**Global Warming and Sustainable Development: Present and Future
of Air Transport**

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SUMMARY

The current international context forces governments all over the world to take on strong commitments and accept restrictions on numerous activities, including air transport. In the face of catastrophic climate change, irreversible damage to biodiversity, a growing threat to the living conditions of billions of people, and the spread of a pandemic that is causing a health emergency and bringing about death, there is no room for isolated solutions.

There is a growing global consensus that this crisis can only be overcome by shifting to a new paradigm based on environmental, economic, and social sustainability, bringing the neoliberal model to an end.

Against this backdrop, consensus has been successfully reached within the United Nations (UN) on 17 Sustainable Development Goals (SDGs) and a set of resolutions derived from the 2015 Paris Agreement. On this basis, the International Labour Organization (ILO) has come up with the concept of a Just Transition (JT) to this new paradigm under the pledge to “leave no one behind”.

This notion has spread to the field of air transport in the form of a series of debates, objectives and standards at the heart of ICAO, the UN governing body for aviation, as well as in all other aviation-related sectors.

This study focuses on the existing tension between the international context and each country's need to find its own way to gain autonomy to design its own aviation policy based on national interest and the interests of the sectors of the workforce and society at stake.

Based on these criteria, this paper puts forward a number of actions so that Argentina can develop the much-needed national air transport policy in a way that is consistent with planning and regulation of all modes of transport and tie all these elements in with a broader institutional and social framework.

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**Introduction**

The purpose of this paper is to shed light on the most pressing issues in contemporary international relations, i.e. those deemed most urgent to humankind, from the perspective of the air transport sector, which is our chosen place of work and way of life. These issues relate to the global fight against climate change, and at the same time, the promotion of sustainable development, decent work and poverty eradication.

This work focuses on the existing tension between the decisive influence of the current international context on the design of a national air transport policy and each country’s need to find its own way to gain autonomy based on national interest and the interests of the sectors of the workforce and society at stake. This tension can be seen on different planes. The first plane is marked by the importance and urgency that climate change and biodiversity threats have been attached in the international agenda, strongly conditioning national policies in various areas. The second one is the magnitude of the current global health crisis brought about by the COVID-19 pandemic, which has had a considerable impact on local decision-making. The third one is the international nature of aviation as a business activity, given not only its regulatory framework—with standards issued by international agencies that are then incorporated into national regulations—but also the globalization/deregulation process that has taken place over the last four decades. The fourth one is the need for any country interested in developing a sound aviation and aerospace policy of its own, like Argentina, to consider the international context, as it would be impossible to do so in isolation.

Based on the aforesaid, it should be noted that even though we advocate for a strong Argentine presence in this field of activity, national aviation policy-related issues will not be part of the substance of this paper; rather, they will only be used as references to more general subjects and as action items, including them and linking them to other aspects of our country’s life based on a higher interest.

At first sight, it seems risky to associate a set of goals that reflect the broadest possible consensus reached by nations and peoples on their present and future—regardless of their power, influence or size—with such a specific activity like air transport and even more so to refer, in particular, to one aspect of air transport: aviation work.

However, as we will see, if humankind sets a number of targets to primarily secure the survival of the human species and of our own planet, as well as the quality of life of future generations, a large number of activities have and will have an essential role. Aviation is one of them, and as many other human activities, it bears the contradiction of being, on the one hand, a driver of scientific and technological progress, development, and integration of peoples and nations and on the other hand, a vehicle for war, destruction, environmental damage and transmission of deadly diseases.

While this paper is being drafted, the human race is going through an extremely serious crisis as a result of the global COVID-19 pandemic, caused by the SARS-CoV-2 virus, which—as other past pandemics—is plunging the world into a state of uncertainty about its future and of fear of death at the present time. This kind of uncertainty and fear piggyback on the challenges that billions of people already have in their own daily lives to ensure their livelihoods, quality of life, and progress and development opportunities.

This crisis has challenged the foundations of a world order and a global socio-economic system based on one of the most savage versions of capitalism. Except for the minorities that hold the power, resources and benefits of the neoliberal system, the vast majority of humankind is in favour of a dramatic change in such a system. Governments, institutions, social organizations, and important figures in all fields are advocating for a new planetary paradigm based on sustainable development goals for the benefit of the human race as a whole, with no exceptions or inequalities.

Given its high burden of unpredictability and distress for the future, the current pandemic has sparked a crucial debate to identify the priorities among the numerous variables that make up the societal models of each country and of the world order itself. Economists, philosophers and social scientists are now discussing what the post-pandemic world will look like, whether the crisis will be an opportunity to revalue the construction of more just, more equitable, and more democratic societies with fairer distribution of wealth or, on the contrary, it will further deepen the global economic concentration, the existing inequalities and an increasingly all-inclusive authoritarianism. Political, social, economic and intellectual leaders are taking positions for or against prioritizing health and life over the economy and other social matters. These discussions are taking place both within each of the affected countries and in the relations among them. The political dispute never stops, nor does the fight for power and the reciprocal accusations among powerful countries and between the political and social forces in each country.

For those of us who feel part of those groups that advocate for a new societal model and a new world order, there is no doubt that preserving the health and the life of our own species—and obviously, all forms of life on this planet and our environment—is an absolute priority. Then come the variables that should ensure societies have a better quality of life: political, economic, social and institutional models; the full enforcement of all human rights in their most advanced version; access by the whole of humankind to development, to humane work as a basic social condition and to scientific and technological progress.

As part of all nations’ basic infrastructure, air transport cannot be sustainable under the current operation logic and must be restructured so that it can positively contribute to those aims. Given the urgency imposed by the external context and the high systemic complexity of air and space transport and its interrelation with such context, a high dose of joint planning is required on the basis of an agreement and a consensus reached with many other sectors that are an integral part of the life of our societies.

The dream of flying and carrying people and cargo through airspace came true as a result of human ingenuity, intelligence, inventiveness, science, technology and the industry. The forces and laws of Nature were ultimately understood and governed to the paradoxical point of being threatened and harmed. It is time to put this intrinsically human activity at the service of sustainable development for the planet and for humankind.

**The International Context: the Sustainable Development Goals and the Paris Agreement**

After centuries of power struggles, wars, pandemics and natural catastrophes, the United Nations succeeded in building consensus on a set of goals and related targets. These are the Sustainable Development Goals (SDGs) for the 2015-2030 period, which follow up on the Millennium Development Goals (MDGs) adopted in 2000. While the MDGs had been drafted by a group of experts to address the social needs of developing countries, the SDGs are the result of a long engagement process with many UN Member States and sectors of civil society of many of those countries. Involving an increasingly wider range of stakeholders, negotiations and discussions led to a broader agenda that covers, in turn, a growing number of analysis variables.

Despite its flaws and limitations, the UN is the only global forum that brings together all countries and whose agencies are respected and, at the same time, heavily pressured or influenced by the governments of those countries. In fact, the UN is not a democratic organization, nor does it represent a world order with universally accepted supranational government authorities and institutions. The constant fights for power among big countries enable them, in the name of their national interests, to ignore and go against international resolutions adopted by a majority of countries without being effectively punished.

However, the UN has been capable of creating world-known institutions and agencies, drafting international conventions that countries may endorse to a lesser or greater extent, and reaching agreement on fundamental declarations, such as the Universal Declaration of Human Rights, or the SDGs, which are of particular interest to us in the case under discussion.

The SDGs cover a wide range of core issues for the human race organized in a systematic, interrelated fashion. In turn, these issues are intersected by certain concepts that, with their own specificities, are common to them all. The 17 SDGs are systematically [interlinked](https://sdgintegration.undp.org/), as actions in one area impact outcomes in others, and seek to balance the three dimensions of sustainable development: environmental, economic and social.

Let us examine the wording of the SDGs[[1]](#footnote-1):

**Sustainable Development Goals (SDGs)**

1. *End* ***poverty*** *in all its forms everywhere.*
2. *End* ***hunger****, achieve* ***food security*** *and improved* ***nutrition****, and promote sustainable* ***agriculture.***
3. *Ensure* ***healthy lives*** *and promote well-being for all at all ages.*
4. *Ensure inclusive and equitable, quality* ***education*** *and promote lifelong learning opportunities for all.*
5. *Achieve* ***gender equality*** *and empower all women and girls.*
6. *Ensure availability and sustainable management of* ***water*** *and* ***sanitation*** *for all.*
7. *Ensure access to affordable, reliable, sustainable and modern* ***energy*** *for all.*
8. *Promote sustained, inclusive and sustainable* ***economic growth****, full and productive* ***employment****, and decent* ***work*** *for all.*
9. *Build resilient* ***infrastructure,*** *promote inclusive and sustainable* ***industrialization****, and foster* ***innovation****.*
10. *Reduce* ***inequalities*** *within and among countries.*
11. *Make* ***cities*** *and human* ***settlements*** *inclusive, safe, resilient and sustainable.*
12. *Ensure sustainable* ***consumption*** *and* ***production*** *patterns.*
13. *Take urgent action to combat* ***climate change*** *and its impacts.*
14. *Conserve and sustainably use the* ***oceans, seas and marine resources*** *for sustainable development.*
15. *Protect, restore and promote sustainable use of* ***terrestrial ecosystems****, sustainably manage* ***forests****, combat* ***desertification****, and halt and reverse* ***land degradation****, and halt* ***biodiversity loss****.*
16. *Promote* ***peaceful and inclusive societies*** *for sustainable development, provide access to* ***justice*** *for all and build* ***effective, accountable and inclusive institutions*** *at all levels.*
17. *Strengthen the means of implementation and revitalize the global partnership for* ***sustainable development****.*

Clearly, sustainability is the common denominator in most goals. It is a fact that achievements in each area will always be made with a bottom-up approach and that the benefit of the entire global population is ensured, precisely, by the ability of the system’s stakeholders to maintain them over time, adapting them to the new realities and circumstances and correcting the mistakes inherent to all human and social constructs.

Building on these goals for the entire human race, the UN has also undertaken a number of initiatives to face the growing threats posed by global warming. The crowning point was the signing of the Paris Agreement in 2015, as part of the [United Nations Framework Convention on Climate Change](https://es.wikipedia.org/wiki/Convenci%C3%B3n_Marco_de_las_Naciones_Unidas_sobre_el_Cambio_Clim%C3%A1tico) (UNFCCC-1992), preceded by the Kyoto Protocol signed in Japan (1997). The Paris Agreement was signed by 195 countries. The withdrawal of the United States from the Agreement in 2017 had an impact in terms of both funding and technology transfer.

In Article 2, the Paris Agreement puts forward three concrete actions:

* 1. *Holding the increase in the global average temperature to well below 2ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5ºC above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;*
	2. *Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and*
	3. *Making finance flows consistent with a pathway towards low greenhouse emissions and climate-resilient development.*[[2]](#footnote-2)

Similarly, in Article 3, it posits that each country should contribute individually to the overall objective of the Agreement by means of Nationally Determined Contributions (NDCs).[[3]](#footnote-3)

Based on this ambitious UN initiative, some UN specialized agencies have carried out actions and debates in order to move towards the fulfilment of the SDGs in all areas. For the purpose of this paper, we will focus on the initiatives of the International Labour Organization (ILO) in the field of labour and social matters and those of the International Civil Aviation Organization (ICAO) in aviation-related issues.

As a tripartite body with representation of governments, employers' associations and workers’ organizations, the ILO has focused its efforts on a J*ust Transition towards environmentally sustainable economies and societies for all.* It did so at the instance of and after years of pressure from the trade union movement, building on the conclusions of the 102ndSession of the International Labour Conference (2013), which definitely adopted the Just Transition framework based on three central pillars: sustainable development, decent work and green jobs.

In line with the Sustainable Development Goals (SDGs) included in the UN 2030 Agenda, the ILO underlined the scope of SDG 8, which seeks to “promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all”.[[4]](#footnote-4) By putting both the planet and the people together at the centre of the debate, the ILO succeeded in promoting a broad, inclusive approach to establish a direct link between the world of production and work and the protection of the environment and biodiversity. According to the ILO, more than 600 million new jobs should be created in the world by 2030 in order to support the population growth and, at the same time, eradicate extreme poverty for a large part of humankind. This can only be achieved through decent work.[[5]](#footnote-5)

Based on these principles, four pillars of Decent Work were defined: *“The four pillars of the Decent Work Agenda—social dialogue, social protection, rights at work, and employment—are indispensable building blocks of sustainable development* and must be at the centre of policies for strong, sustainable and inclusive growth, and development”*.*[[6]](#footnote-6)

The *ILO Green Jobs Programme* promotes a strategy that recognizes the strong interdependence between the need to foster social development and the need to act urgently to address environmental challenges and risks. The aim is to boost the potential of green economies to create productive employment and reduce poverty, contributing to environmental preservation, social cohesion and economic development. This implies the greening of economies, workplaces, companies and labour markets in a low-carbon, sustainable economy that offers decent employment opportunities to all. According to the ILO, “Green jobs are decent jobs that contribute to the preservation or restoration of the environment, be they in traditional sectors such as manufacturing and construction, or in new, emerging green sectors, such as renewable energy and energy efficiency”.[[7]](#footnote-7)

**The Environmental Impact of Aviation: Is There a Solution? How Can It Be Solved?**

The International Civil Aviation Organization (ICAO), the main UN agency responsible for civil aviation, has picked up the UN guiding principles and recommendations, as well as the criticism expressed by various sectors to the aviation industry for its responsibility regarding climate change and global warming. On that basis, ICAO adopted a set of resolutions and undertook a number of studies with the aim of putting forward a greening programme for the aviation industry in line with the SDGs dealing with the environment.

It should be noted that the UN issued documents, such as the Kyoto Protocol*,* whereby, based on the *UN Framework Convention on Climate Change* (UNFCCC), it called upon the developed countries to work through ICAO to limit or reduce the greenhouse gas (GHG) emissions produced by fuel used in international air transport. It also published *Aviation and the Global Atmosphere*, a special report issued by the Intergovernmental Panel on Climate Change (IPCC), which, at ICAO’s request (1999), assessed the effects of aviation on the atmosphere, the climate, and the ozone layer and set out to conduct studies and produce information to reduce scientific uncertainty and make forecasts for those effects.[[8]](#footnote-8)

Likewise, in the last few years, there has been growing criticism regarding certain environmentally negative aspects of aviation raised by governmental and intergovernmental sectors, social organizations, and the mass media.

At the heart of ICAO, the International Coalition for Sustainable Aviation (ICSA)—a group of non-governmental environmentalist organizations that participate officially in ICAO—made a presentation in 2019 that had strong repercussions. They claimed that civil aviation had been responsible for 2.4% of fossil carbon dioxide (CO2) emissions in 2018 and 5% of global warming when considering non-CO2 combustion effects from aircraft in the upper atmosphere.[[9]](#footnote-9) Based on this diagnosis, the report indicated that the measures adopted by ICAO until then had been insufficient and that governments and the aviation industry should adopt the Enhanced Climate Mitigation Targets and Levers for International Aviation if they were to achieve a “zero climate impact” by 2050, that is, fuel efficiency measures, clean aviation technology, responsible management of aviation demand and sustainable alternative fuels.[[10]](#footnote-10)

With the release of these objective data, aviation as a whole was severely criticized, both for its impact on climate and for its huge growth driven by deregulation of air transport in comparison with other modes of transport. Aviation was accused of causing environmental damage through both aircraft and airport operations. This wave of criticism became especially intense in Europe.

With a focus on the European situation, the NGO Greenpeace argued that the aviation crisis caused by the COVID-19 pandemic was a timely opportunity for the industry not to return to the old “normal” but rather to think about a planned degrowth and be the starting point for a just and green transition in the transport sector by replacing airplanes, airports and cars with trains, ships, public transport, cycling infrastructure and intermodal transport. However, this reconversion would mean that thousands of jobs and trade unions in the sector would disappear, and high levels of investment would be required to retrain and relocate workers in supposedly new sectors. This proposal came hand in hand with criticism to the policy adopted by several European governments to provide significant bailouts to their national airlines and even to nationalize them.[[11]](#footnote-11) In Sweden, on the same grounds, the environmental activist Greta Thunberg started a movement called “Flygskam” (flight shame) that expanded across several European countries and actively promoted the use of trains instead of airplanes as a means of transport. Furthermore, Stay Grounded—an organization that has more than one hundred affiliated NGOs all over the world—criticized air transport in general saying that 90% of the world’s population have never set foot on a plane, so the climate impact of aviation should be attributed to a small well-off minority of frequent flyers. In 2019, they discussed a group of measures to reduce air travel and the resulting tourism activity, including less air travel in favour of other modes of transport, elimination of subsidies and tax exemptions to aviation, a frequent flyer air miles levy, limited short-haul flights, changes to the tourism policy and reduction of tourism, opposition to projects dealing with aviation biofuels, and opposition to the construction or expansion of airports, among others.[[12]](#footnote-12)

Along the same lines, there were some opinion pieces that pointed out that if the uncontrolled growth of air transport were to continue, it would double in 20 years, thus significantly increasing greenhouse gas emissions to the atmosphere. Consequently, the recommendation in Europe was to replace air travel with railway transport, which was 18 times less polluting according to the German Federal Environmental Agency (UBA). Additionally, more pressure should be exerted on the European Union, despite the opposition of the United States, China, and Russia, to apply this globally so that airlines would no longer be exempt from sales and fuel taxes and would be required to pay a climate tax.[[13]](#footnote-13)

European intergovernmental agencies opted for a less dramatic approach based on the coordination and cooperation of the various stakeholders to address the obvious environmental challenges and at the same time, ensure the long-term sustainability of aviation. The 2019 Environmental Report of European Aviation, drafted by three European bodies dealing with aviation and the environment, highlighted that the continuous growth experienced by the sector (before the COVID-19 pandemic) had brought about economic benefits and connectivity to Europe and had stimulated investment in new technologies. At the same time, however, it stated that the measures (technological, operational, airport, market) adopted to mitigate the environmental impact failed to keep up with the marked growth in air transport demand, leading to an increased impact, particularly in terms of noise and CO2 emissions. The report underscored that in addition to environmental damage, aircraft noise caused health problems to communities (ischemic heart disease, sleep disorders, rashes, and cognitive impairment), and it considered that the pollutants produced by aviation operations (e.g., ultrafine particles) affected air quality and health.[[14]](#footnote-14)

In light of such critical comments, the sectors that make up the complex network of air transport reacted and stood up for the industry from different perspectives.

Airlines and service providers tried to play for time, most of them embarking on a fierce competition to win market share in the aviation market and cutting down costs to maximize profits and survive in a context of strong economic concentration in the hands of the most powerful players. They did so in an attempt to sustain their business models, deepen the trend towards full deregulation of the sector, including labour flexibilization, and delay the huge investment required to renew fleets and equipment.

 The International Air Transport Association (IATA)—a business organization that brings together the largest airlines in the world—highlighted the sector’s satisfaction with the agreement reached within ICAO to implement a Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) as part of the aviation industry’s overall approach to mitigate its impact on climate change. In light of the criticism received from other sectors, IATA Director General Alexandre de Juniac noted that CORSIA was the proper forum within ICAO to promote market‑based measures applicable to CO2 emissions of international aviation and that it was the only global economic measure suitable to achieve neutral carbon growth while generating 40 billion dollars in finance for climate projects and offsetting around 2.5 billion tonnes of CO2 between 2021 and 2035. CORSIA is a highly ambitious programme, difficult to put into practice but practical for business objectives. As IATA’s CEO said, *“*Our goal is to keep the world flying sustainably and with pride”.[[15]](#footnote-15)

At the same time, IATA took a stance for a deep industrial restructuring towards green aircraft and technologies as aviation’s major contribution and highlighted the projects to introduce electrical or hybrid planes built with composite materials that could be in operation between 2035 and 2050. According to the business association, *“*This will involve radically new aircraft and propeller system designs. The race to launch the first green aircraft has begun”.[[16]](#footnote-16)

 Trade unions, in contrast, came out in defence of the present and future jobs of aviation workers that are threatened, on the one hand, by the foreseeable reconversion of the industry—as it seeks to comply with the Paris Agreement objectives and the UN SDGs—and, on the other hand, fundamentally by the employers' systematic strategy of making workers bear the brunt of the crisis caused by neoliberal ideologies in the field of business and civil aviation. Given the technical complexity of the industrial transformation required for aviation to meet the environmental mitigation goals and the lack of data on the impact that it could have on thousands of aviation jobs, trade unions focused their attention on prioritizing the close link between climate sustainability and social sustainability, as if they were two sides of the same coin, in line with the ILO’s objectives.

To this end, trade unions adopted the criteria formulated by large global union federations to promote the ILO’s objectives for a Just Transition towards environmentally sustainable economies and societies—objectives that the trade union movement itself had taken to the centre of the ILO and the UN to seek their adoption and legitimization. The International Trade Union Confederation (ITUC) published a document that promoted a Just Transition “to create a world where jobs are green and decent, human and labour rights are respected, greenhouse gas emissions are at net zero, poverty is eradicated, and communities are thriving and resilient...(...)...A Just Transition secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy. It is based on social dialogue between workers and their unions, employers, government and communities. A plan for Just Transition provides and guarantees better and decent jobs, social protection, more training opportunities, and greater job security for all workers affected by global warming and climate change policies”*.*[[17]](#footnote-17)

For the International Workers Federation (ITF), which represents transport unions from all over the world, reducing transport emissions requires adopting a “whole economy” approach, which considers the impact of transport on the environment as a notion that cannot be detached from the question on how transport is controlled and organized in today’s world: “Reducing transport emissions will only be part of a successful energy transition if emissions in other key sectors—power generation, industry, buildings, food production, agriculture and others—are reduced”.[[18]](#footnote-18) Given the growing incidence of transport in GHG emissions, the ITF promoted discussions and studies to organize the involvement of trade unions in a new paradigm for truly sustainable transport, with good jobs and guaranteed adequate passenger service. As a result of the ITF Climate Change Conference (Mexico, 2010), the ITF published the document entitled *Transport Workers and Climate Change: Towards Sustainable Low-carbon Mobility*, which laid the foundations for future work and introduced the *RSI (Reduce-Shift-Improve)* framework as a contribution to dealing with the increase of GHG in the sector. The model under discussion proposed to *reduce* unnecessary travel, *shift* modes of transport, and *improve* energy and fuel efficiency in each mode.[[19]](#footnote-19)

For the trade union sector, one of the most controversial issues, given its future consequences for jobs and the aviation industry in general, was the ascertainment of the direct relationship between the cheap flight boom—especially through the emergence of low-cost carriers—and the increase in harmful emissions to the environment. The ITF has been discussing this relationship since 2010: *“*The ITF is keenly aware that for almost thirty years, multinational corporations and political leaders have embraced policies and practices that have led to accelerated levels of emissions in all sectors with emissions from transport leading the upward charge. Cheap transport is the blood that runs through the veins of the liberalized global economy. It has been achieved in part by removing government regulations on transport, by lowering the pay and conditions of transport workers, and by subsidizing fuel costs. The environmental and social price of cheap transportation is then paid by workers and communities in the form of lower wages, precarious work, long hours, poor health, as well as noise, pollution, and now climate change”.[[20]](#footnote-20)

The official aviation regulatory bodies at international and national levels reacted according to the respective aviation policy ideas of those in government positions and the various interests at stake. In line with IATA’s position, the Air Transport Action Group (ATAG) expressed its views in a working document submitted to ICAO. The document, which gives priority to the above-mentioned CORSIA, was drafted by Airports Council International (ACI), the Civil Air Navigation Services Organization (CANSO), the International Business Aviation Council (IBAC), and the International Coordinating Council of Aerospace Industries Associations (ICCAIA), along with IATA itself. One of the key points of consensus, and in some cases of dispute, was precisely the level of support for CORSIA, the ICAO programme approved in 2016 by 192 countries under which airlines would have to buy carbon emission offsets from other sectors to balance any increase in their own emissions. From a very optimistic viewpoint, before the COVID-19 pandemic, all forecasts pointed to remarkable, continuous growth of the business until the number of passengers would double by 2037, reaching a total of 8.2 billion passengers. This would increase CO2 emissions, as the goal to reduce emissions by 1 or 2% a year could not make up for the 5% expected growth in air traffic, and the end result by 2050—even in a scenario of higher technological efficiency—would be a 2.4 to 3.6 times increase. In other words, there would be an increase of emissions in excess of 300% without accounting for any other type of emissions with a strong impact on global warming, such as nitrogen oxides (NOx) and soot.[[21]](#footnote-21)

Faced with the expected bombardment of external criticism of air transport, it is understandable, though not justifiable, that several aviation stakeholders would try to close ranks in defence of CORSIA, a programme that was challenged from other sectors but as we have seen, was functional to the business strategy. However, there were more reasons for controversy within ICAO coming from various governments, which in turn stood up for different—sometimes opposite—interests. Firstly, emissions from domestic flights (35% of the total) were not regulated by ICAO but rather through the Nationally Determined Contributions (NDCs) agreed on under the Paris Agreement. Therefore, ICAO only regulated international traffic (65% of the total). This did not encompass most international private aircraft that do not exceed a certain emission level. Important countries like China, India, and Brazil did not adhere to the first phase of the plan for different reasons, ranging from disagreement with the type of offsets that their airlines had to buy to the defence of their right to self-determination in the application of offsetting criteria. Other developing and poorer countries did not show much interest in adhering to these commitments either. The definition of “clean fuel” was another contentious issue. At last, the definition proposed by Saudi Arabia and supported by the United States was adopted: a clean fuel would be any fuel that reduces the emissions produced by regular aviation fuel by at least 10%. Several European countries that had committed to the CORSIA objectives reacted by stating that their mandatory nature should be accepted by all ICAO members, even the seven countries that threatened to leave the agreement if environmental standards continued to be undermined. In our case, Argentina voluntarily endorsed the CORSIA, and the National Civil Aviation Administration (ANAC, in Spanish) adopted the carbon emission monitoring scheme in international aviation for aircraft registered under the national LV license.

**Defence of Air Transport and the Need to Restructure Its Role**

At this point, it is advisable to put the environmental impact of air transport into fair perspective against other human activities which make a decisive contribution to the greenhouse effect and that have a consequent negative impact on climate and biodiversity on our planet.

Firstly, as mentioned above, current studies by ICAO confirm that aviation generates around 2.4% of fossil CO2 emissions and 5% of total global warming in the upper atmosphere. The effects of this impact are felt both in the atmosphere and throughout the planet, particularly in those areas close to the thousands of airports in the world (42,000 according to some studies, including aerodromes and airfields). Until the outbreak of the COVID-19 pandemic, these percentages were expected to increase, both as a result of the boom of low-cost flights carrying billions of passengers at the expense of other modes of transport and of the inability of the aviation industry to simultaneously comply with the environmental impact mitigation commitments. IATA’s optimistic forecasts before the pandemic predicted a total of 4.72 billion passengers for 2020 and a fourfold increase by 2050, coupled with emissions falling to one-third of current figures.[[22]](#footnote-22) These indicators were certainly concerning, but until 2015, they accounted for only 2.4% of global greenhouse gas emissions, compared to 35% produced by the energy sector, almost 10% by motor transport, 21% by industry, 6.4% by buildings, and 24% by agriculture, forestry, and other land use.[[23]](#footnote-23) That is, even if aviation were to disappear, the world would still be left with 95-97.6% of greenhouse gas emissions.

Air transport and the aviation and aerospace industry are undoubtedly not only drivers of development, integration, and connectivity among peoples and regions but also the mode of transport of the future, both internationally and for countries with large territories, like Argentina, whose surface area equals Western and Southern Europe combined. A global future without aviation transporting people and cargo is neither realistic nor imaginable. Just like in many other human activities, we will probably have to become content with consistent though partial advances in the area of environmental and social sustainability.

It is also fair to add to the equation the huge contribution of air transport, as a global reach activity, to the SDGs dealing with integration, connectivity and contribution to the creation of wealth and millions of direct and indirect jobs both globally and within each country. Additionally, as it has become evident in these tough times of the pandemic, it plays a key role as a public service to provide aid in emergencies and disasters, transport essential supplies, transport people affected by an emergency and reach the most remote destinations. By strongly promoting tourism and trade, air transport is a driver for economic growth, improvement in the standard of living of many communities, reduction of poverty, and increasingly flowing relations among peoples and countries.

According to the latest global figures from the multisectoral group ATAG (2018), prior to the outbreak of the COVID-19 pandemic, the aviation sector, including the industry, carried every year: a) 4.4 billion passengers (57% of tourists worldwide) in 41.9 million scheduled flights for a value of 2.7 billion dollars and b) 61.9 million tonnes of air cargo for a value of 6.8 billion dollars (35% of global trade). As a whole, it accounted for 3.6% of global economic activity (equivalent to Argentina’s GDP) and together with tourism generated 65.5 million direct and indirect jobs. In Latin America and the Caribbean, with 8% of global air traffic, aviation generated 2.7% of the regional gross domestic product (GDP), equivalent to 156 billion dollars, supporting 7.2 million direct and indirect jobs. In Argentina, aviation accounted for 2.1% of GDP (12 billion dollars) and employed 329,000 people, while tourism accounted for 10% of GDP (51.2 billion dollars) and employed 500,000 people.[[24]](#footnote-24)

With respect to our own field of work, out of the total 65.5 million jobs created, the proportion of direct aviation jobs globally, based on the occupation sector, was the following: a) Airlines: 2.7 million; b) Airports-direct: 525,000; c) Airports-indirect: 5.6 million; d) Civil aerospace industry: 1.2 million; and e) Air Navigation Services: 233,000. Furthermore, an additional 10.8 million indirect jobs of goods and service providers were created along the aviation supply chain, with 7.8 million related to industrial activity and 36.7 million related to tourism. In Latin America, these figures were: 813,800 direct aviation jobs; 1 million induced jobs; 1.8 million indirect jobs and; 3.6 million tourism-related jobs.[[25]](#footnote-25) This is an important contribution, both globally and in Latin America, to the Sustainable Development Goal (SDG) aimed at full and productive employment and decent work in the areas of industry and services, with high and increasing levels of vocational training and education.

However, savage capitalism in air transport does not contribute to the industry’s economic, labour or environmental sustainability. The spectacular data on recent levels of activity, the explosive growth and the optimistic forecast by many stakeholders should not lead us to wrong assumptions or conclusions. Civil and commercial aviation has grown, based on the neoliberal concept, at the expense of its own and the environment’s sustainability. The gradual imposition of the laws of the market on an activity historically regulated and protected by national governments has rendered many losers and a few winners, resulting in a huge economic concentration of transnational groups for whom borders and each country’s economic, aviation and labour regulations are obstacles to be overcome and removed.

The shift from the *flag carrier doctrine* to the *open skies doctrine* and air transport deregulation in many countries has directly led to the disappearance of their national airlines and their own air transport policy, together with the underlying national interests and the local jobs that sustained it. In many other countries, it has been the cause for hundreds of national state-owned and private companies being lost to mergers among powerful transnational groups. In all cases, the consequences for workers have been the casualization of work and the constant advancement of corporate interests over wage and working conditions of millions of aviation workers. Only in those countries with strong unions and protective labour and union legislation has it been possible to resist this systematic attack on labour rights and defensively mitigate its worst effects. Under the laws of the market, technological advances, different kinds of crises in the aviation sector, changes in the theory of economic organization and international aviation regulations have been systematically used as instruments to favour this overall process. As a result, air transport has been deviating from the concept of a *Just Transition* towards a sustained, inclusive and sustainable growth, full and productive employment for all, as promoted by the UN and the ILO. In the field of labour, the imposition of neoliberalism went exactly against the ILO’s four pillars of decent work: social dialogue, social protection, rights at work and employment.

Thus, the undeniable growth observed in air transport in the past few years has contained the root causes of its recurrent and growing crises for decades. In fact, the US Airline Deregulation Act of 1978 marked the end of a remarkable period and the transition to a completely different era.

The civil and commercial air transport that emerged at the end of World War II had managed to rebuild an industry destroyed by the conflicts of war and turn aviation into an increasingly massive mode of transport. Along the endless confrontation between those that considered it a strategic driver of sovereignty, integration and development that should be strongly regulated with a decisive presence of national governments—the concept known as the *flag carrier doctrine—*and those that saw it essentially as a fundamentally economic business—the *open skies* doctrine—, the former doctrine prevailed for over three decades (1944-1978). During that period, air transport experienced an incredible growth, characterized by the formation of strong connections of national interests around flag carriers, most of them of state or mixed ownership in Europe, Latin America, Asia, Africa and Oceania, though many of them were also private and designated by their governments as flag carriers (the United States, Brazil, the Netherlands, Colombia, Venezuela). The principles of reciprocity among nations resulted in a large network of bilateral and multilateral agreements whereby each country tried to own not only its airspace and its territorial integration and development objectives but also its commercial aviation market, regardless of the form of ownership and management (state, mixed or private) of its designated companies.[[26]](#footnote-26)

The expansion of aviation deregulation from the United States—where there were no state‑owned airlines—to the rest of the world imposed the ideas and policies of economic openness and state withdrawal from the ownership of flag carriers and the more stringent standards that regulated the industry. At that point, and with the support of governments with similar ideologies, the process of deregulation-globalization-concentration became unstoppable, and the neoliberal concepts became more widely and firmly applied with the main purpose of reducing all costs as much as possible to maximize corporate profits. In this type of competition, only the most “efficient”, according to the market logic, or the most powerful, following a more realistic approach, could survive. Hundreds of airlines, even in the United States, disappeared along the way together with most of the state-owned airlines and thousands of private companies throughout the world, giving way to the emergence of today’s mega-airlines with the business being increasingly concentrated in the hands of a few. Aircraft and spare part factories, repair shops, and national aviation provider companies also disappeared.

The intrinsic logic of this stage of capitalism in aviation should lead to the predominance of low-cost carriers with global objectives over those that were still operating under the aviation regulations accumulated for decades. The boom of low-cost companies—and policies—was accompanied by deep and structural changes. One of them was the attempt to bring customers/consumers on their side with the strategy of putting customers and their needs above any other consideration and attracting them with lower prices and a larger offer of destinations and services through a substantial reduction of their internal costs, the operation of cheaper alternative airports and the (alleged) imposition of charges only for those services that the customer was going to use. What that customer saw was unprecedented (and absurdly) low fares, incredible offers and the possibility of flying for the first time, of visiting unimaginable places. For the economic and political sectors that benefitted from this, the scenario could not be better or more promising. The Argentine administration during 2015-2019 announced the arrival of this business model with the flamboyant and misleading titles of the *Aviation Revolution* and the *Democratization of Air Travel*. IATA’s reports reflected that enthusiasm: By 2018, low-cost carriers had exceeded traditional airlines in movement of passengers and already had a share of 29% of global seats, in line with their specialization in short-haul flights. IATA underlined two facts as being positive: the fact that air fares had fallen by half in real terms over the past two decades and that a growing number of their member airlines (52 over 290) defined themselves as low-cost carriers (LCCs).[[27]](#footnote-27) Traditional airlines—private, mixed or state-owned—could not resist that cost reduction offensive action and started applying their own low-cost commercial policies with their passengers or even created their own LCCs.

These appearances and promising forecasts concealed a very different and concerning reality in terms of economic sustainability and credibility for this business model in the medium and long term, and as mentioned above, it is absolutely contrary to the SDGs in social and labour terms. The structural change imposed by the low-cost model brought about several negative consequences in the operational, commercial, political, labour and environmental areas:

* 1. Lower investment in aviation safety and higher risk of accidents. The cost reduction translated into less workforce training; lower aircraft and equipment maintenance; minimum fuelling and reduced turnaround time (insufficient time for aircraft maintenance and cleaning).
	2. Hidden costs for passengers: very few seats per plane at a low cost; separate charges for meals, seats, checked luggage, boarding passes and headsets; uncomfortable seats; operation in remote slots on the runways, etc.
	3. Demands on local governments to operate: subsidies for the operation in certain destinations; tax exemptions; elimination of fare regulation; public investment in airports and equipment.
	4. Casualization and maximum flexibilization of working conditions: replacement or elimination of thousands of jobs due to the introduction of web self-service and other technological advances with no workers’ retraining or relocation; multiple forms of precarious hiring and subcontracting; lower wages.
	5. Dumping caused by the removal of price floors on air tickets and price deregulation, leading to the creation of market monopolies: market saturation through oversupply and fares falling below costs in profitable markets; elimination of competition and subsequent monopolistic fare management.
	6. Irrational competition with other modes of transport: setting lower fares than in road, railway, maritime and river transport.
	7. Elimination of travel agencies as intermediaries between airlines and customers: Following the reduction of the traditional commissions on ticket sales to the minimum, they were replaced by the companies’ sales and dispatch structure through their own IT networks.
	8. Elimination of roles at airports and headquarters: fully impersonal service over the Internet through their IT network.
	9. Environmental impact due to uncontrolled growth: Although it cannot be stated that the low-cost model is directly responsible for the environmental impact of aviation, it is responsible for the open competition and free market model that pushes air transport to an unplanned explosive growth that is not coordinated or agreed upon with the other social stakeholders both at global and national levels. This certainly has an environmental impact.

**Air Transport in a Post-pandemic World: at a Crossroads**

The sudden and violent outbreak of a virus that has so far spread to affect millions, kill hundreds of thousands and confine billions of people to their homes worldwide in social isolation has challenged most of the principles that have governed air transport in the past four decades. As in many other areas of human activity, certain aspects that had been underestimated or neglected have gained a new value, and others that were a priority or naturally accepted are now being brought into question.

A few queries have arisen. Firstly, what forward or backward steps will the world take to give new value to the construction of societies under some form of Welfare State? Or, on the contrary, will the most savage features of neoliberal capitalism be strengthened? Secondly, will the resolution of this decisive dilemma lead to the creation of a new set of regulations among and within states that prioritize the policies to achieve the UN SDGs? And thirdly, will the imposition of strong anti-monopoly and democratizing regulations drive the recovery of national capabilities in face of the economic globalization process through the Nationally Determined Contributions (NDCs) under the Paris Agreement?

From our perspective, in order to move towards the goals of a Just Transition towards environmental, economic and social sustainability, air transport should be restructured under another paradigm. This activity is too important and complex to leave it to the market with its rules and beneficiaries. The logic of fierce competition, turned into a zero-sum game where a small and powerful group displaces a myriad of individually weaker economic, state and social players, has a negative effect both on commercial and civil aviation as a whole and on the environment. Re-regulation should serve both to recover the strategic role of air transport at a national level as a public service and a factor driving sovereignty, integration, and development and to help the economic activity of aviation to develop in a more rational and healthier manner and genuinely contribute to each country’s sustainable development.

Furthermore, given the need for a strong global consensus to face the environmental, economic and social sustainability challenges, which are currently aggravated by a deep health care crisis, air transport cannot be conceived as an activity isolated from the rest and capable of being self-regulated without interacting with the others. It is obvious that the general context has posed obstacles and restrictions on our sector that were unimaginable until recently, when the prevailing optimism allowed ATAG to forecast that by 2050, the carbon footprint produced by aviation would fall to 2005 levels, while demand would grow by 4.3% per year, doubling in less than 20 years to reach 7.7 billion passengers which would contribute, together with tourism, to generating 5.7 billion dollars in revenues and almost 98 million jobs. For ATAG, the obstacle and the uncertainty of the future lay in the possibility of unexpected political and economic events that would bring back a scenario of protectionism and fragmentation of the global commercial aviation market, in which case those provisions would fall by up to 27%.[[28]](#footnote-28)

In Argentina, until 2019, transport authorities shared this optimistic approach for aviation under a purely neoliberal program—the already mentioned *Aviation Revolution.* The National Transport Plan projected a significant increase in passenger traffic by 2019, and as a result, the unavoidable increase in emissions could only be mitigated partially through the optimization of the system’s operation: “The National Transport Plan is intended to double the number of people travelling by airplane and strengthen air transport in Argentina by the end of 2019. Given that this is a very significant leap in the intensification of air traffic and increase in fuel consumption, the related mitigation actions focus on optimizing the system’s operation in such a way that the consumption of aviation fuel and the consequent GHG emissions meet significantly higher efficiency standards. The mitigation actions provided for to achieve such efficiency improvement include several components that may be grouped as follows: introduction of aircraft with higher efficiency standards, improvements in fuel consumption efficiency, improvements in air traffic and modernization of the airport infrastructure”*.*[[29]](#footnote-29)

The collapse produced by the COVID-19 pandemic buried all those predictions and forced the industry to face the possibility of a completely different paradigm.

The initial reactions did not take long to appear, and they were as disparate as the players and stakeholders involved, replicating the debate at all levels, with those favouring re‑regulation in the interest of sustainable development being pitted against those promoting the deepening of neoliberalism in the form of economic concentration and fierce competition. Based on a diagnosis shared by most that this would probably be the most serious and profound crisis in the history of aviation, each air transport sector reacted differently based on its priority interests: how to deal with the crisis in the short term; how to plan for potential future operations in a scenario of uncertainty and how to be prepared for a probably significantly different long-term. These were fundamental questions that inevitably led to other more operational questions: where to obtain the economic and financial resources to sustain an industry that was generating almost no revenues; where to channel those potential resources and direct investments; what role should federal governments and their finances play; what sector should bear the weight of the necessarily hard decisions that had to be made.

For the corporate sector represented by IATA, the almost immediate response was to make the companies’ own staff and customers bear the brunt of the crisis. In the first case, this was done through layoffs, furloughs and mass wage reductions. In the second case, they had to retain the revenues from ticket sales and offer passengers the possibility of using those tickets in future flights.

In this context of total uncertainty, with millions in losses that have gradually drained the earnings from previous years, with the prospects of a very slow recovery of the activity—particularly in the passenger sector—and the possibility of going bankrupt and eventually ceasing operations, most airlines implemented mass redundancy and furlough strategies and simultaneously asked governments for help. The differences among them had to do with the extent to which those strategies had been negotiated (or not) with governments and unions.

Let us see some representative examples of the various measures adopted by each country, although we know for sure that most of them will be insufficient if the health care emergency is extended. Until August 2020, in the United States, American Airlines, United, Delta and Southwest had got rid of over 100,000 people (of a total of 340,000) through early retirement packages and unpaid leaves, and the Boeing factory had laid off 12,000 workers with plans to reach 16,000. The government offered a USD 50 billion collective bailout to support the airlines on the condition that they would have to keep 90% of their staff, and once the state of emergency was over, they would have to reinstate 90% of the staff they had at the beginning of the pandemic. The employees were supposed to maintain their full salaries. These objectives have been hard to achieve since United has announced 36,000 additional layoffs since October 2020, and the other companies have made similar announcements for the end of the bailout period (September 2020) imposed by the government. The most successful airlines in the Middle East have announced mass redundancies (Emirates: [30,000 employees out of a total of](https://cincodias.elpais.com/cincodias/2020/05/17/companias/1589750902_596859.html) 105,000; Qatar Airways: 9,000 out of 46,000). In South Africa, the government has announced that its state-owned company, South African Airways, has filed for bankruptcy. In Latin America, Aeroméxico and the transnational holding groups Latam and Avianca have filed for bankruptcy under Chapter 11 in the United States to restructure their debts, while they have been requesting economic assistance from several governments and announced mass layoffs and ceased operations (Lan Argentina, a subsidiary of Latam) or offered voluntary retirement programs and abandoned some operations (Avianca – Avian in Argentina). In our country, the state-owned carrier Aerolíneas Argentinas-Austral opted for furloughs agreed on with the unions and the government, and during the initial months of the crisis, they temporarily maintained the real income of the staff, while other national airlines—except for Lan Argentina that decided to leave the country—also held tripartite negotiations to find some partial solutions. In Europe, under the umbrella of the European Union, several governments launched state aid packages worth millions (in some cases, direct assistance and in others, as collateral for loans from private entities) to support their main airlines, generally those that used to be designated as flag carriers. Those subsidies did not reach European low-cost carriers, except in the case of Norwegian, where the government of Norway approved a package in exchange for 17% of the airline’s shares while announcing the layoff of 7,000 employees. Germany allocated 9 billion euros to Lufthansa, the owner of a holding of companies from Switzerland (Swiss), Austria (Austrian) and Belgium (Air Brussels), which also received assistance from those governments. In exchange, the German government became the controlling shareholder of Lufthansa (around 20% of the shares) and announced the layoff of up to 22,000 of the 138,000 workers of the group. Italy allocated 3 billion euros, including funds already allocated and funds to be allocated, to renationalize Alitalia and negotiate with the unions a special scheme for sustaining jobs and paying a percentage of the wages. Portugal injected 1.2 billion euros to fully renationalize TAP. The French government approved a 7-billion-euro package to aid the binational group Air France-KLM and its controlled companies, where the national governments already have a stake. This happened while the Dutch Parliament was discussing an additional government aid package, and at the same time, the company announced the mass cut of up to 10,000 jobs through “voluntary” and early retirements despite criticism from the unions.

In France, the aid to Air France was decided by the Executive Branch as part of a pool of measures that included environmental commitments and agreements with other modes of transport. In fact, the announcement included Air France’s commitment to reduce CO2 emissions by 50% by 2024 in its domestic operations in France compared to 2019 and to ban short-haul flights in the future, both for Air France and its controlled companies and for low-cost carriers, in those routes already served by railway for trips of less than 2.5 hours. Shortly after that, the Austrian government (supported by the management of Lufthansa, the owner of Austrian Airlines) decided to limit domestic flights of less than 350 kilometres by establishing minimum air fares for all the territory and imposing taxes on the companies that operated them. As in the French case, this had a dual objective of limiting CO2 emissions and favouring the use of trains.

During the first few months, governments and unions in general adopted reactive and defensive measures forced by the brutal health care crisis and the decisions made by the corporate sector, while there was a growing need for a profound debate on a new paradigm for air transport, both in the services and in the manufacturing sector.

**Towards a New Paradigm for Air Transport after the COVID-19 Pandemic**

Building a ground-breaking paradigm requires shifting from a reactive mode to a proactive planning mode with the greatest possible level of consensus between governments and stakeholders. Coordinating actions to bring *Just Transition* objectives forward is not easy and requires constructive *Social Dialogue* and the involvement of a regulatory authority known and respected by all. The restructuring process based on a complete fleet renewal to use clean energy in each airline, small carrier, factory and aircraft repair shop will require a major discussion to identify potential winners and losers, those that will benefit from the so-needed investment and those that will take on the heaviest burden. While in some countries the crisis has strengthened the position of those who advocate for a greater role of the state as an administrator and regulator of last resort—and even as a strong economic agent in some cases—, in others, there still prevails the notion of air transport as an eminently economic activity that has to follow market rules. The recent change of administration in Argentina has clearly brought to light these two opposite views.

In the next few paragraphs, we will try to summarize from our own perspective some of the thoughts and proposals that have been raised in the discussions about this new paradigm.

Transport in all its modes is the physical communication channel for people and goods and is part of each country’s basic infrastructure. At the same time, it is an economic activity with state and private players, a public service, a major industry, and a key factor driving sovereignty, integration, and development of regions and countries. It has had and still has a crucial role in nations’ development, both directly and in conjunction with foreign trade, tourism, the development of clusters around terminals, and the space industry, among others. On the downside, it is also an important contributor to negative environmental impact, both directly and through an extremely high consumption of different forms of energy. Thus, the plans for the post-pandemic era should include transport, in an indivisible and coordinated fashion, in a system-based approach where the policies adopted for one of its parts will have an impact on the rest.

Within this framework, air transport should rebuild itself as part of this complex system. The interaction among the postulates of international organizations such as the UN, the ILO and ICAO, in coordination with other global bodies should have its match at the national level with the creation of a body that could arbitrarily be called the “National Council for the Development of a Just Transition Plan”, with representation of all sector stakeholders, to work in coordination with the bodies and representative entities of the other sectors dealing with environmental matters and sustainable social and economic development.

The new paradigm for air transport should consider including transport in a National Transport Plan in each interested country to prevent fierce competition among modes of transport and favour complementary and multimodal transport, reserving for air transport the most convenient and competitive routes for long- and medium-haul travel or specific short-distance routes that cannot be covered by other modes (because of uneven topography, island territories, etc.). In turn, the SDGs could only be achieved, as stated earlier, within a much broader social and institutional framework, such as the above-mentioned National Council for the Development of a Just Transition Plan. Following the above-mentioned international recommendations, this kind of national council should be quadripartite, including governments, employers, trade unions and civil society organizations in order to ensure the effective participation of each sector in decision-making.

In Argentina, the *National Transport and Climate Change Action Plan*—drafted by the National Bureau of Climate Change under the umbrella of the National Ministry of the Environment and Sustainable Development together with the Ministry of Transport—is an important initiative in this direction which should include all aviation stakeholders. The plan seeks to precisely help the transport sector contribute to the reduction of emissions and has the support of the United Nations Development Programme (UNDP) as well as the consensus of the ministries that make up the National Climate Change Cabinet Council (GNCC, in Spanish). [[30]](#footnote-30)

In this context, the organization of the aviation sector within the framework of the Ministry of Transport should involve: a) government bodies, including the National Civil Aviation Administration (ANAC, in Spanish), the Regulatory Body of the National Airports System (ORSNA, in Spanish), the Argentine Air Navigation Company (EANA, in Spanish), the National Air Transport Bureau (DNTA, in Spanish) and the Transport Safety Board (JST, in Spanish); b) state-owned airlines and public concessionaires: Aerolíneas Argentinas-Austral, Intercargo, Fábrica Argentina de Aviones «Brigadier San Martín» (FAdeA), Aeropuertos Argentina 2000 – Terminal de Cargas Argentina (TCA) and Líneas Aéreas del Estado (LADE); c) the representatives of airlines affiliated with IATA and the Argentine Airlines Association (JURCA, in Spanish); d) aviation trade unions with legal trade union status; e) companies that provide services to aviation and airports, general aviation companies, repair and spare parts shops (aircraft maintenance shops) and flight schools and; f) government bodies with functions related to air transport: Airport Security Police (PSA, in Spanish), **National Migrations Bureau** (DNM, in Spanish), General Customs Office (DGA, in Spanish), Airport Health Department, and Rescue and Fire Fighting Service, among others.

In most cases, it can be assumed that the different civil and commercial aviation sectors should accept with varying degrees of enthusiasm (or at least should not oppose) ICAO’s proposal that holds that the aviation industry should adjust its short-term actions and develop a long-term aviation decarbonization strategy in order to meet the Paris Agreement objectives of limiting global temperature to 1.5º above pre-industrial levels. This would imply a giant industrial transformation, especially in the field of fuels, and a high level of resilience of all local players in the face of changes imposed by a few manufacturers based in a small number of countries with an interest in the aviation and aerospace industry. At the local level, it would be necessary to have a retraining, reskilling and relocation policy for technical workers, as the rest of aviation workers will be less impacted by technological changes applied to environmental mitigation. In contrast, the impact on all these workers would be much greater if these technological changes were to take place together with structural changes derived from the increasing replacement of human labour by aviation employers.

Other areas of probable consensus—in this case imposed by the tough reality—would be the proposals to assign absolute priority to air safety and health as essential conditions for aviation operations, leaving aside the previous prevailing concepts of seeking profit through cost reduction. As we have seen, such cost reduction strategies precisely affected safety, staff training, and both passenger and worker health protection.

Most of the tensions with regard to *Social Dialogue* should appear when discussing the post-pandemic paradigm of an industry where, according to IATA, airlines are set to lose 84 billion dollars globally in 2020 and a yet unknown although not much lower figure in 2021.The industry will only be capable of going back to pre-pandemic passenger traffic levels in 2023-2024 if the global GDP evolves at the same pace and without any other catastrophic disruption.[[31]](#footnote-31) By then, we should expect a large number of bankrupt companies and thousands of new redundancies.

Only the determined action of governments in favour of an effective *Social Dialogue* involving the most affected parties in the decision-making process could alleviate the worst effects of the current crisis and outline the main features of the process to come out of it. If we are to achieve a *Just Transition towards a sustainable environment, economy and society for all*, as described by the ILO, *Social Dialogue* should benefit not only the planet and biodiversity but also, in this concrete case, all sectors and, in particular, aviation workers, their families and their communities so that no one would be left behind in the process. As indicated earlier, this concept encompasses all technological and organizational changes that factories and companies in the sector should surely undertake, i.e., those that are directly involved in reducing greenhouse gas emissions and those that tend to replace human labour with robots, drones, information technology and artificial intelligence.

**A Just Transition Proposal for Domestic Aviation**

At the national level, these are the main points to build consensus on:

* 1. Full, effective recovery of the national capability to regulate, plan and manage the national aviation policy within the framework of ICAO’s international standards. This capability includes the state’s sovereign decision to have its own airlines, companies and factories; to enter into bilateral and multilateral agreements based on national interest and reciprocity between and among states; to guarantee that the commercial aviation market created by our country contributes to its national interest and development, and to regulate the activities of public and private companies.
	2. Consensus on the role of and the need for test cases of fully or partially state-owned enterprises such as Aerolíneas Argentinas, Intercargo, Fadea and Lade, putting an end to policies that seek to eliminate them, privatize them or assign them an exclusive promotion role.
	3. Consensus on the need to agree on a tariff structure that will enable all companies in the sector to be economically sustainable, putting an end to deregulation that only enables the survival of companies with dumping capacity.
	4. Adoption by national authorities of ICAO’s environmental proposals from a sovereign and critical perspective. Discussion on the feasibility of the Enhanced Climate Mitigation Targets and Levers for International Aviation proposed by the ICSA group within ICAO, including: 1) targets that have gas emissions that do not exceed 2020 levels in 2035 and are reduced at least 50% from 2005 levels by 2050; 2) policies and measures that activate Core Mitigation levers for Aviation and bring about fleetwide fuel efficiency improvements of 2.5% a year from 2020 to 2050; 3) use of certified sustainable alternative fuels that deliver substantial emissions reductions and 4) demand management to ensure that fuel efficiency and sustainable alternative fuels are delivering the necessary emissions reductions towards meeting the set targets.
	5. All aviation activities and the aviation industry as a whole should incorporate the SDGs in their internal climate change strategy and foster consistent policies. Airports should adopt ICAO’s proposal to electronically collect practical information to become *green airports*, encompassing the use of renewable energy, waste management and environmental management systems, and green design of airport facilities.
	6. The shift to green jobs and the creation of new jobs in each part of this industry and service should include retraining and relocation of workers, job security, respect for labour rights, promotion of a gender perspective and rejection of all forms of discrimination, adequate social and health protection, and fair compensation for retired workers. Bargaining collectively with unions and full trade union participation in Social Dialogue should be a crucial aspect of this process.
	7. There should be a consensus-based planned introduction of new technologies (robots, drones, information technology and artificial intelligence, among others) and business organization models that contribute to the overall strategy of promoting national aviation employment and development.
	8. The public and private financing that is essentially required to carry out such an industrial change and the retraining of workers should be allocated to the promotion of visible and tangible Just Transition measures in all spheres of aviation.
	9. The integration of the Argentine aviation sector into a comprehensive institutional framework, such as the proposed *National Transport and Climate Change Action Plan*, should interact with other areas of national life that are equally committed to fulfilling the climate change and economic and social sustainability agenda, including ministries, agencies, and economic, trade union, and social organizations working in the fields of environment, energy, science and technology, human development, economy, production, labour and social security, infrastructure, transport, communication, trade, and foreign relations, to mention the main ones. All together, they could enhance the Paris Agreement’s *Nationally Determined Contributions* (NDCs).

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10. Ob.cit., p. 7. [↑](#footnote-ref-10)
11. #  Cf. Greenpeace: Five demands for a just transition towards aviation de-growth and clean transport solutions. 22/04/2020

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12. Stay Grounded: Degrowth of Aviation. Reducing Air Travel in a Just Way. 2019. [↑](#footnote-ref-12)
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18. #  ITF: Proposals 20-23: Climate change. We believe in transport and energy democracy.

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19. Cf. ITF: Transport Workers and Climate Change: towards a Sustainable Low-carbon Mobility. ITF Climate Change Conference. Mexico. August 2010. [↑](#footnote-ref-19)
20. Ibid. [↑](#footnote-ref-20)
21. ### Carbon Brief: CORSIA: The UN’s plan to ‘offset’ growth in aviation emissions after 2020. 4/2/2019.

 [↑](#footnote-ref-21)
22. #  Cf. La Vanguardia: IATA espera un aumento del 3,4 % en los beneficios del sector aéreo en 2020 [IATA forecasts a 3.4% increase in aviation profits in 2020]. (<https://www.lavanguardia.com/vida/20191211/472180237794>). 11/12/2019.

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23. See IPCC- Intergovernmental Panel on Climate Change: CLIMATE CHANGE 2014: Mitigation of Climate Change. Summary for Policymakers. Switzerland, January 2015, p. 9. [↑](#footnote-ref-23)
24. ATAG- Air Transport Action Group*:* Aviation Benefits Beyond Borders. Global Summary. Geneva, Switzerland, 2018. [↑](#footnote-ref-24)
25. Ibid. [↑](#footnote-ref-25)
26. In several countries, state, mixed and private ownership enterprises coexisted/competed both in the international and the domestic market, and in some cases, the governments designated both state- and privately- owned companies to execute bilateral agreements. In all the cases, the regulator of last resort was the federal government through its aviation authorities.

For instance, the United Kingdom designated, based on the destinations, British Airways (state-owned) and British Caledonian (privately-owned). France did likewise with Air France and Union de Transports Aériens; Mexico with Aeroméxico and Mexicana and; Canada with Air Canada and Canadian Pacific. In many cases (Argentina, Australia, Peru, Japan), trunk routes were reserved for the state-owned flag carrier, and then private companies would feed them with their domestic routes. In some other cases (Brazil), the situation was inverted to favour private companies. [↑](#footnote-ref-26)
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