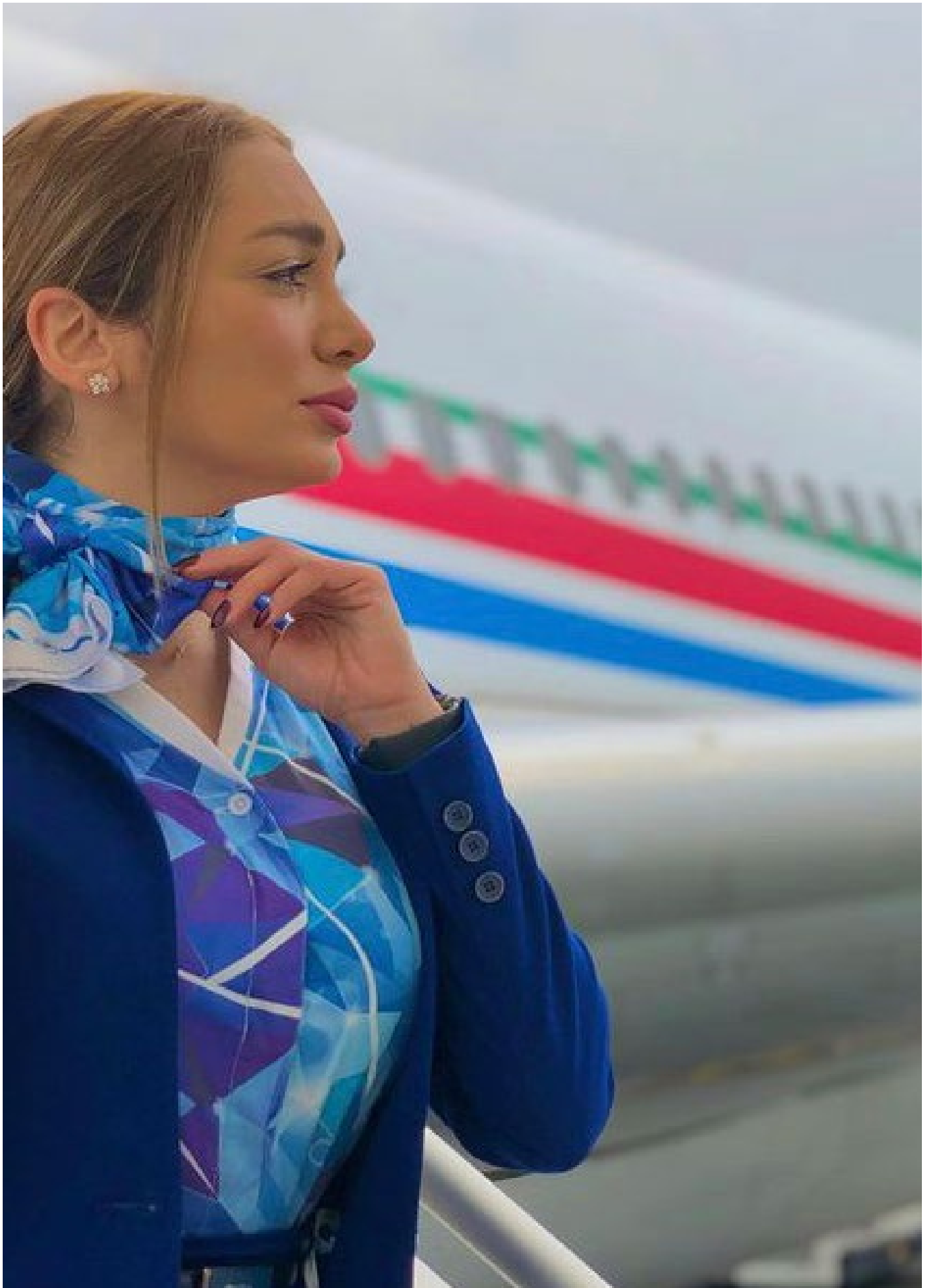
04. A SAFE AND HEALTHY INDUSTRY FOR WORKERS, PASSENGERS AND COMMUNITIES

Climate change is already creating health and safety risks for both workers and passengers in aviation. At the same time, decarbonising aviation will require the industry to introduce a raft of new technologies that carry new health and safety risks.

Strict measures that protect the health and safety of aviation workers must be included at the outset of new climate measures. These measures must be built into the design phase of new propulsion systems, including hydrogen and battery powered aircraft, as well as sustainable aviation fuels. These new technologies will have implications for pilots, cabin crew, maintenance, repair and overhaul workers, and ground staff. These workers must have all have a say in their development.

Health and safety standards must also be developed at both international and national levels. Trade unions must be involved in the development and ongoing evaluation and adaptation of health and safety systems based on a principle of equal participation of workers and management.

Airports will be the focus of the big changes in the short term. Electrification in airports will introduce a new set of risks for workers. New procedures and practices will also need to protect airport workers from more extreme heat. Improving health and safety at airports goes beyond decarbonisation measures. For example, poor air quality is an ongoing issue for all those who work at, travel from, or live around airports.



THE DECARBONISATION CHALLENGE

Aviation plays a vital social and economic role globally. Long distance travel to see family and friends, and for holidays, is a major social benefit that should not only be preserved, ideally it should be extended more equally globally. The industry also creates an estimated 87 million jobs globally, including 11.3 million jobs for workers directly employed in the industry.⁷ Travel for business, although likely to follow a different pattern in the wake of the coronavirus pandemic, is important for innovation. And air freight of critical goods such as medical supplies has a vital social role.

Yet, urgent action is needed to preserve the industry in the context of the deepening climate crisis. The August 2021 report from the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change, called climate change a 'code red' for humanity. At COP26 in November 2021, 197 governments reaffirmed the target set out in the Paris Agreement for countries to restrict global temperature increases to 1.5 degrees Celsius.

This will require emissions cuts of 45 percent by 2030 (relative to 2010 levels), and to reach net zero by around mid-century.

The aviation industry is currently operating on a much slower timetable. Emissions from international aviation are not currently reported under the Paris Agreement. Instead, responsibility has been delegated to ICAO to develop its own targets. The ICAO targets allow continued growth in flights from 2019 levels so long as such growth is carbon neutral. This relies on unproven technological advances like carbon capture and storage (CCS) as well as their CORSIA carbon offsetting scheme which lacks transparency and overstates the true global impact of its carbon credits.⁸ In contrast, many other key sectors have more ambitious official carbon reduction targets, including the automotive industry (which has pledged to completely stop producing new fossil-fuel cars and vans by 2040)⁹, and the energy sector (where the International Energy Agency's (IEA) latest Road Map calls for a 38 percent reduction in emissions by 2030).¹⁰

**THE ICAO TARGETS ALLOW CONTINUED GROWTH
IN FLIGHTS FROM 2019 LEVELS SO LONG AS SUCH
GROWTH IS CARBON NEUTRAL.**



IT IS CLEAR THAT AVIATION NEEDS A MUCH MORE AMBITIOUS DECARBONISATION PLAN, ONE THAT HAS PEOPLE AT ITS CENTRE.

Any growth in aviation emissions from 2019 levels must be genuinely carbon neutral, based on proven technologies and mechanisms that scientific and industrial experts can agree reduce emissions and can be implemented at a global scale. Without a more robust plan, there is a risk that aviation will take up an ever-greater proportion of the global carbon budget. And this, in turn, could lead to intensifying criticism of the industry.

Aviation currently accounts for 2.4 percent of carbon emissions¹¹ and up to 3.5 percent of the greenhouse warming effect.¹² These are very high figures given that only 11 percent of the global population flew each year before the pandemic, and only 1 percent were 'frequent flyers' who produced most emissions.¹³ The IEA projects that aviation emissions will continue to grow until at least 2030, even when the effects of the pandemic and all pledges announced at COP26 are included.¹⁴

WORKER DRIVEN REFORMS TO REACH ZERO-CARBON

TECHNOLOGICAL CHANGE

Worker engagement will provide the platform the industry needs to implement necessary decarbonisation measures. These will include both technological advances and structural changes to industry business models.

The main technological measures that will be introduced include improved engine efficiency, new types of propulsion such as hydrogen and battery powered aircraft, the use of sustainable aviation fuels that can 'drop-in' to existing engine types, improved air traffic management procedures, electrification of airport operations (including ground fleets and mass transit links), and development of renewable energy production such solar power installations.

It is predicted that in the long term, these measures could reduce carbon emissions by more than 75 percent. There are significant differences over how much each measure can contribute. Improved engine efficiency, hydrogen powered aircraft and sustainable aviation fuels account for the lion's share of emissions reductions in most models.¹⁵

Aviation workers have a major role to play in eliminating wasteful, inefficient practices that increase emissions for economic reasons. This includes the practice of economic fuel tankering, where aircraft carry additional fuel to reduce the cost of refuelling at certain airports. It also includes aircraft speeding up to make up time after airport delays. Both practices create significant additional emissions that are avoidable.

It is also vital that the aviation industry moves to reduce its emissions of non-CO2 greenhouse gases. Eliminating contrails and aircraft induced cirrus must also be a major priority. Contrails are formed when aircraft fly through ice supersaturated regions (ISSRs). The resulting contrails release nitrous oxide, soot and other particulates that could be responsible for over 50 percent of total aviation greenhouse gas emissions.¹⁶ However, only a minority of flights create contrails. One study attributes 80 percent of contrail formation to only 12 percent of flights.¹⁷ Improved modelling of weather patterns and flight planning could lead to significant reductions in contrail formation.

AVIATION WORKERS HAVE A MAJOR ROLE TO PLAY IN ELIMINATING WASTEFUL, INEFFICIENT PRACTICES THAT INCREASE EMISSIONS FOR ECONOMIC REASONS.



NEW BUSINESS MODELS

The existing business model that has arisen in recent years has already proven to be a failure. Deregulation, anti-union campaigning, excessive subcontracting and increased competition have hurt workers and consumers alike. The model has done little for the economic health of the industry as a whole. But in addition to the social and financial damage caused by this “race to the bottom,” the redundant structures it has created also stand in the way of effective climate policy reforms. The explosion in the number of employers and the constant need to find newer, more lucrative routes makes it difficult to implement and coordinate the planning required to truly decarbonise aviation.

As such, a number of structural changes, or changes to industry business models, are necessary to lower emissions. These include moving towards shorter flight lengths to minimise fuel usage, more efficient route planning, a reduction in subcontracting, and a greater use of battery powered aircraft once they become available.

A shift to other transport modes is another important issue that requires careful consideration. Where it is possible, the shift of short-haul flights to lower emission modes, such as rail, must be promoted by public policy in order to drive genuine emissions reductions. Additionally, plans for future transport infrastructure must make full use of lower emission modes of transport for short-haul journeys. In the short-term, however, there is limited scope for modal shifts to lower aviation emissions, and all measures should meet strict criteria to ensure they make sense in the context of the whole transport system.

The role of air transportation in moving cargo, and logistics supply chains, also need to be reimagined. Currently, aircraft cargo space (whether in the belly of passenger planes or on cargo-only flights) is largely allocated to the highest bidder with little regard for its climate impacts or the particular social value of the products being moved. Like passenger travel, air cargo should prioritise its role as a public good, with preferences for moving critical goods like medicines, vaccines, food and emergency relief supplies. Other cargo that is less socially important could still move through

the air, but such choices should be subject to reasonable regulations, coordinated planning and incentivised for shipping via other, less carbon-intensive modes of transport.

Incentives that decrease or remove the least useful functions of aviation should also be introduced. Such policies should include bans on private jets, halting supersonic aircraft development and introducing well-designed aviation taxes that also include robust worker protections.

Private jets deserve special attention from global policy makers. Private jet flights have a much higher carbon footprint than commercial planes, which is compounded by significant growth in the sector, as the rate of growth in private jet flights outstrips that of commercial flights. To ensure that the private jet industry is sustainable, from 2030 onwards, only zero-carbon private flights (such as battery powered flights) should be allowed. Before 2030, additional taxes should be raised on private flights, with the exception of private flights that have a social or safety maintenance purpose (such as essential medical supplies). Private flights should also be included in CORSIA (from which they are currently excluded).

REDUCING EMISSIONS IN AVIATION SUPPLY CHAINS

All key stakeholders in the aviation industry must show leadership on a just transition to decarbonisation throughout their supply chains. With USD \$780 billion in annual revenue,¹⁸ airlines must leverage their position at the apex of the industry. Airlines must lead by working with aerospace manufacturers to develop the lowest emissions aircraft

possible. Airlines must also work with airport operators to electrify ground operations. Airport operators must also set standards for decarbonisation and just transition for all contractors in their supply chains.

OFFSETTING MEASURES MUST BE MORE ROBUST

ICAO's carbon offsetting and reduction scheme, CORSIA, may have positive impacts in the future, but in the short-term it must be treated with extreme caution. CORSIA proposes to offset emissions by investing in projects that reduce GHG emissions in the atmosphere, either through carbon sinks (such as tree planting projects) or mechanical carbon capture and storage (CCS) processes. Carbon trading schemes like CORSIA have been criticised for 'carbon leakage', or the idea that activities to reduce carbon pollution in one industry or region may inadvertently end up increasing carbon emissions in other areas. Additionally, such market-based schemes can become mired by transparency and accountability concerns, particularly relating to the quality of the offsets. A European Commission funded study of CORSIA found that only 2 percent of the projects and 7 percent of available credits have a high likelihood of reducing emissions.¹⁹ Regional initiatives such as the European Union Emissions Trading Scheme are vulnerable to similar problems.

CORSIA is a cornerstone of ICAO's policy of carbon neutral growth from 2019 levels. However, given widespread concerns over its effectiveness, CORSIA offsets should not be used to justify industry growth until there is compelling evidence that it can deliver genuine emissions reductions. Instead, investments in technological and structural change measures and other in-sector solutions must be accelerated.

THE FUTURE OF AVIATION IN THE GLOBAL SOUTH

AVIATION DEVELOPMENT IN THE GLOBAL SOUTH

A key principle of the UNFCCC is Common but Differentiated Responsibilities and Respective Capacities (CBDR-RC), which stipulates that countries with historic responsibility for GHG emissions take the most responsibility to reduce emissions now. This is particularly important for the aviation sector, where historic, cumulative aviation emissions per capita are far higher in the Global North.

In practice, this means three things:

01. The aviation industry in the Global South must be given space to develop its aviation networks along sustainable lines to ensure the mobility benefits of aviation are more fairly shared among the global population. Where there is a need to cap the growth of aviation (from 2019 levels) due to the slow pace of technological and structural change, it may be necessary to reallocate capacity to countries in the Global South.

It is important to emphasise, however, that such reallocation should only apply to intra-regional capacity within the Global South, and also to national operators under public ownership. These measures must not be used by airlines to undercut standards on existing international

routes. It is equally important that the development of the sustainable aviation industry in the Global South is not used to enable carbon leakage and unfair competition on labour standards. Where national and regional standards are adopted on sustainable aviation, these standards must apply to all international flights to and from the country or region.

02. Governments and employers from the Global North must bear the greatest share of the costs of a green transition, including funding technological infrastructure and sharing access to technology through public-public partnerships.
03. The development of the sustainable aviation industry in the Global South must be balanced and take place within an overall sustainable transport framework. Where there are possibilities to invest in lower carbon transport modes, investment in aviation must not come at the expense of the overall system. It is imperative that countries in the Global South do not repeat the mistakes of the Global North by underinvesting in lower emission modes such as rail.

GOVERNMENT AND INVESTOR ENGAGEMENT

AVIATION IS A PUBLIC GOOD: GOVERNMENTS MUST HOLD COMPANIES ACCOUNTABLE

The level of investment that the aviation industry requires is substantial, especially when considering the length of global supply chains, from raw materials to manufacturers to customer use. Upgrading the global fleet (the single biggest part of that supply chain) at the normal rate will require an estimated USD \$700 billion in the next five years alone. The infrastructure for sustainable aviation fuels will require an estimated USD \$1.45 trillion over the next 30 years.

The scale and pace of the change will make public investment essential. Public support for everything from research and development and demonstration technology, to initial procurement and the build-out of infrastructure is necessary to reach decarbonisation targets.

Governments must have the freedom to pursue independent industrial policy enabling them to direct funding and pick winners. They must also have the fiscal capacity and freedom to enact such large-scale investment. Special funding arrangements will be needed for the Global South.

PENSION FUNDS AND INVESTORS

Public pension funds managing workers savings or 'workers capital' should be encouraged to invest in sustainable aviation projects, so long as these funds have robust environment, social, and governance (ESG) standards. There is strong alignment between the approach of pension funds to invest long-term 'patient' capital and the long-term assets that a sustainable aviation industry requires.

The question of aviation energy supplies highlights why government engagement needs to go beyond funding. It must also concern planning. When it comes to supplies of biofuels based on municipal waste, or zero-carbon fuels such as green hydrogen, aviation energy demands need to be considered in the context of society's wider energy needs. Green hydrogen relies on other renewable energy sources such as solar or wind power. Other sectors will also have high demand for these renewable energy resources.

Governments, therefore, will need to play a much greater role in the aviation industry to ensure it gets the funding and energy allocation it needs. In turn, democratic oversight will be necessary to ensure that the benefits of aviation are fairly distributed. It will be necessary to develop new public ownership models, and new systems of public governance, with input from key stakeholders including workers and communities. Decarbonising aviation must be part of a broader shift to a sustainable economy based on new models of production, distribution and trade, where cooperation rather than competition is prioritised.

POLICY RECOMMENDATIONS

RECOMMENDATIONS FOR GOVERNMENTS, COMPANIES, REGULATORS AND INVESTORS:

01. WORKERS HAVE AN ESSENTIAL ROLE IN SUSTAINABLE AVIATION: WITHOUT WORKER KNOWLEDGE, EXPERTISE, PARTICIPATION AND SUPPORT, NEW CLIMATE CHANGE INITIATIVES IN THE INDUSTRY WILL FAIL.

- A global industry-wide aviation employment study should be conducted to understand the impact of climate change policies new technology on jobs and to support better planning.
- Any necessary job changes must come with equal levels of pay, skill levels and trade union representation.
- Strict measures that protect the health and safety of aviation workers must be included at the outset of new climate measures. These measures must be built into the design phase of new propulsion systems, including hydrogen and battery powered aircraft, as well as sustainable aviation fuels. Workers and their trade unions should be involved in the development of health and safety standards at the international and national level.
- Young workers must have access to decent work and career progression, including apprenticeships and training pathways.
- Barriers that restrict women from entering and advancing in all industry occupations must be identified and dismantled. Any gender-specific impacts of new technology must be similarly addressed.

02. DECARBONISING THE INDUSTRY REQUIRES ACKNOWLEDGING AVIATION AS A PUBLIC GOOD: DEMOCRATIC PROCESSES AND PUBLIC INVESTMENT.

- Greater democratic oversight is needed. Aviation workers must be represented on all key national and international bodies driving the industry's sustainability efforts.
- Just Transition Committees must be formed through the industry at the national policy, corporate and airport-governance levels. National committees should include all stakeholders and be tasked with formulating policies that single employers cannot address alone, such as taxation, funding, regulations and cross-sector training.
- At the international level, a Just Transition Civil Aviation Task Force must be established with representations from workers, their unions, employer groups, and governmental bodies.
- Public investment in decarbonisation is essential for technological development, the scaling-up of new fuel usage, and infrastructure supports.
- Government engagement must go beyond funding and include planning to balance potentially competing societal needs. New forms of public ownership and governance are needed to ensure equitable distribution of energy supplies and cooperation.

03. ALL SUSTAINABLE AVIATION EFFORTS MUST ACKNOWLEDGE THE PRIMARY SOURCE OF EMISSIONS IN THE INDUSTRY: CLIMATE CHANGE TARGETS MUST REQUIRE EQUITY FOR THE GLOBAL SOUTH.

- To meet global targets, carbon reductions should not be applied evenly across regions. For countries responsible for historic emissions, they must accept lower rates of growth and allow other countries, particularly in the Global South, higher growth rates.
- Governments and employers in the Global North should finance sustainable aviation efforts across all regions.
- The Global South should continue to invest in lower emission transportation modes like rail whenever possible.

04. A SUSTAINABLE INDUSTRY MUST BEGIN NOW: ANY AVIATION GROWTH BEYOND 2019 EMISSION LEVELS MUST BE TRULY CARBON NEUTRAL.

- The aviation industry created its own emissions and should not count on other sectors to solve its problem.
- All emissions targets should avoid reliance on questionable carbon offsets or carbon capture and storage technology until these methods are proven reliable and accountable.

05. SUSTAINABLE AVIATION REQUIRES BOTH TECHNOLOGY AND GLOBAL COORDINATION: GOVERNMENTS, EMPLOYERS, INVESTORS AND WORKERS MUST WORK TOGETHER TO SCALE-UP THE USE OF NEW FUELS.

- Sustainable aviation fuels (SAFs) will require a large increase in industrial production, serious planning and massive investment to be effective at a global scale. This cannot be done by any single stakeholder alone.
- The funding of research and development for more promising future technology, like hydrogen power and electrification, must be increased and brought to scale using the same partnerships.

06. THE AVIATION INDUSTRY MUST CHANGE HOW IT DOES BUSINESS: CHANGES TO OPERATIONS WILL BE NEEDED TO BECOME MORE SUSTAINABLE, BUT THEY SHOULD NOT HARM WORKERS IN THE PROCESS.

- The use of private jets must be severely curbed through new taxes now, followed by flight restrictions for any carbon-emitting private flights after 2030.
- All development of commercial supersonic flights should cease immediately.
- Policies that support the shift of passengers and freight to rail and other less polluting forms of transport should be supported, but only in areas where extensive infrastructure is already available to absorb such changes.
- New aviation taxation policies will be needed that should only be considered if they contain strong worker protections.

ENDNOTES

1. United Nations. (2021, August 9). Secretary-General Calls Latest IPCC Climate Report 'Code Red for Humanity', Stressing 'Irrefutable' Evidence of Human Influence [Press release]. <https://www.un.org/press/en/2021/sgsm20847.doc.htm#:~:text=Today's%20IPCC%20Working%20Group%20,of%20people%20at%20immediate%20risk>
2. Air Transport Action Group. (2020). Aviation Benefits Beyond Borders 2020 Report. <https://aviationbenefits.org/downloads/aviation-benefits-beyond-borders-2020/>
3. United Nations. Intergovernmental Panel on Climate Change. (2021). Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_Chapter10.pdf, 10-58
4. Mission Possible Partnership. (October 2021). Ten Critical Insights on the Path to a Net-Zero Aviation Sector. <https://missionpossiblepartnership.org/wp-content/uploads/2021/10/MPP-Aviation-Transition-Strategy-2021.pdf>
5. Transport & Environment. (March 2021). Corsia: worst option for the climate. Briefing on assessment of ICAO's offsetting scheme. https://www.transportenvironment.org/wp-content/uploads/2021/07/2021_03_Briefing_Corsia_EU_assesement_2021.pdf
6. International Labour Organization (ILO). (July 2022). Global Commission on the Future of Work. https://www.ilo.org/global/topics/future-of-work/WCMS_569528/lang-en/index.htm
7. Air Transport Action Group. (2020). Aviation Benefits Beyond Borders 2020 Report. <https://aviationbenefits.org/downloads/aviation-benefits-beyond-borders-2020/>
8. Transport & Environment. (March 2021). Corsia: worst option for the climate. Briefing on assessment of ICAO's offsetting scheme. https://www.transportenvironment.org/wp-content/uploads/2021/07/2021_03_Briefing_Corsia_EU_assesement_2021.pdf
9. UN Climate Change Conference UK 2021. Route Zero Climate Group. (2021). COP26 declaration on accelerating the transition to 100% zero emission cars and vans. <https://cop26transportdeclaration.org/en/?contextKey=en>
10. International Energy Agency. (May 2021). Net Zero by 2050 A Roadmap for the Global Energy Sector. <https://www.iea.org/reports/net-zero-by-2050>.
11. United Nations. Intergovernmental Panel on Climate Change. (2021). Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_Chapter10.pdf, 10-58.
12. Ritchie, Hannah. Our World in Data. (2020, October 22). Climate change and flying: what share of global CO2 emissions come from aviation? <https://ourworldindata.org/co2-emissions-from-aviation>
13. Gossling, Stephan and Humpe, Andreas. (November 2020). The global scale, distribution and growth of aviation: Implications for climate change. *Global Environmental Change*, 65, 102194. <https://doi.org/10.1016/j.gloenvcha.2020.102194>
14. Monschauer, Yannick. International Energy Agency. (November 2021). Aviation Tracking Report. <https://www.iea.org/reports/aviation>
15. Destination 2050. (February 2021). A route to net zero European aviation. <https://www.destination2050.eu/> and Air Transport Action Group. (September 2021). Waypoint 2050. https://aviationbenefits.org/media/167417/w2050_v2021_27sept_full.pdf
16. D.S. Lee, D.W. Fahey, A. Skowron, M.R. Allen, U. Burkhardt, Q. Chen, S.J. Doherty, S. Freeman, P.M. Forster, J. Fuglestedt, A. Gettelman, R.R. De León, L.L. Lim, M.T. Lund, R.J. Millar, B. Owen, J.E. Penner, G. Pitari, M.J. Prather, R. Sausen, L.J. Wilcox. (January 2021). The contribution of global aviation to anthropogenic climate forcing for 2000 to 2018. *Atmospheric Environment*, 244, 117834.
17. Teoh, R., Schumann, U., Gryspeerdt, E., Shapiro, M., Molloy, J., Koudis, G., Voigt, C., and Stettler, M. Aviation contrail climate effects in the North Atlantic from 2016–2021. *Atmos. Chem. Phys. Discuss.* [preprint], <https://doi.org/10.5194/acp-2022-169>, in review 2022
18. International Air Transport Association. (June 2022). Industry Statistics Fact Sheet. <https://www.iata.org/en/iata-repository/pressroom/fact-sheets/industry-statistics/>
19. Destination 2050. (February 2021). A route to net zero European aviation. <https://www.destination2050.eu/>

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