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Europe's Green Deal

WHAT MATTERS FOR AVIATION

In 100 days the new EU Commission is due to present the details of its "Green Deal". Aviation is also supposed to become more environmentally friendly. The goal that politics and industry are pursuing together is the right one. But how we get there is essential.



Ensuring fair competition

Effective climate protection in aviation requires concepts that account for world-wide competition. This is the only way to guarantee that emissions are actually reduced and not just shifted from one country to another. Unlike other transportation systems, aviation has been part of the EU Emissions Trading Scheme (ETS) since 2012 and is approaching CO_2 neutrality for intra-European flights. Recently the price for emission certificates has increased noticeably.

Within Europe, the ETS creates equal competitive conditions. However, with respect to the strong competition from the US, Asia or the Middle East, it represents a competitive disadvantage and therefore a burden for Europe. Flights from Europe to non-European hubs are not subject to the ETS and neither are the home markets of our non-European competitors. The EU needs to consider this in its future climate and industrial policies if it considers competitive neutrality important. At the same time, it needs to take a closer look at the excess capacities on the European aviation market, which are damaging for both industry and environment. The practice of state subsidisation of certain airlines should be reviewed just as critically as the inefficient operation of very small airports.

Implement Single European Sky

Planes sometimes have to fly long detours in the European skies. This is bad for the carbon footprint. A Single European

Sky (SES) would mean real progress in this respect. A more efficient and uniform airspace with modern technologies and harmonised processes with optimised routing could save up to 10% CO₂ on intra-European routes. In addition, it would increase reliability and punctuality.

Promote alternative fuels

A real option for reducing CO_2 in aviation in the future is the use of synthetic kerosene. Europe should start a road map for the market roll-out of sustainable fuels. This could include the targeted support of pilot systems and the future development of an industrial ramp-up. Considering attractive locations outside of Europe, this strategy could make an important contribution to a strong foreign trade policy in countries with weak structures.

Strengthening CORSIA

The EU should commit to strengthening international cooperation. In 2021 CORSIA, an industry-supported, international instrument for the pricing and limitation of air-traffic-related CO₂ emissions, will become effective. The goal must be to convince the still hesitant countries to join CORSIA. It would be negligent if the EU failed to commit to supporting this global compromise. Other sectors are light-years away from achieving a comparable climate protection instrument with this level of international impact. In addition, a way must be found to coordinate the ETS and CORSIA optimally in order to avoid dual burdens on European airlines.

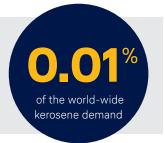
Climate-friendly kerosene

WHEN WILL WE TAKE OFF INTO THE FUTURE?

Kerosene does not have to be harmful to the climate. With sustainable aviation fuels (SAF) it is possible to achieve CO₂ neutral flight in the long term. For this reason, they are decisive for climate protection in aviation. We would like to fill up with more synthetic fuel rather today than tomorrow. For this, we need powerful political support. The latest resolutions lag far behind what is needed.

Develop production capacities

Sustainable aviation fuel can currently only cover 0.01% of the world-wide kerosene demand and is clearly more expensive than standard kerosene.



Tank alternative fuels today with Compensaid

Since the end of August 2019, travellers can mostly replace fossil fuels with SAF via the compensation platform www.compensaid.de or directly when booking a Lufthansa flight. They are used on Lufthansa flights within six months.

Fact check for power-to-liquid More at bit.ly/fakten-saf Water Renewable energies CO₂ Power-to-liquid

First projections

Wind power, water, and CO_2 – removed from the atmosphere – are sufficient to generate green aviation fuels in the co-called "power-to-liquid" process (PtL). What sounds like a vision of the future, is actually being driven forward in many places in Germany: In mid-August, the Karlsruhe Institute for Technology (KIT) opened the first integrated PtL trial plant in the world. The Heide refinery is building a PtL facility in a real lab together with partners. Lufthansa will be the first customer. At the latest in 2024, 5% of the fuel that we tank at Hamburg Airport will be synthetically manufactured kerosene. Hesse wants to become a pioneer in the fuel reform in aviation. Hesse's state government has announced that it will invest significantly into research of electricity-based fuels. A power-to-X competence centre will be created in Brandenburg. Here, too, Lufthansa is a partner.

Now it's up to politics

At the moment, only smaller quantities of synthetic fuels are available and are so expensive that they are hardly usable. It is important to make the jump to industrial production. The world of politics has committed to this goal repeatedly, most recently in mid-November at the Power-to-X Conference of the Ministry of the Environment. Now they have to back up these words with action:

- Developing strategies: In the Leipzig Declaration,
 Germany's Federal Government and the federal states
 have agreed to develop a PtL road map together with the
 industry. We are there as a partner with our expertise.
- Increasing funding: The Federal Government has promised € 100 million each year for 2020 and 2021 for alternative drives and fuels. Compared to the € 2 billion that the aviation tax is supposed to generate soon, this is a very humble amount. The funding should urgently be increased.
- Starting internationale initiatives: Germany has the opportunity to take on a world-wide leadership position in this field. Beyond national ventures, we need an international plan to develop production plants and provide regenerative fuels at competitive prices. At the moment, PtL fuels are still up to five times as expensive as regular kerosene. For this reason, the requirement for a mandatory fuel-mix quota is only possible on the global level. National regulations would massively distort competition.

Taxes and fees

GERMAN AVIATION POLICY AT THE EXPENSE OF THE LOCATION

The competition in the skies is tough. Just in Europe, the number of operating airlines decreased from 131 to 107 within one year until mid-2019. And the consolidation continues: according to forecasts, 12 airline groups will define the world market in a few years. The Lufthansa Group wants to be one of this dozen and feels that it is currently well positioned. However, continually increasing burdens at home weaken our competitiveness.

Germany, the second-most expensive aviation locationRanking of European aviation locations based on airport ar

Ranking of European aviation locations based on airport and passenger taxes and airport fees. The rising aviation tax in Germany has not yet been included.



Source: IATA

High costs in the aviation location Germany

A new study of the International Air Transport Association (IATA) shows: nowhere else in Europe are the costs for security controls as high as here – and this in return for poor quality and efficiency. Airport fees in Germany are also among the highest. Only in Great Britain do airlines pay more for using airports.

The aviation tax burdens the domestic industry

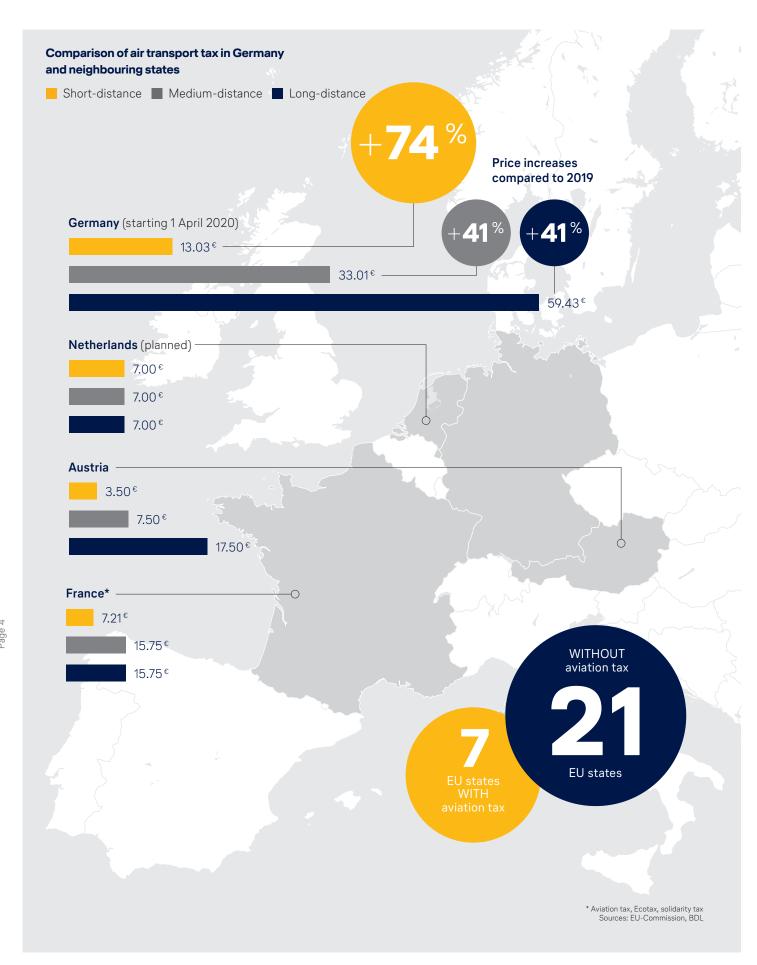
The Federal Government has repeatedly announced that they would decrease one-sided local burdens – most recently in their coalition agreement. But the opposite has happened. The disproportionate increase of the aviation tax affects domestic airlines and airports more than others and makes German even more expensive as a location. Long-distance flights via non-European hubs are indirectly made cheaper, for the benefit of our international competition.

This continues the previous negative trend: since the aviation tax was introduced in 2011, the German aviation industry has

seen significantly weaker growth than other western European markets. The market shares of German airlines in domestic airports decreases steadily – from 67% in 2012 to only 56% in the first half of 2019. This development is particularly striking in border regions. There, domestic airports have recorded passenger increases of 14% between 2010 and 2017. Directly competing airports abroad recorded increases of around 80% in the same time span. This shows that German passengers shift away for price reasons and accept longer onward travel in return.

Using income from the aviation tax for climate protection

As questionable as the increase itself is the intended use of the aviation tax. The additional millions hardly go towards climate protection measures in aviation but rather compensate for the VAT decrease for rail traffic and flight security for unprofitable small airports, which are often used by foreign low-cost providers. Only about € 100 million are to be used for subsidizing sustainable fuels. This is climate and industrial policy shooting itself in the foot.



Berlin

ARRIVALS POSSIBLE FROM EVERYWHERE IN THE WORLD

The date has been set: BER is to open on 31 October 2020. Hopes are high that it will work this time. Berlin needs a new, functioning airport and it is also important for the Lufthansa Group.



Since 2010, the passenger numbers in Berlin have increased by 74% to about 35 million. The economy and the almost six million people in the capital region are happy about this. The Lufthansa Group is present. Six Group airlines – Lufthansa, Eurowings, SWISS, Austrian, and Brussels Airlines, as well as SunExpress – fly into Berlin and transport up to 33,000 passengers a day. Almost every fourth passenger flies with us.

Airlines from all over the world are welcome

At the moment, the city is on the flight plans of 70 airlines from 55 countries. Like any other airport in this country, Berlin already profits from Germany's liberal aviation laws: every EU airline may pick up routes, even overseas. Airlines from North and South America, Africa, and Asia may therefore fly into Germany and thus also Berlin.

This is based on international aviation laws. States or regions like the EU define mutually how many airports may be targeted how often in the respective country. The airlines are free to choose the specific destinations. This regulation also applies to the regions around the gulf and China: this means that airlines from the UAE may fly into four German airports. At the moment, Emirates and Etihad prefer other cities – Frankfurt, Munich, Hamburg, and Düsseldorf – but might give these up at any time in favour of Berlin. Germany and China currently have agreed to 55 frequencies per week.

Of these, only about four flights on average are used for the capital. Contrary to some theses, there are hardly any traffic limitations for Berlin. Existing limits are due to the fact that the competitive conditions (e.g. environment, social, and consumer protection standards) partly deviate widely from each other. One can freely fly to Berlin.

Closely timed to the hubs

The long-distance business continues to be dominated by bundling passengers at hubs. Lufthansa organizes its long-distance fleets via Frankfurt and Munich. This way, Berlin is connected via our hubs to which 60 airplanes of the Lufthansa Group take off every day. This way, travellers can reach 120 destinations with only one transfer. No other airline offers comparable variety. We want to maintain this level at the new airport.

Hub connections ensure high capacity utilization of airplanes on intercontinental routes. This is good for the airlines and good for the climate, since the average fuel consumption per passenger is low. In contrast to European connections, direct long-distance flights often have a comparatively worse ecological footprint, because away from the hubs, flights are rarely adequately filled.

Aircraft data

PREVENTING MONOPOLIES

It is the gold of today – data. Whoever has data, profits. Exclusive data access can give businesses a competitive edge and create additional business models. Since the question "Whose data is it?" is so central, there is a risk that businesses will exploit their market power and attempt to obtain exclusive data access. Policymakers are planning countermeasures here, including measures aimed at aircraft manufacturers.

Market with lots of potential The market for maintenance, repair and overhaul services for aircraft (MRO) will grow to US\$ 135 billion by 2024 – aircraft manufacturers want to massively expand their share. US\$ 135 bn US\$ \$9 bn 2018 2024 Source: Lufthansa Technik Market Research



Every flight generates significant quantities of digital information. Dozens of sensors record temperatures, monitor pressures, or control the position of engine blades or valves. The intelligent use of data offers airlines and aircraft manufacturers a lot of possibilities. They can ensure greater safety or form the basis for new, attractive services.

Airbus wants data sovereignty

The situation becomes critical when manufacturers want to monopolise flight data. Airbus is engaged in efforts to keep digital information exclusive via encrypted or undocumented channels, even once the aircraft have been paid for and delivered. This would prevent airlines from transferring and using data independently. This cannot be allowed: the data must be placed in the hands of the airline when the aircraft is purchased. For security reasons, airlines require time-independent access to all available information and control of the data. Data sovereignty of aircraft manufacturers would make this impossible.

Service providers, for instance for repairs and maintenance, also require access to data. At the moment, maintenance companies can read out aircraft data free of charge on behalf of their customers. More than 1,600 independent providers and aircraft manufacturers are competing with each other. This promotes innovation and fair prices. In order to strengthen its own competitive position, Airbus wanted to charge independent maintenance companies fees for the use of all data or make access to the data more difficult or impossible. This would have led to price increases without added value and a reduction of competition.

Politics to the rescue

In its latest report, the Competition Commission listed the relationship between aircraft manufacturers and maintenance companies as an example for which legislature should mandate data access. We are counting on the upcoming amendment of the Act against Restraints of Competition (GWB) to stop the abuse of market power: aircraft data must remain the property of the airlines, which can then provide it to their maintenance partners.

Lounge

FLYING CAN SAVE LIVES

Thousands of people with leukaemia all over the world are waiting for life-saving stem cells. Possible donors come either from their own family or they are found through internationally networked donor registries and in many cases live far away from the patient. This is where special couriers come in.

Every year, several thousand stem cell transports are planned in Neu-Isenburg. The ten member stem cell team of the logistics expert time:matters is available 24/7 to prepare couriers optimally for their missions around the world and support them at any time. These journeys are anything but ordinary: "We know that these transports can make the difference between whether a person will see their next birthday or not" says Marco Dehler, head of the stem cell service team.

This means, nothing can go wrong. The stem cells – carefully packaged in special boxes that were originally developed for the military – must always be cooled to 2°C. Heat is a threat to the sensitive freight. The couriers keep their eyes on the box for the entire trip. No time for sleep. Not even on long-distance flights between Europe and the US, which easily last 24 hours plus X in total. Couriers need to protect their shipments like bodyguards. For instance, from security officers who want to send the box through a scanner, which would destroy the stem cells.

A case for professional travellers

Each individual leg of the journey, every step the couriers takes between the collection center and the recipient is planned meticulously in advance. Twice! If, for example, a flight is cancelled due to a strike, an alternative is already booked. What all of the 350 stem cell couriers at time:matters have in common is that they are professional travellers. They include a lot of former pilots and flight attendants, as well as former managers who were frequent flyers in their professional lives – and now want to give something back as freelancers in the fight against leukaemia.

Marco Dehler: "It is very satisfying. You feel excited for them, especially since you know some of the patients' information like gender, age, and health status." Couriers and employees in Neu-Isenburg feel a special sense of responsibility every day. They have realised 15,000 stem cell transports. The rate of on-time and correct deliveries: 100%.



Picture left: Operations Manager Cigdem Vurucu clarifies some last-minute details with the stem cell courier Hartmut Wiebe. Wiebe lived in Tokyo for several years as a bank manager and is a professional traveller.

time:matters

The roughly 370 employees at the

Lufthansa Cargo subsidiary time:matters are experts for particularly urgent transports. Every year, they transport more than 500,000 shipments via air, rail and road all over the world. This includes urgently needed spare parts, medical samples, hazardous goods and important documents. time:matters has its own courier terminals in Frankfurt and Munich. More at: www.time-matters.com



LUFTHANSA GROUP

Telegram

Express-Rail

ADDITIONAL OFFERS STARTING ON DECEMBER 15

When air and rail transportation are optimally coordinated, fewer short-distance flights are required. Lufthansa is committed to intermodal solutions and is continuously expanding its Express-Rail offers to Frankfurt Airport together with Deutsche Bahn. Current example: starting on December 15, an additional 159 Lufthansa Express trains will start for FRA every week from stations in Aachen, Düsseldorf, Cologne, Stuttgart and Ulm. These special offers provide optimal connection times and, should there be delays, customers are automatically rebooked onto the next available flight or train.

What works well in Frankfurt is unfortunately impossible at the Munich hub. Three decades after the opening of the airport, there is still no direct connection with Deutsche Bahn's IC and ICE networks.



The former Minister of Defence and current President of the EU Commission,
Ursula von der Leyen, on the occasion of the hand-over of the Airbus A319 OH with
Johannes Bussmann, CEO of Lufthansa Technik (left), and Lieutenant General Ingo
Gerhartz, Inspector of the Luftwaffe (right)

Picture: Bundeswehr/Jonas Weber

Airbus A319

THE NEW "EYE IN THE OSCE SKY"

From Vancouver to Vladivostok, the 34 OSCE states are permitted to take off for mutual observation flights in the name of arms control. In 2020, after 22 years, the Special Air Mission Wing of the German Air Force will get its own new machine again: Lufthansa Technik engineers have spent 500,000 man-hours turning an Airbus A319 into the most modern observation plane in the world. The plane reinforces arms control and its range makes, for example, flyovers over all of Russia possible. It will also further intensify cooperation with OSCE partners as they will be able to use the observation plane for joint missions with Germany or hire it. Lufthansa Technik is the general contractor for the project.

Clear Goals

WOMEN IN LEADERSHIP POSITIONS

Cockpits and leadership positions in airlines are still largely in the hands of men. The International Air Transport Association IATA wants to correct this with the "25by2025" campaign. The goal: by 2025, the percentage of women in the management of airlines and in areas in which women are currently underrepresented is to increase by 25%, or to at least 25%.

Equal opportunity and diversity are also of key importance to the Lufthansa Group. That is why the company is supporting the 25by2025 campaign and had already set its own goals before it was launched: by 2021, the aim is to increase the percentage of women in top management to 18% and the percentage at the second management level to 24%. This change is being actively advanced with initiatives to promote women: for instance, via transparent job ads with diversity criteria, development and mentoring programmes and networking events for women. Special attention is being paid to the cockpit. At the moment the share of female pilots is only just over 6%. But: 15% of pilot candidates in the current courses at the European Flight Academy (who train pilots for all the airlines in the Lufthansa Group) are female.

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