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The climate effect of a ‚European Silk Road'

A high-speed rail link between Western and Eastern Europe could make an important contribution to the EU's climate goals and advance the economic integration of the continent.

In a widely acclaimed study in 2018, the Vienna Institute for International Economic Studies (wiiw) proposed the construction of a 'European Silk Road'. The centrepiece of the proposal is a high-speed railway network that would connect the industrial centres of Western Europe with the less developed East of the continent. Complementing the feasibility study of 2018, which included an assessment of the economic impact of a ‚European Silk Road', wiiw now presents an analysis of its ecological footprint.

Specifically, the study examines the CO_2 savings potential of the proposed core section from Lyon in France to Moscow and concludes that such a high-speed train connection could reduce CO_2 emissions in the EU by 10% of the emission volume of one year cumulatively over the assumed lifespan of 60 years. This figure already takes into account the emissions that would be generated during construction, operation and maintenance. *'Even if that doesn't sound like much, we only looked at the effect of shifting passenger traffic from air to rail'*, says Mario Holzner, Executive Director of wiiw and co-author of the study, adding: *'If we also took freight traffic into account, the CO_2 reduction from the project would probably be twice as high.'* In addition, the transport systems based on cars and planes – in contrast to railways – do not take into account the CO_2 emissions for the construction of their infrastructure. Furthermore, the ecological advantages of the proposed high-speed rail link must be considered in combination with the economic ones.

Together with co-authors Maximilian Zangl, Katharina Weber and Muhammad Usman Zahid from the Central European University (CEU), Holzner assumes that the construction of such a high-speed line would result in a massive diversion of passenger traffic from planes to the new high-speed trains – especially on the short and medium distances of up to 1,000 kilometres, such as between Paris and Berlin or Berlin and Warsaw, which are particularly problematic for the climate. *'The project could therefore make an important contribution to reducing greenhouse gas emissions in air traffic by at least 10%, as envisaged by the EU'*, says co-author Katharina Weber. *'To create the maximum CO_2 savings, the modal shift from air to rail must be as large as possible'*, adds co-author Maximilian Zangl.

Growth stimulus

The construction costs are estimated at around EUR 200bn, with a construction period of at least 10 years. *'Divided over 10 years, this sum, which seems considerable at first glance, is put into perspective when we consider that it amounts to just 1.5% of the EU's annual economic output. Besides, interest rates on bonds to finance such a project are currently negative'*, explains Holzner. Of course, these investments would also generate enormous economic impulses. The wiiw concept for a ‚European Silk Road' from 2018 estimates that the economic effect of two routes (the Lyon-Moscow route discussed here would be the backbone of a ‚European Silk Road', plus its extension along a

southern route) with a total investment volume of EUR 1trn would be as follows: the countries involved would grow on average and cumulatively by 3.5% more over 10 years and create 2-7 million additional jobs. Austria's economy would benefit with 1.5% additional GDP growth and at least 34,000 new jobs, while Germany's GDP would grow by an additional 0.7% and it would benefit from more than 40.000 new jobs.

Part of the EU's 'Global Gateway'

The combination of climate protection, economic growth and intelligent large-scale investments in the transport system is also the focus of the 'Global Gateway', the infrastructure initiative recently launched by the EU. With EUR 300bn of investments the programme aims to offer poorer countries worldwide an alternative to China's Belt and Road initiative, through which the People's Republic has become heavily involved in Eastern and South-Eastern Europe in particular – very often in return for geopolitical influence. *'Here, the EU should make an offer with a ‚European Silk Road' in order to push economic integration and climate protection in Europe'*, Holzner argues. However, a European Silk Road would only ever be one element – albeit a central one – of a truly global gateway for the free movement of goods, people and services.

In Holzner's view, however, the ‚Global Gateway' would have to be thought of on a larger scale, especially financially. Moreover, it should not only be understood as an EU declaration of war on China's Belt and Road initiative. As he explains: *'In many areas, the two initiatives complement each other. The Global Gateway is an additional option for financing urgently needed infrastructure, but it will also facilitate the connection to the Chinese Silk Road.'*

The study *Environmental Impact Evaluation of a European High Speed Railway Network along the ‚European Silk Road'* was prepared in cooperation with the Central European University.

A summary of the findings was recently published as a chapter of the book *The Great Reset: 2021 European Public Investment Outlook* (editors Floriana Cerniglia, Francesco Saraceno and Andrew Watt).

About the Vienna Institute for International Economic Studies (wiiw)

wiiw is an economic think tank that has been producing economic analyses and forecasts for currently 23 countries in Central, Eastern and South-Eastern Europe for almost 50 years. In addition, wiiw conducts research in the areas of macroeconomics, trade, competitiveness, investment, the European integration process, regional development, labour markets, migration and income distribution.

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