

## Position Paper 2023/148

# Sustainable Aviation: for a greener European aviation sector with workers at its core

European aerospace workers demand a fair and Just Transition to a more sustainable aviation sector that leaves no worker or region behind.

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### Introduction

The European aviation sector is under increasing pressure to become more sustainable. European aerospace workers are at the heart of this green and digital transition and trade unions insist that the sector transforms in a socially responsible way. Workers and trade unions must be involved in shaping this transition. Their future cannot be decided without them but rather they have to proactively steer the change to ensure that the transition delivers on good jobs and future-proof solutions for all.

While work has begun, and some credible options like sustainable aviation fuels (SAFs) are already available, other technologies are still in development with timelines and the impact on the current and future workforce unknown. As aerospace workers will be key in developing and producing these new technologies they must be involved in future planning and mapping with employers and national government to ensure that no worker or region is left behind. **Trade unions insist on a Just Transition!**

### European aerospace workers

The green aviation ambition can be seen most clearly in Europe, with important EU initiatives, such as the European Green Deal and the subsequent Fit For 55 package, aiming to further decrease greenhouse gas emissions through a stronger carbon price and the uptake of more sustainable aircraft fuels. With current forecasts predicting that international carbon emissions from commercial flights set to triple by 2050 amid surging travel and freight demand<sup>1</sup>, the need to reduce the environmental impact of the global aviation sector is a tough challenge and one in which all global regions need to play their role.

Currently, Europe has an opportunity to be the global leader in green technology, zero-carbon aircraft, and renewable fuels, and has excellent knowhow with around **600,000 workers employed in high-quality well-paid jobs** who must be safeguarded. A Just Transition for **all workers** remains vital for the economic and social wellbeing of workers in Europe.

### Current situation and future challenges

Various current global crises must also be taken into consideration while looking at the future decarbonisation journey of the European aviation sector, from the ongoing long-term negative effects of

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<sup>1</sup> <https://theicct.org/sector/aviation/>

the COVID-19 pandemic to the current energy and raw material crises (including aluminium and titanium) linked to Russia's illegal invasion of Ukraine. These crises have impacted aerospace workers as well as industry, with the current energy crisis contributing to the worst cost-of-living crises in decades. **Now more than ever we need to safeguard quality jobs and fight for fair wages.**

## The environmental impact of the aviation industry

In 2019, global flights produced 915 million tonnes of CO<sub>2</sub>, accounting for **2.5% of the world's CO<sub>2</sub> emissions**<sup>2</sup>. With a **30% increase in aviation CO<sub>2</sub> emissions since 2013 (+20% US, +30% Europe, +66% China)**<sup>3</sup> plus population growth and the number of passengers by 2050 set to double reaching 10 billion (versus 4.5 billion in 2019)<sup>4</sup>.

### Non-CO<sub>2</sub> emissions

Although this paper will focus on CO<sub>2</sub> emissions, it remains important to remember that there are other environmental impacts which need to be tackled. These include nitrous gases, water vapour, soot and sulphate particles, which can create **greenhouse gases and radiative forcing**. Furthermore, **noise pollution** continues to cause issues for citizens and local wildlife, with action needed to reduce this to acceptable levels.

### Decarbonising the aviation sector

When looking at decarbonising the aviation sector, it is important to analyse all aspects of flying, and the entire journey, from start to finish. This includes the design and the production of the aircraft, to ensure efficient and sustainable taxiing, airport operations and flight paths. It is important to decarbonise all aspects of the aviation sector and to ensure that all flights are as efficient as possible. The European Air Traffic Management (ATM) Master Plan has a goal to **reduce average CO<sub>2</sub> emissions per flight by 5-10% by 2035** (compared to 2017) via enhanced cooperation. **Airports also have a role to play** and need to increase their ambitions in order to achieve net-zero CO<sub>2</sub> emission and to align themselves with the objectives of the Paris Agreement.

However, data shows us that propulsion emits by far the most greenhouse gas, and as such, aerospace workers have a key role to play in designing and producing the cleanest propulsion methods available. A truly ambitious and holistic approach is needed to decarbonise this complex sector, from start to finish. We need more efficient engines, using sustainable aviation fuels in the short-term and hydrogen and clean electricity in the future, more efficient aircraft including the use of composites, morphing wings and 3D printing, and more efficient air traffic control through improving the single European sky and automation procedures. However additional challenges remain, including the use of composite materials, which while being lighter and helping to reduce fuel consumption require high amounts of energy in their production, and as yet, knowledge is lacking in how best to recycle them. The road to a truly sustainable aviation sector is not yet clear, and it is certainly not straightforward.

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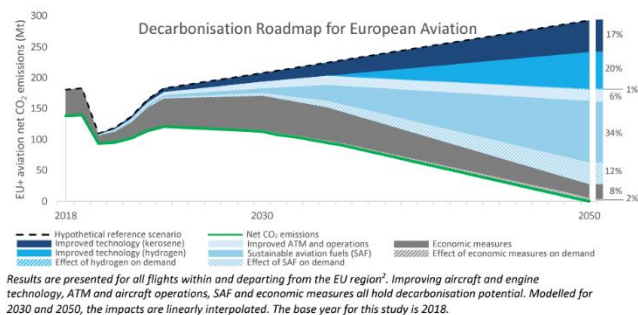
<sup>2</sup> IATA Climate Change [Factsheet](#)

<sup>3</sup> EESI [The Growth in Greenhouse Gas Emissions from Commercial Aviation](#)

<sup>4</sup> ICAO Traffic Forecasts

The European aviation industry states that net-zero CO<sub>2</sub> emissions from all flights within and departing from the EU can be achieved by 2050 through joint, coordinated and decisive industry and government efforts. [Destination 2050](#) shows a possible pathway that combines new technologies, improved operations, sustainable aviation fuels and economic measures, with absolute emissions reduced by 92%, while the remaining 8% is removed from the atmosphere through negative emissions, achieved through natural carbon sinks or dedicated technologies.

Graph 1: Destination 2050 roadmap for European Aviation



## EU legislation and initiatives

\*Accurate at the time of writing (May 2023).

The Commission's flagship **European Green Deal** calls for a **90% reduction in greenhouse gas emissions from transport by 2050** to help the EU become the first climate neutral continent. In order for these ambitious targets to become a reality, the EU released the **Fit for 55 Package** in 2021, with four initiatives having direct effects on aviation: **ReFuelEU Aviation (Sustainable Aviation)**, **CORSIA** and **EU Emissions Trading System Aviation**, **Alternative Fuels Infrastructure Regulation** and the **Energy Taxation Directive**.

### ReFuelEU Aviation (Sustainable Aviation)

The aim of ReFuel Aviation is to **increase the uptake of sustainable aviation fuels (SAFs)** in order to accelerate the decarbonisation of the aviation sector. The proposed legislation looks at how to ramp-up production and make SAFs available to airlines at competitive prices, and to guarantee a level playing field with regard to the uptake of SAFs. After negotiation rounds, the original targets were increased, with an agreement to the target of SAF use in EU airports to **6% in 2030 and 70% in 2050**. Furthermore, the sub target for synthetic fuels was increased to **1.2% between 2030 and 2031 and 2% from 2032 until 2035 while progressively increasing to 35% in 2050**. Eligible SAFs including biofuels (waste oils and fats), advanced biofuels (waste and residues) and synthetic aviation fuels (power-to-liquid). It is hoped that ReFuelEU Aviation will enter into force later in 2023.

However, trade unions stress that **SAFs are only a mid-term solution**, with many things still unknown, including the social and environmental impact of their production and the production cost. Furthermore, the International Civil Aviation Organization (ICAO) estimates that 6.5 million litres of SAFs were produced annually over the period 2016-2018, with the potential to produce 8 billion litres per year from 2032 onwards<sup>5</sup>. However, the International Air Transport Association (IATA) estimates that **450 billion litres of SAFs are needed by 2050** to master the 'Net 0 transition'<sup>6</sup>. Evidently, a huge gap in supply is already foreseen.

With SAFs currently only accounting for 0.05% of fuel use, it is clear that both production and uptake need to be scaled up urgently. IndustriAll Europe supports the ambitious actions of the EU to incentivise the uptake of SAFs, with clear sustainability criteria and a diversified and sustainable feedstock base needed.

<sup>5</sup> <https://www.icao.int/environmentalprotection/pages/SAF.aspx>

<sup>6</sup> <https://www.icao.int/environmentalprotection/pages/SAF.aspx>

## Hydrogen

The important role of hydrogen should not be forgotten, even if it is more of a mid- to long-term solution. Today, it remains unclear as to the technical mastery of hydrogen for a commercial flight. Furthermore, questions remain over availability, production cost, safety, and infrastructure needs (all airports, including small regional airports). Although this could make a real change, some experts doubt that hydrogen propulsion could be commercially viable before 2050, meaning that the technology would simply be too late. IndustriAll Europe, as a member of the EU's Hydrogen Alliance, is looking at these issues with stakeholders representing both hydrogen production and users, to look at what is needed to ensure that hydrogen is accessible and affordable for a variety of sectors including aviation. It is important to note that huge amount of green energy is required to produce sufficient quantities of hydrogen (and SAFs) and that work must begin now to ensure that there is sufficient clean energy and the right infrastructure in place in Europe.

## CORSIA and EU ETS

The **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)** is a global market-based offsetting mechanism adopted by the International Civil Aviation Organisation in 2018. In 2020, 107 countries had announced their interest in participating in the scheme which remains seen as much too weak to entail transformative change.

The EU has its own carbon pricing scheme, the **EU Emissions Trading System (ETS)**, which covers CO<sub>2</sub> emissions from intra-EU flights only since 2012, with some free allowances for the sector. However, as part of the Fit for 55, EU ETS has been reviewed, with the following impact on aviation:

- **An end to free allocations of allowances to the aviation sector by 2026**, with a gradual phase out (i.e. decrease of 25% in free allocations foreseen for 2024 and 50% for 2025).
- **A reserve of 20 million allowances for operators that increase their use of sustainable aviation fuels (SAF)**, such as hydrogen from renewable energy sources, renewable fuels from non-biological origin and advanced biofuels.
- **Non-CO<sub>2</sub> aviation emissions will be gradually addressed** in the EU ETS with first a system of monitoring and verification until 2027 and a legislative proposal in 2028.
- **Auctioning revenues from 5 million allowances will be earmarked for aviation** through the Innovation Fund to support new technologies, including electrification in the sector.
- A derogation will be provided until 2030 for **airports located in an outermost regions** of an EU country.

As far as the international flights are concerned, in case of a negative evaluation of CORSIA's progress by 1 July 2026, the Commission would be required to make a proposal to include in the scope of the EU ETS emissions of flights departing from an airport located in the European Economic Area (EEA) to a third country. As of 2027, flights to third countries not applying CORSIA will fall under the scope of the EU ETS.

## Alternative Fuels Infrastructure Regulation

The **Alternative Fuels Infrastructure Regulation** is important for the decarbonisation of the sector as it focuses on **airport infrastructure** (including the provision of electricity supply to stationary aircraft), the **reduction of emissions** and **local air quality**. The Proposal calls on Member States to ensure that from 2030, electricity for aircraft is renewable and that deployment plans are in place for hydrogen and electric recharging.

## Energy Taxation Directive

Finally, the **Energy Taxation Directive** proposes to remove the current tax exemption on jet fuels for intra-EU flights, setting a new minimum level of taxation. Specific proposals include a **minimum tax rate for kerosene**, which should be increased over the next 10 years, plus a minimum rate of zero for SAFs and electricity during a 10-year transition period, in the hope that this will incentivise airlines to move from kerosene to more sustainable fuels. At the time of writing, discussions on this file are currently blocked by the European Council where unanimity is required.

## European Initiatives

Further to the aforementioned specific pieces of EU legislation, various groups of European stakeholders are engaged in the issue of decarbonising the aviation sector. One such group is the **European Aviation Roundtable**, of which industriAll Europe is a member, which has issued the joint demand for the creation of an **EU Pact for Sustainable Aviation**.

The demand was first put forward in 2020 during the COVID-19 crisis, which had a disastrous impact on the aviation sector. However, the need for such a Pact remains relevant today, with the impact of COVID still being felt in the European aviation sector. The Pact would **chart the path towards net-zero CO2 emissions** and specify the **supporting policy framework and financial measures** needed at EU level to achieve these objectives. However, the Pact is about more than industrial policy, with stakeholders insisting that it should have a **social dimension** and that via the Pact, the EU, Member States, and social partners should ensure that social and employment rights enshrined in European and national legislation are applied effectively for all workers.

The European Aviation Roundtable is also calling for incentives for **fleet renewal** to drive up domestic demand, which would benefit European aerospace workers and lead to quicker decarbonisation via the accelerated uptake of greener aircraft.

IndustriAll Europe is also part of two newly formed EU alliances, the **Zero-Emission Aviation Alliance** and the **Renewable and Low-Carbon Fuels Value Chain Industrial Alliance**. These alliances aim to bring all stakeholders together to discuss and agree on how to ensure that the correct fuels and infrastructure are in place to decarbonise the sector. IndustriAll Europe will continue to raise trade union demands in these Alliances to ensure that workers' voices are heard.

## Decarbonisation: the need for a global approach

True decarbonisation of the aerospace sector is only possible if **all international stakeholders come together** to agree on ambitious and binding commitments, Europe cannot solve the problem alone. IndustriAll Europe and its sister organisation, IndustriALL Global, worked with the international transport workers' federations ITF and ETF, to produce a working paper focused on the decarbonisation of the international aviation sector, while ensuring a Just Transition for workers, at the ICAO General Assembly in September 2022.

The joint trade union demands followed on from industriAll Europe's work at European level on the **Toulouse Declaration**, in which the 27 EU Member States, and 11 other Member States of the European Civil Aviation Conference affirmed their support for the goal of achieving carbon neutrality in the aviation industry by 2050. The Declaration was supported by over 150 stakeholders, including [industriAll Europe](#), and included key trade union demands on social sustainability and ensuring a Just Transition for workers.

Although the ICAO General Assembly ended with states [adopting a net-zero 2050 global aspirational goal](#) for international flight operations, [trade unions remained frustrated](#) at the lack of binding commitments as well as regard for the social aspects of sustainability. As such, industriAll Europe continues to call for increased actions and commitments from all global regions to truly decarbonise the global aviation sector, while also ensuring a Just Transition for workers.

## Impact on aerospace workers

The full impact of the decarbonisation of the aviation sector on workers through the supply chain is unknown. On the one hand, increased ticket costs (taxes, inflation of alternative fuel costs) plus lifestyle changes could lead to a drop in demand, and currently there is no strategic plan to manage this and the huge social impacts that it would have. On the other hand, Europe could take the lead in producing green technology and green aircraft and with an increase in demand safeguarding or even creating new jobs.

When looking at the green or digital transition of the European aviation sector, it is essential to ensure that this is managed in a socially fair way. For trade unions, this means ensuring a Just Transition to prevent any worker or region being left behind. Any transition impacting aerospace workers must be fully anticipated and discussed with workers' representatives, with adequate re-skilling and up-skilling being provided, as well as equal job-to-job transitions as required. Quality social dialogue is non-negotiable, and workers must have a seat at the table, "nothing about us without us!".

### Green technology and the workforce

The increased demand in green technology will change the current aerospace manufacturing set-up. Trade unions insist that major changes in production should be properly discussed with workers and trade unions, with **workers' rights to information and consultation being fully respected**. There will be a need to analyse the impact of changing production with regard to the workforce, for example on job types, and industriAll Europe insists that the **current workforce should be upskilled and retrained** to prevent any worker from being left behind. Furthermore, changes in processes, including handling new sustainable fuels, must be appropriately managed, with all workers receiving adequate health and safety training to ensure that they are safe in the workplace.

### Digitalisation in the workplace

The move to a more digital workplace must also be managed in a socially responsible way. While further digitalisation and automation is inevitable in such a high-tech industry, it is always important to fully consider the impact on the workforce, including the impact on current jobs, skills needs, and workers' data and privacy, as laid out in industriAll Europe's paper on Artificial Intelligence (AI)<sup>7</sup>.

There can only be a Just Transition if the digital transition actively involves the existing workforce in the shaping of it. Workers' representatives must be fully - and in a timely manner - involved in the introduction and shaping of new systems in the workplace. As AI is a disruptive technology, with a significant impact on workers, employment, and management, all stakeholders need to be closely involved in the decisions on which technology is needed, and for what purposes. Workers and their representatives must be able to take informed decisions on this, and to properly assess technology before it is introduced in their company. They need to have timely access to meaningful and comprehensive information, and enough time and resources to process this with the support of external experts of their choice.

<sup>7</sup> <https://news.industriall-europe.eu/Article/753>

As such, industriAll Europe insists that management must provide workers with full transparency regarding the aim, scope and functioning of the AI application, on the data being collected and on the foreseeable repercussions for the workers.

Furthermore, any increases in productivity should benefit the workers as well as management and should not lead to worsened working conditions, such as the intensification of work. Productivity or efficiency gains should be shared with the workforce, such as via shortened working weeks, while maintaining the same levels of pay.

## Just Transition

When looking at either the green or digital transitions, trade unions must be involved from the start. Information and consultation with workers and trade unions is non-negotiable. Granular employment mapping should take place to analyse the impact on employment (number of jobs, type of jobs, etc.), noting that this should cover the entire supply chain. This exercise is important to establish future skills gaps, which will allow time to prepare to reskill and upskill workers and to ensure job-to-job transitions. Workers must have a seat at the table and [industriAll Europe's Just Transition Manifesto](#) sets out our clear trade union demands, insisting that workers are involved from the start of any transition, "Nothing about us without us!".

## IndustriAll Europe's demands

All stakeholders need to come together to work towards a successful transition to a more sustainable European aviation sector. Strong industrial policy is needed to ensure that the transition can take place in a timely manner, with social sustainability guaranteed. Workers and trade unions must be involved in all stages of the transition and social dialogue remains key.

As such, industriAll Europe has a range of trade union demands aimed at EU policy makers, Member States and public authorities and companies, to ensure a Just Transition to a social and sustainable European aviation sector.

## EU Policy Makers

### IndustriAll Europe calls on EU policy makers to:

1. Establish an **EU Pact for Sustainable Aviation** to chart the path towards net-zero CO2 emissions, as outlined by the European Aviation Roundtable Report<sup>8</sup>.
2. Ensure that following an ambitious **revision of EU ETS**, that **increased action at international level takes place** with regards to emission reduction.
3. Continue to identify further ways to incentivise and support the increased production of SAFs following the adoption of **ReFuelEU Aviation** and **AFIR**.
4. Agree to appropriate **EU financial support to fund SURE 2.0** to support any worker impacted by the current energy crisis, with social conditionality in place.
5. Engage in further measures to ensure **fair international trade** and a global level playing field.

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<sup>8</sup> [European Aviation Roundtable Report 2020](#)

6. Stimulate the purchasing of new environmentally friendly aircraft by creating an **EU green incentive scheme**.
7. Commit to **sufficient and long-scale EU financing for R&D**, which aims to swiftly decarbonise the sector.
8. Create a **European Just Transition Observatory** to monitor the implementation of all policies and measures related to the full scope of the European Green Deal.
9. Provide an **EU funding strategy for Europe's regions that supports Just Transition**, including the use of ETS revenues to reinforce Just Transition instruments.
10. To **enforce social conditionality on EU funds and industrial policy initiatives** to ensure that they support collective bargaining, high-quality jobs and high-quality apprenticeships. Short-term and precarious contracts must be limited, decent pay and access to training must be assured.
11. Come forward with an **EU legal framework for the anticipation and management of Just Transition at company level**, inspired by the 2013 Cercas report, including mandatory rules on timely and quality information, consultation and participation of trade unions and worker representatives at local, national and European levels, as well as social guarantees for workers.
12. For **mandatory Just Transition plans** to be adopted by all companies, with the full involvement of trade unions and worker representatives.

## National governments and public authorities

### IndustriAll Europe calls on national governments and public authorities to:

1. **Develop and implement sectoral action plans** with social partners to anticipate the green and digital transition, with quality social dialogue vital in ensuring a successful and fair transition for the sector and its workers.
2. **Create public centres to monitor the green and digital transition at national level** stressing the need for public funding to have strong social conditionality and for national support to reach all levels of the supply chain.
3. Ensure **active labour market policies** to allow smooth transitions from one job to another and reinforce social safety nets for all workers, guaranteeing a **Just Transition**.
4. Push for **international binding commitments on decarbonisation for all ICAO states**, which also focus on social sustainability.
5. Call on **ICAO to introduce the concepts of Just Transition and social sustainability** to its work and to establish Just Transition committees comprising all civil aviation stakeholders.
6. Strongly encourage and incentivise companies to **further develop green technology**.
7. **Further invest in skills**, including the development of flexible pathways between the worlds of work and education, including lifelong learning, modular learning systems, dual learning, eLearning and knowledge transfer.
8. Improve coordination with the energy sector to **increase production of renewable and clean energies** at affordable and stable prices.
9. Take measures to **promote the emergence of sustainable fuel production chains** for aviation.



## Aviation companies, airlines and airports

### IndustriAll Europe calls on aviation companies, airlines and airports to:

1. Ensure high **health and safety standards** for all workers, especially when introducing new green or digital processes and in using new fuels.
2. Develop the tools that allow for **timely anticipation and management of the green and digital transitions throughout the supply chain**, especially those linked to the needed decarbonisation of the sector.
3. Commit to **quality social dialogue throughout the supply chain** and respect workers' rights to information and consultation.
4. Develop **Just Transition Plans** with trade unions and regional/national policy makers to ensure that the green and digital transitions are managed successfully.
5. End **precarious work**, guarantee good working conditions and ensure workers' rights for all workers, including temporary workers and **subcontractors throughout the supply chain**.
6. Commit to maintaining a high level of **apprenticeship programmes** to safeguard internal know-how, noting that the sector suffers from an aging workforce.
7. Build skills intelligence on emerging and disappearing occupational profiles and on future skills needs and invest in the **upskilling and reskilling** of their workforce and organise internal mobility to keep all workers on board.
8. **Invest in R&D programmes**, especially in relation to green technology to lower emissions, including hydrogen or more electric-powered aircrafts.
9. Improve all aspects of **decarbonisation and energy efficiency**, including within airports and throughout the entire journey, such as taxiing, with flight path efficiency and air traffic management also having important roles to play.
10. **Increase the uptake of SAFs** with the correct infrastructure in place.

## Time to act

**The European aerospace sector has an opportunity to lead the way in decarbonisation which must be grasped, but to have a real impact in the fight against climate change, a truly ambitious global effort is needed with social sustainability and workers at its core. Trade unions, employers and policy makers need to come together and find solutions to decarbonise the sector, while ensuring that no worker or region is left behind. We insist on a Just Transition for all workers.**