Decarbonisation: Railways and the European Green Deal

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The European Green Deal must create a fair and level playing field for all modes of transport to ensure that the European Union can reach its goal of climate neutrality by 2050. Shifting the majority of inland freight road traffic onto railways requires a true commitment to railway transport.

On December 11, 2019, the European Commission (EC) presented a roadmap for the European Union's (EU) future growth strategy, *The European Green Deal*, which aims to transform the EU's current economic model by decoupling economic growth from the use of resources (European Commission 2019a: 2). Climate change and other environment-related challenges are recognised as 'this generation's defining task' (European Commission 2019a: 2).

The EC aims to achieve this goal by designing policies, which profoundly transform the EU's economy, and by mainstreaming sustainability in all policies. *The European Green Deal* raises the EU's greenhouse gas (GHG)'s reduction target for 2030 to a minimum of 50% and possibly to even 55% (European Commission 2019a: 4), and sets a goal of climate neutrality by 2050 (European Commission 2019a: 2). The European Parliament states even higher ambitions, and demands a fixed GHG emissions reduction target for 2030 of 55% as well as an interim target for 2040 to ensure that the EU stays on track to reach its climate goals (European Parliament 2020).

The EC plans to design policies which accelerate the shift to sustainable and smart mobility, as approximately a quarter of the EU's greenhouse gas emissions are caused by traffic, and emissions in the transport sector are still growing. The EU can only achieve its goal of zero net emissions by 2050, if emissions in the transport sector are reduced by 90%. The EC recognises that, while transport users must change their current mobility habits, alternative mobility options must be affordable and accessible to encourage the adoption of mobility choices which emit fewer greenhouse gases (European Commission 2019a: 10). One of *The European Green Deal's* guiding principles is that the 'price of transport must reflect the impact it has on the environment and on health' (European Commission 2019a: 10).

Shifting 75% of inland freight road traffic onto rail and waterways is considered a priority to reduce GHG in the traffic sector (European Commission 2019a: 10). However, *The European Green Deal* does not yet contain specific ideas as to how this goal could be achieved. The EC plans to propose specific initiatives to increase and better manage the capacity of railways at a later stage, in 2021 (European Commission 2019b: 3).

Rail transport has reduced its CO_2 emissions almost continuously since 1990 while increasing its transport volumes. In 2016 rail transport accounted for only 0.5% of CO_2 emissions of all modes of transport in the EU and for approximately 2% of transport energy consumption (European Commission, Directorate-General for Mobility and Transport 2019: 75ff; European Commission 2020b: 1). In Austria, Austrian Federal Railways (ÖBB) saves 3.5 tonnes of CO_2 emissions each year by transporting goods and passengers by rail (ÖBB-Holding AG 2019a:1). More than 90% of ÖBB's trains run on electricity (ÖBB-Holding AG 2019b: 3). Additionally, since mid-2018, those trains have been powered exclusively by electricity from renewable power sources (ÖBB-Holding AG 2019b: 3).

In 2016, rail transport accounted for 11.2% of all freight and 6.6% of all passengers in the European Union (European Commission, Directorate-General for Mobility and Transport 2019: 75ff; European Commission 2020b: 1). While rail transport emits few CO_2 emissions and consumes little energy compared with other modes of transport, its freight volume actually decreased in the EU since it peaked in 2011 at 19% and passenger volume only increased slightly from 7.0% to 7.6% between 2007 and 2016 (European Commission 2020b: 1). The European Commission therefore proposes to declare 2021 the 'European Year of Rail' (European Commission 2020b: 2) to promote rail transport. The proposal was welcomed by the Community of European Railway and Infrastructure Companies (CER), whose Executive Director, Libor Lochman, calls it 'the perfect occasion to showcase rail's unbeatable advantages when it comes to modernising and greening Europe's mobility sector.' (Community of European Railway and Infrastructure Companies 2020).

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In Austria, the transport sector needs to cut an additional 8 million tonnes of GHG emissions to fulfil the country's GHG reduction commitment. A doubling of the performance of Austria's railway companies would cut almost 4 million additional tonnes of GHG emissions (ÖBB-Holding AG 2019a: 1). However, a fair and level playing field is necessary to ensure that railways in Austria can compete with other modes of transport and increase their freight and passenger volumes.

The EC recognises that the European Union's transport system and transport infrastructure will need to be adapted, increased and invested in to enable EU-wide sustainable mobility services; this includes a capacity increase of railways as well as the implementation of automated and connected multimodal mobility (smart) management systems (European Commission 2019a: 10).

Apart from a general commitment to these initiatives, *The European Green Deal* introduces few specific measures which would create a fair and level playing field between rail, road, air and waterway transport. This is, however, a prerequisite to achieving the EC's stated goal of reducing three quarters of freight road traffic by shifting it onto railways and waterways. The EC intends to 'look closely' (European Commission 2019a: 10) at various fuel tax exemptions, including tax exemptions for aviation and maritime fuels, and suggests an end to fossil fuel subsidies. It also wants to include the maritime sector in the European Emissions Trading System (ETS), and reduce free ETS allowances to airlines (European Commission 2019a: 10f).

Ending tax exemptions for aviation and maritime fuels as well as ending all fossil fuel subsidies is a step in the right direction. However, opening up the European ETS to the maritime sector would be a step in the wrong direction, as it would increase the competitive imbalance between various modes of transport and put rail transport at an even greater disadvantage than it is now. Reducing – but not eliminating – free ETS allowances to airlines will not create a level playing field between all modes of transport: it would only achieve a slight improvement of the current competitive conditions. A fair and level playing field between all modes of transport requires ending tax exemptions for aviation and maritime fuels, the introduction of an EU-wide kerosene tax, harmonised pricing/taxation of CO_2 emissions (including the introduction of CO_2 duties on imports into the EU), and permitting no free ETS allowances to airlines (or to the maritime sector).

Another prerequisite to achieve *The European Green Deal's* goal of accelerating the shift to sustainable and smart mobility is the introduction of an overall GHG balance sheet to enable a fair and transparent competition between all modes of transport. Without transparency and comparability of CO_2 emissions, the EU can never meet its target of no net emissions by 2050. Binding and measurable CO_2 emissions targets must be specified for all sectors governed by the European Climate Law, which would write into law the EU's stated goal of climate neutrality by 2050 (European Commission 2020a). On March 3, 2020, the EC presented its *Proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law)* (European Commission 2020c).

The EC's ideas for accelerating the shift to sustainable and smart mobility as put forward in *The European Green Deal* focus primarily on road traffic: increasing the number of recharging stations for electric cars, or stricter emissions standards for combustion-engine vehicles (European Commission 2019a: 9f). In other words, it focuses on making modes of individual transport cleaner and more energy efficient than they are now. However, if consumers only slightly adapt their current mobility habits by switching to electric cars instead of using public transport, this will not reduce the number of cars produced, nor will it reduce traffic or traffic accidents. Moreover, millions of batteries must be produced and recycled to power these electric cars. Producing, operating, and disposing of electric cars is no doubt more environmentally damaging and more expensive than travelling by train – at least it should be, as the 'price of transport must reflect the impact it has on the environment and on health' (European Commission 2019a: 10). True-cost pricing is required across all modes of transport, as Andreas Matthä, Chairman of the Board of Management, and Arnold Schiefer, Member of the Board of Management of the ÖBB-Holding AG, point out in their foreword to ÖBB's climate protection strategy 2030 (ÖBB-Holding AG 2019a: 1).

True-cost pricing requires a switch to the polluter-pays principle, so the external costs of road transport are no longer paid by the tax-paying public (ÖBB-Holding AG 2019a: 58). Marginal social-cost pricing, which includes a polluter-pays principle as well as a user-pays-principle, is necessary to ensure that railway companies have a fair chance to compete with other modes of transport (CER, 2019: 2), as 'Rail is today the only motorised transport mode to nearly cover its marginal costs' (CER, 2019: 2).

A polluter-pays principle also requires an alignment of financing, funding and subsidy systems to climate-friendly mobility (ÖBB-Holding AG 2019a: 58). Specifically, all

financing, funding and subsidy systems in the EU should be aligned according to their impact on the CO_2 balance. Capital expenditure should be prioritised according to its effect on climate, which would result in a prioritisation of capital expenditure on rail infrastructure instead of further investments in motorways and airports. Capital expenditure should not focus on high-emission transport sectors, but rather on rail transport as the most climate-friendly mode of mass transport in the EU. Capital expenditure for innovations, research and development in the railway system must be doubled, as must be the funding for the effective expansion of the capacity and quality of the European railway network. Incentives must be created for a significant expansion of renewable energy, so railway companies across the European Union can power their trains with electricity from renewable power sources, as Austria's ÖBB already does. The EU must ensure that railway companies have sufficient energy available for renewable sources in the future.

The European Green Deal is a valuable roadmap for the EU's future growth strategy. However, it can only succeed in transforming the EU's current economic model to become more sustainable and resource-efficient, if the EU creates a level playing field for all modes of transport. Therefore, rail transport has to be put squarely in the centre of all initiatives undertaken in the transport sector, and capital expenditure as well as all financing, funding and subsidy systems in the traffic sector focus on promoting rail transport as the most climate-friendly mode of mass transport in the European Union.

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