

Common - Environmental Issues/Railways: The rise of high-speed railways over airlines in the post-pandemic era?

Andrea Antolini Former Researcher JTTRI

【概要 : Summary】

The European Green Deal sets the main goal for Europe to become the first climate-neutral continent by 2050. Among others, the Green Deal supports activities to improve the role of railways in transport and to start action on initiatives to increase and better manage the capacity of railways. The Commission underlines the railway transport's benefits compared to other transport modes, including sustainability, safety, and speed, depending on the routes and distances covered. Accordingly, the European Commission announced that train travel should be given special attention in 2021 and suggested that next year should be the "European Year of Rail". A report by UBS research further suggests that a modal shift from air to rail, which already started before the COVID-19 pandemic, could become more distinct in the post-pandemic era. It could be accelerated by the service and competition related changes that could occur after the further liberalisation of the railway market in France and Spain. This could consequently lead to higher frequencies and better-served routes. Such a development, together with the new attitude to prefer environmentally friendlier transport modes like rail, could lead to a preference of high-speed railways in contrast to air travel in the context of covering a certain range of distances in the next decade.

【記事 : Article】

1. The European Green Deal and the EU's target to achieve carbon neutrality by 2050

On 11 December 2019, the so-called "European Green Deal" (COM(2019) 640 final) was presented as the new European growth strategy that aims at transforming the EU into a resource-efficient and competitive economy, which will achieve net GHG emissions in 2050. The European Green Deal sets the main goal for Europe to become the first climate-neutral continent by 2050. Regarding a strategy for clean and smart mobility and the "zero-emission mobility", the Commission intends to ensure a clear pathway from 2025 onwards towards zero-emission mobility by 2050. The EU transport system and infrastructure will have to prepare to support new sustainable mobility services that can reduce congestion and pollution, especially in urban areas. Automated and connected multimodal mobility and "Mobility as a Service" (MaaS) will play an increasing role, together with smart traffic management systems. Under the European Green Deal, the EU intends to raise the 2030 target of GHG emission reductions to 50% and also sets the 2050 target at a 100% reduction of GHG emissions.

In order to achieve this, for the second half of 2020, it is planned to announce actions that aim at reducing GHG emissions from land, waterborne and air transport. This would also include measures on cleaner fuels, electric vehicles' charging infrastructure, taxation, road pricing and promoting

rail freight. The Commission also intends to propose the necessary amendments to the Climate Law. Considering the target of the European Green Deal, by 2021, the Commission plans to reduce free allowances for airlines and to start action on initiatives to increase and better manage the capacity of railways.

2. The necessity of better covering the aviation sector' s CO2 emissions

By 2040, the International Civil Aviation Organisation (ICAO) expects that this number of passengers in aviation will increase to around ten billion passengers. This will cause an increase in CO2 emissions from aviation, if no further counter measures are taken. Despite the technical progress in the past decades, which lead to a reduction of fuel consumption of European aircraft by 44%, the CO2 emissions of the aviation sector are set to further increase due to the further increase in transport volumes. In 2021, the EU will have to decide whether international flights should continue to be excluded from the EU-ETS and how to continue with the emission trading scheme for aviation for intra-European flights.

The ICAO' s Carbon Offsetting Scheme for International Aviation (CORSIA)' s baseline from January 2021 will be calculated as the average of 2019 and 2020 emissions. In 2021, the first voluntary pilot phase of CORSIA will start, followed by the voluntary first phase from 2024 to 2027. From 2027 to 2035, the mandatory second phase will follow for most ICAO member states, with only few exemptions for some small emitters. In 2032, the ICAO will review the CORSIA scheme and will decide how to continue for the period after 2035.

Due to the negative environmental impact of increasing CO2 emissions in aviation, several EU Member States are now considering additional measures, including the possibility to introduce carbon pricing or aviation taxes including a tax on kerosene in the EU. In November 2019, nine EU Member States, including Belgium, Bulgaria, Denmark, France,

Germany, Italy, Luxembourg, the Netherlands and Sweden, agreed to jointly propose new measures on aviation pricing and called on the European Commission to prepare a proposal for a EU initiative on aviation pricing. The options to levy kerosene tax or to introduce a EU-wide tax on tickets for passengers on domestic or intra-European flights could be measures to accelerate the transition to a cleaner European mobility by improving the level playing field with other, more environmental friendly transport modes.

3. The European Year of Rail in 2021

According to EU data, railway is the only transport mode that has managed to reduce its GHG emissions while preserving growth in the EU. This is largely a result of increasing electrification as well as the utilisation of cleaner energy sources, like renewable energies.

In freight transport, multimodal transport needs to be supported as a matter of priority, as a substantial part of the 75% of inland freight is carried by road. This should be shifted onto rail and inland waterways. However, this modal shift will require measures to manage better, and to increase the capacity of railways and inland waterways. Regarding railways, the European Green Deal contains the start of action on initiatives to increase and better manage the capacity of railways in 2021. In the light of a parallel announcement on the new Climate Law aiming at making the EU carbon neutral by 2050, the Commission also focuses on railways in its 2021 agenda in order to promote it "as a sustainable, innovative and safe mode of transport". Accordingly, on 4 March 2020, the European Commission announced that train travel should be given special attention in 2021 and suggested that next year should be the "European Year of Rail". The EU transport Commissioner Adina Vălean underlined that there was no doubt that railway transport means huge benefits in areas like sustainability, safety and even speed. Also the Community of European Railway and

Infrastructure Companies (CER) stated that it very much supported the Commission's proposal to make 2021 the European Year of Rail. As 2021 marks a number of rail anniversaries with the French high-speed train service TGV turning 40, this would be the perfect occasion to showcase rail's significant advantages when it comes to modernising and greening Europe's transport sector.

4. COVID-19 pandemic's impact on aviation

In a reaction on the COVID-19 pandemic, the partial or complete lockdown measures and travel restrictions in almost all EU Member States have caused socio-economic disruptions. The temporary closure of external borders of the EU and third countries, but also the closure of borders between the individual EU Member States had wide ranging impacts on the transport sector within the EU and its Member States and beyond. Depending on the further development in the COVID-19 pandemic, the restrictions will possibly see a prolongation until mid-June 2020 at least, or even longer. Most EU Member States introduced a mandatory self-isolation of residents and decided to ban all non-essential travel including air travel.

As a consequence from the COVID-19 pandemic related complete or partial lockdown measures, the aviation industry finds itself in the most unprecedented crisis situation ever. With the European aviation having come to a nearly complete standstill under the lockdown and travel bans in almost all European Member States, many airlines have suspended operations completely until further notice. Air traffic in Europe decreased by around 88%. Such a decline puts also at risk about 5.6 million jobs, as airlines cut their work force at least temporarily. Following this crisis, the airlines need aid for the aviation industry's economic recovery. Consequently, the airlines called for a deferment or waiver of any new aviation taxes at EU or national level. New fiscal burdens should be postponed until the aviation industry is back in normal business after a sound operational and financial recovery. Therefore,

the COVID-19 pandemic could accelerate the consolidation of the European aviation sector, but it could also support a modal shift from air to railways.

According to a new report by UBS research on the impact of COVID-19 and a possible modal shift, a long-term shift in attitudes around climate change, travel, and work triggered by the Covid-19 pandemic could lead to a significant reduction of air travel growth of 10% over next decade. At the same time, the high-speed railway connections within certain distances and on certain routes could increase. Therefore, this current situation between the general change in considering the best way to travel in short distance segment and the COVID-19 pandemic could serve as an accelerator to consolidate the aviation sector and its growth in the next decade. At the same time, it could trigger a shift towards the utilisation of high-speed trains at distances of up to 6 hours of travel times.

5. A possible modal-shift from air to rail in post-pandemic Europe?

While aviation represents about 2.5% to 3% of global emissions, it is responsible for around 15% of transport-related emissions. In 2017, out of the transport generated 4.48 billion tonnes of CO₂ equivalent, road transport was responsible for 73% of GHG emissions, aviation 14%, maritime transport 13.5% and rail about 0.5%. Considering the further measures to reduce the environmental impact of the aviation sector, the sector is now encountering additional challenges due to the COVID-19 pandemic. Although the lockdown measures have an impact on all forms of travel including rail, maritime, road and air travel across Europe, the measures have the most extreme impact on airlines. In this situation, airlines have called on the governments for state aid. However, since aircraft belong to the most polluting means of transport, the new awareness of the aviation sector's CO₂ emission problem on the one hand, and the pandemic's impact on aviation on the other hand could eventually encourage a modal

shift from air to high-speed railways for passengers on certain routes and at certain distances in the EU. According to the latest report by UBS researchers entitled “ ‘By Train or Plane?’ The Traveller’s Dilemma after Covid-19 and amid Climate Change Concerns” , there could occur a shift from air to rail travel under certain conditions. The report determines, which business sectors would be most or least affected by the Covid-19 pandemic, what the short-, medium- and long-term options for aviation could be, and what market opportunity could derive from this current situation, among others. In the post-pandemic era, the UBS analysis suggests that global air traffic growth could slow down to 4.6% per annum over the 2018-28 period, with no growth in intra-European traffic, 6.1% growth within China, and 2.8% in the US. Based on the UBS analysis, the authors conclude that lower intra-regional air traffic growth could weigh on volumes and valuations in the aerospace, airlines, airports, infrastructure and oil sectors. Faster growth in rail demand would benefit manufacturers of rolling stock, signalling, controls and brakes. The UBS analysis estimates that the European HSR market opportunity could grow to EUR 11 billion in 2022. This would be well above the European rail industry body UNIFE’s forecast of EUR 5.9 billion.

The UBS report also aims to assess the impact on industries related to the air and rail modes, including suppliers, the oil and gas sectors as well as infrastructure and airports. The report concluded that consumers and governments were becoming “more climate aware” as people become aware as a side effect of the Covid-19 lockdown measures, what cleaner air means. Since the EU has the target to reach net-zero carbon emissions by 2050, it could be expected that the shift from planes to high-speed rail travel could accelerate in certain range of distances.

The Data from a UBS Evidence Lab survey of 1,000 people in four European countries and China suggests that leisure travellers would tolerate train trips of 5 to 6 h and that business travellers would

accept train journeys of up to four hours. The UBS analysis cites the London-Paris route as a prime example of where railway’s city-centre departure and arrival points, and relatively short waiting times, allow the railway services to succeed over airlines.

The UBS Research analysis expects that the political support for rail infrastructure investment is growing significantly and together with a growing public support for this environmentally friendlier transport mode, the high-speed rail market could grow by 10% every year in this decade until 2030. However, railway service and frequency would be key drivers of demand for longer train journeys. If these two elements could be improved, the high-speed railways would have a significant advantage over air travel on certain distances. Service and frequency of high-speed railway connections could be improved when more competition is introduced among operators. Already before the COVID-19 pandemic, rail operators had started to re-introduce night-train services in response to higher demand, while tolerance for longer trips was growing.

Therefore, the recovery from the Covid-19 pandemic could be used to not only simply to return to “business as usual” , but to possibly support a modal shift, in favour of high-speed railways. Europe’s demand for rail travel could increase over the next decade as the public’s new appreciation for cleaner air and climate issues as a result of the COVID-19 pandemic could have some impact on air and rail travels. More travellers might switch from air to high-speed rail in the post-COVID-19 period and on certain travel distances.

Therefore, this general reconsideration of travels together with the European Commission’s initiatives regarding the 2021 “European Year of Rail” and the European Green Deal targets could further push the railways’ competitiveness on short distances of up to six-hour journeys. Together with the end of the long-held monopolies of the French and Spanish state-owned rail firms SNCF and Renfe, on domestic routes by the end of 2020, it could finally offer

the necessary liberalisation push that opens these railway markets for new competition while improving frequency and affordability. A wider and more efficient rail network might then push airlines into focusing on long- and medium haul services or short-haul flights, which cannot be covered by high-speed railways. Consequently, air travel growth could stagnate or even fall in the next decade.

According to EU transport Commissioner Adina Vălean, also the EU's next long-term budget - the MFF - should be "used to put a focus on rail" by boosting investment instruments like the Connecting Europe Facility (CEF) in order to support a possible modal shift from air to railways on certain routes.

References

COM(2019) 640 final ANNEX to the COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The European Green Deal. In:

https://ec.europa.eu/info/sites/info/files/european-green-deal-communication-annex-roadmap_en.pdf, 11.12.2019, retrieved 6 May 2020

EUROPEAN COMMISSION: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. The European Green Deal. COM(2019) 640 final. In:

https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf, 11.12.2019, retrieved 6 May 2020

European Commission: COVID-19 Guidelines for border management measures to protect health and ensure the availability of goods and essential service. C (2020) 1753 final. In:

https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/20200316_covid-19-guidelines-for-border-management.pdf, 16.3.2020, retrieved 6 May 2020

European Commission: Slots. In:

https://ec.europa.eu/transport/modes/air/airports/slots_en, retrieved 6 May 2020

European Commission: COMMUNICATION FROM THE COMMISSION COVID-19 Guidance on the implementation of the temporary restriction on non-essential travel to the EU, on the facilitation of transit arrangements for the repatriation of EU citizens, and on the effects on visa policy. In:

https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/20200330_c-2020-2050-report_en.pdf, 30.3.2020 C (2020) 2050 final, retrieved 6 May 2020

Frost, Laurence: Coronavirus to drive European airline industry shakeout. In:

<https://www.reuters.com/article/us-health-coronavirus-europe-airlines-an/coronavirus-to-drive-european-airline-industry-shakeout-idUSKBN20W1Z4>, March 9, 2020, retrieved 4 May 2020

Hard landing. Coronavirus is grounding the world's airlines. The aviation industry may not fully recover from the effects of the pandemic. In:

<https://www.economist.com/business/2020/03/15/coronavirus-is-grounding-the-worlds-airlines>, Mar 15th 2020, retrieved 4 May 2020

Hunter, Marnie: Airlines extend waivers, adjust schedules for Europe travel ban. In:

<https://edition.cnn.com/travel/article/coronavirus-travel-restrictions-airline-waivers/index.html>, 14th March 2020, retrieved 11 May 2020

Impact of the 2019-20 coronavirus pandemic on aviation. In: https://en.wikipedia.org/wiki/Impact_of_the_2019%E2%80%9320_coronavirus_pandemic_on_aviation, retrieved 6 May 2020, retrieved 11 May 2020

Improvement of sustainability in transport after COVID-19 pandemic. In:

<https://www.railwaygazette.com/policy-and-strategy/making-transport-more-sustainable-after-the-coronavirus/56264.article>, 17 April 2020, retrieved 11 May 2020

Janzen, Jennifer: European Governments Must Act Now to Reduce COVID-19 Impact on Aviation. In:

<https://a4e.eu/publications/european-governments-must-act-now-to-reduce-covid-19-impact-on-aviation/>, 30 March 2020, retrieved 3 April 2020, retrieved 11 May 2020

Keating, Cecilia: Research: Covid-19 to accelerate global shift from planes to trains in 2020s. In: <https://www.businessgreen.com/news-analysis/4013846/research-covid-19-accelerate-global-shift-planes-trains-2020s>, 14 April 2020, retrieved 4 May 2020

Levinson, Reade: Airlines facing what official calls 'deepest crisis ever'. In: <https://www.reuters.com/article/us-health-coronavirus-flights/airlines-facing-what-official-calls-deepest-crisis-ever-idUSKBN21J5NC>, March 25, 2020, retrieved 11 May 2020

Morgan, Sam: Commission wants to declare 2021 the 'year of rail'. In: https://www.euractiv.com/section/railways/news/commission-wants-to-declare-2021-the-year-of-rail/?_ga=2.146137524.1262796296.1587368359-1658186579.1587368359, 4 Mar 2020, retrieved 11 May 2020

Morgan, Sam: Planes vs. trains: High-speed rail set for coronavirus dividend. In: https://www.euractiv.com/section/railways/news/planes-vs-trains-high-speed-rail-set-for-coronavirus-dividend/?_ga=2.242093058.1262796296.1587368359-1658186579.1587368359, 15 Apr 2020, retrieved 4 May 2020

New report predicts shift from air to high-speed rail. In: <https://www.railpage.com.au/news/s/new-report-predicts-shift-from-air-to-highspeed-rail>, 11 April 2020, retrieved 11 May 2020

Schulz Florence: 'Flight shame' ? Europeans have never flown as frequently. In: https://www.euractiv.com/section/aviation/news/flight-shame-europeans-have-never-flown-as-frequently/?_ga=2.209185810.1262796296.1587368359-1658186579.1587368359, 7 Feb 2020, retrieved 6 May 2020

UBS: Aerospace and Defence "By train or by plane?" Traveller's dilemma after Covid-19, amid climate change concerns. In: <https://www.ubs.com/global/en/investment-bank/in-focus/2020/by-train-or-by-plane.html>, 02 Apr 2020, retrieved 4 May 2020

UBS predicts post-pandemic shift from air to high-speed rail. In: <https://www.railwaygazette.com/policy/ubs-predicts-post-pandemic-shift-from-air-to-high-speed-rail/56195.article>, 7 April 2020, retrieved 6 May 2020