



Brussels, 12 November 2019

# **Rail's priorities for the European Green Deal**

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*Summary: The EU and its Member States should implement a number of policy measures to set transport on a path to full decarbonisation by 2050, with a modal shift to rail, effective tools to implement 'user pays' and 'polluter pays' principles and proper funding for clean mobility. European railways are therefore proposing priority measures for the upcoming European Green Deal.*

The European Green Deal has been announced by Commission President Ursula von der Leyen for the first 100 days of the new Commission's mandate<sup>1</sup>: an action plan mainly to address greenhouse gas (GHG) emissions, notably with a European Climate Law for climate neutrality by 2050, and to protect biodiversity, improve water and air quality and make food production sustainable.

European railways are calling on the European Commission, Parliament and Member States to agree on a strong European Green Deal, one that will help to progressively reduce to net-zero the GHG emissions from transport and from the wider economy by 2050 at the latest. European railways support the [European Parliament's March 2019 proposal](#) to increase the EU's 2030 overall GHG reduction target from today 40% (on 1990 levels, as agreed in 2014) to 55%, to bring the target in line with the EU's commitments under the 2015 Paris Agreement and its target to limit global warming to 1.5 degrees. They also support zero-pollution ambition for air.

European railways are doing this for two main reasons. First, like citizens and other businesses across Europe, they understand that the planet needs decreasing GHG emissions now and climate neutrality within a few decades and that Europe, given its historic responsibility for past GHG emissions, must be a frontrunner for global climate action to succeed. Second, European railways today are in their large majority commercial organisations, operating in increasingly competitive markets, with strong competition both intra- and intermodal. As the existing green mode of motorised transport – thanks to [very low externalities](#), high degrees of electrification and [increasingly zero-carbon operation](#) – they see the sector's responsibility to help greening transport, but also a major business opportunity: to benefit from more balanced EU and national regulatory frameworks that give rail a fair chance to compete with road, air and water transport, and from enhanced rail infrastructure development.

It is therefore natural for European railways to think about how they can best contribute to decarbonising transport and how the European Green Deal can support their contribution. For this they are today making concrete proposals to the EU institutions and Member States. Some of the proposed policy measures require funding, others would help raising funds.

**Overarching policies** that the EU and Member States should support with the European Green Deal:

- 1) **Set milestones for decarbonising EU transport:** Decarbonising the EU economy requires decarbonising EU transport. Transport is the EU's only major sector that has not decreased its GHG emissions since 1990. Instead, they have increased by 28%. The EU should now define a clear path for EU transport to reduce its GHG emissions to zero by 2050<sup>2</sup>:
  - -25% by 2030 (on 1990 levels, amounting to -41% for 2016-30)
  - -65% by 2040 (on 1990 levels)
  - -100% by 2050 (climate-neutral transport)

These numbers should be made binding targets, requiring swift corrective action by Member States when EU transport emissions overshoot. The need for specific

transport targets has also been stressed by the International Transport Forum (ITF).<sup>3</sup> Making particular efforts for transport decarbonisation will help the EU to reach its overall targets without squeezing other sectors that, unlike transport, have already realised parts of their initial savings potential. A deep transformation of EU transport will also reduce Europe's oil dependence and create jobs and growth for Europeans.

- 2) **Support a shift to rail:** Decarbonising EU transport requires a shift to clean transport like rail, as recently recommended by think tanks and academics.<sup>4</sup> Low- and increasingly zero-carbon, rail is the existing green mode of motorised transport and must be enabled to fully play its role as *backbone of the digitalised and seamless multimodal system*.

2)A **For rail freight specifically, develop** – in consultation with the sector – **an action plan of EU and national measures** that could enable rail freight to increase its land transport EU market share from 17% today to 30% in 2030, a target put forward by the Rail Freight Forward coalition of European rail freight operators. This should include measures to support digitalisation, combined transport, single-wagon services and last-mile infrastructure.<sup>5</sup>

2)B **For passengers, support a shift to rail particularly in the case of cross-border travel up to 1000 km**, with technical integration (e.g. electrification and safety), but also TEN-T corridor development, supported by CEF funding (see item 4)).

- 3) **Promote marginal social-cost pricing (MSCP) in transport – i.e. implement 'polluter pays' (a principle enshrined in TFEU art. 191(2)) and 'user pays'** so as to *internalise transport externalities*. Only in such a framework, green modes like rail have a fair chance to compete and to fully play their role. Rail is today the only motorised transport mode to nearly cover its marginal costs, according to a recent Commission study.<sup>6</sup> Economists have called for MSCP, as has the European Parliament.<sup>7</sup> MSCP can and should be an important tool to support a shift to rail. One major concrete step is robust carbon pricing for transport (as per item 7). Another one is to initiate more comprehensive road charging, as per item 8).

**Financing and funding policies** that the EU and Member States should support with the European Green Deal:

- 4) **Significantly increase the Connecting Europe Facility (CEF) budget for transport** in the 2021-27 MFF. CEF is a key financing instrument for new connectivity infrastructure that bridges missing links and removes bottlenecks on the TEN-T Core Network Corridors, especially for cross-border rail transport, and that supports technical safety integration and the digital transformation of rail operations.<sup>8</sup> Besides upgrading existing and constructing new rail infrastructure, investment is specifically required for:

4)A **Electrifying further rail tracks**, especially missing links. Across Europe and already today, four trains out of five run on electricity<sup>9</sup>, which is becoming ever greener. Many more trains should be able to do so in future.

4)B **Further digitalising railways, notably by deploying uninterrupted 5G and, crucially, the European Rail Traffic Management System (ERTMS)**, which by 2023 at least 30% and ideally 40% of those corridors should be equipped with.<sup>10</sup>

4)C **Further reducing rail freight noise**, the major remaining environmental challenge for rail. CEF funds of €500m should support the retrofitting of freight wagons as soon as possible with at least 50% co-funding.

All this will help making rail more efficient and still greener and it means new rail network capacity to accommodate a shift to rail. An increased CEF budget is supported by stakeholders across the transport sector. And CEF funding has substantial wider socio-economic benefits: it generates jobs and growth<sup>11</sup>, for prosperity and cohesion across the EU. At the same time, it is important to pair ambitious decarbonisation targets with appropriate financing tools to mitigate the costs of the green transition.

- 5) **Provide robust funding for railway research and innovation.** Budgeting for next-generation Shift2Rail must be coherent with the scope and depth of the rail research programme. Initial estimates suggest that significantly more than € 1 billion will be required. Research should also support interoperability solutions and further digitalisation of railways through development of 5G and AI and help improve efficiency of using alternative fuels such as hydrogen.
- 6) **Facilitate a scale-up of private investment in rail projects**, for instance through the EU sustainable finance agenda. While the European Regional Development Fund (ERDF), cohesion funding and especially CEF remain central for rail funding, EIB financing through EFSI could help mobilise additional public and private funds. Green Bonds are forecast to grow rapidly and low-carbon transport like rail should get better access to them.

**A level playing field for rail** that the EU and Member States should support with the European Green Deal:

- 7) **Implement robust carbon pricing for transport across the EU**, for effective incentives to emit less and for fair competition between transport modes. The price is key, the tool is secondary. For fossil-fuel-driven transport (or inland transport only) it could be a reformed EU ETS (Emissions Trading System) with a minimum carbon price, ideally as a separate ETS until 2030 at least. Or it could be EU-coordinated taxes levied by Member States. Robust carbon pricing must apply to inland transport, but also to aviation and maritime shipping. The price should reflect the external cost, i.e. amount at least to 180 € per ton CO<sub>2</sub> equivalent today.<sup>12</sup> Part of revenues could be redistributed to consumers, especially to vulnerable commuters. At least 50% should be used to boost public transport and clean mobility in general, supporting the modal-shift objectives specified in item 2).

7)A **Allow taxing energy used in international aviation or maritime shipping**, by removing the mandatory exemptions in the energy taxation directive art. 14, which today prevent unilateral carbon pricing by a Member State. Until the removal becomes effective, the Commission should assist Member States willing to enter bi- or multilateral tax agreements so that taxation is better aligned with climate ambitions.

7)B **End subsidies for flying**, such as exemptions from kerosene tax, EU ETS and value-added tax (VAT), alongside ending subsidies for regional airports. As a transitional measure, flight ticket taxes can be implemented easily and unilaterally by each member state. They should be set at a level that is sufficient to fully offset aviation's operating subsidies, to make competition with passenger rail fairer and

thus to properly incentivise low-carbon mobility. The funds should be used to incentivise sustainable modes of transport (e.g. night trains).

- 8) **Make road charging more comprehensive**, in line with 'user pays' and 'polluter pays' principles, by agreeing on a wide-ranging revision of the *Eurovignette* directive.<sup>13</sup> This will help greening road transport and also give already-green modes a fair chance to compete. In upcoming trilogue discussions, the Commission should stand behind its 2017 proposal, support Parliament's increased ambition for EU road-charging rules and, if necessary, make substantial efforts in trying to convince Member States of the proposal's merits, especially as to distance-based infrastructure charging (a long-standing EU rule for rail<sup>14</sup>) and external-cost charging.

**Other policies** that the EU and Member States should support with the European Green Deal:

- 9) **Encourage the use of low-emission transport in Erasmus+ programmes**, especially in actions targeting European Youth. Like for [DiscoverEU](#), the principle of travel by rail could be adopted by other mobility initiatives under the Erasmus+ programme. Erasmus+ is the EU flagship programme for education, culture, youth and sport. Learning Mobility for Individuals (Key Action 1) is a major component of Erasmus+ and [received 55% of the programme's total budget in 2017](#) (EUR 1.4 billion). Action supported by Key Action 1 should aim at increasing motivation to travel by train, to make sustainable mobility a life-long decision for young Europeans.
- 10) **Improve cross-border interoperability by swiftly implementing the TEN-T-Regulation** (no. 1315/2013). As a priority, Member States should preferably apply the GC loading gauge (see INF TSI) when building or upgrading lines, and enable 740 m freight trains and 22.5 tons axle load.
- 11) **Increase interconnectivity between rail and road**, e.g. by making compatibility of trucks and trailers with combined transport mandatory by law. Future revisions of road legislation (in particular of Directive 96/53 on weights and dimensions of trucks and Regulation 1230/2012 on the type approval of road units) should ensure that *all* trailers, semi-trailers and cabs are interoperable and can be used in combined-transport operations. Intermodal cooperation between road, rail and inland waterways should be supported with measures that reduce transshipment costs, for efficient long-distance freight transport in a multimodal system.
- 12) **Mainstream the European Green Deal across all EU policies, to boost the energy transition and develop sustainable cities**. As a major electricity user, railways demand green energy, which proper implementation of the EU's [Clean Energy Package](#) should help provide. The [Urban Mobility Package](#) should guide cities to become greener by using a public transport-centric approach coupled with sustainable urban freight plans.

**Additional policies** that should be considered for the European Green Deal to support a shift to rail:

- i. **Temporarily waive part of rail track access charges** until the transition to MSCP (see item 3)) is completed in transport, to compensate railways for the unpaid environmental, accident and infrastructure costs of competing transport modes in so far as these costs exceed the equivalent costs of rail. This principle of

[SERA directive](#) art. 34, already applied in a few Member States (AT, BE, DE, DK, IT, SE, UK), should be extended, especially for freight rail, which is most directly affected by the MSCP implementation gap in road transport. As per SERA directive art. 8(4), public funds should cover the revenue losses resulting for rail infrastructure managers.

- ii. **Reduce the customs guarantee burden for rail freight**, by making a guarantee waiver the standard arrangement for rail freight.<sup>15</sup> Since 1 May 2019, operators must provide a customs guarantee, which for rail freight could reach unbearably high amounts due to high volumes and tax values. Currently, conditions to obtain a guarantee waiver are interpreted by several Member States in very restrictive ways. Without a guarantee waiver, rail freight costs would rise considerably, triggering a reverse modal shift to other, more polluting modes of transport.
- iii. **Promote sustainable tourism**, especially the choice of near-by European destinations and sustainable travel modes. So far, EU action for sustainable tourism is focused on tourism products, destination management and accommodation. Taking a wider approach, policymakers should now be "addressing the environmental impact of transport linked to tourism", a major challenge identified already in the Commission's 2007 "[Agenda for a sustainable and competitive European tourism](#)".
- iv. **Improve transport eco-labelling to help travellers and shippers**, so that they can make a well-informed choice for low-carbon mobility. Quick gains in reducing transport GHG emissions could be achieved by triggering behaviour change. The Commission should help align existing carbon footprint approaches, so that a unified methodological framework can be established.<sup>16</sup>

**European railways are a key to EU transport decarbonisation** and asking the EU to help them maximise their contribution. In return, they will

- further improve their energy efficiency (already increased by 22% since 1990<sup>17</sup>) by an estimated 25% from today to 2050 (complying with rail's commitment<sup>18</sup> to reduce specific energy consumption by 50% by 2050 compared to 1990) so that rail remains the most energy-efficient motorised transport mode by far<sup>19</sup> – e.g. by optimising train speed thanks to enhanced driver training and automated train operation,
- further reduce their specific CO<sub>2</sub> emissions (CO<sub>2</sub> intensity per pkm or tkm) by an estimated 65-70% from today to 2050, by first meeting the interim target<sup>18</sup> of 50% reduction by 2030 compared to 1990, so that rail remains the most CO<sub>2</sub>-efficient motorised transport mode by far<sup>19</sup> – thanks to improved energy efficiency in railways (see above) and increased use of renewables in power generation,
- further improve their processes and operational efficiency, e.g. with digitalisation, especially through ERTMS roll-out and expanded 5G connectivity (see item 4), but also with targeted initiatives like [Boosting International Rail Freight](#), which started in 2016, with [progress reported](#) in 2018,
- further innovate rail services and products, e.g. new freight bundling concepts in close cooperation with the other modes such as maritime shipping, or new daily connections to move freight between European economic hubs fast, reliably and sustainably,
- closely cooperate with other modes of transport to further develop Mobility as a Service (MaaS) – where enhanced door-to-door mobility, with railways as the backbone, will encourage more people to choose sustainable travel options.

Moreover, with regard to item 7), European railways are ready to accept equal treatment and therefore **unreduced carbon pricing also for rail**. In some EU Member States, **rail diesel** is exempt from energy tax. In others, it enjoys a significant tax reduction. Those exemptions and reductions for rail could be removed *if, when and to the extent that* they are removed for all other motorised transport modes. Further rail track electrification (see item 4)A) and the use of alternative fuels like hydrogen (see item 5)) will support the transition away from diesel.

The European Green Deal must now set European transport on a path to full decarbonisation by 2050 – with a modal shift to rail, effective tools to implement 'user pays' and 'polluter pays' principles, proper funding for clean mobility and other supporting measures. CER stands ready to engage with policymakers to help the European Green Deal deliver clean mobility for all.

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#### **About CER**

The Community of European Railway and Infrastructure Companies (CER) brings together railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 71% of the rail network length, 76% of the rail freight business and about 92% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe. For more information, visit [www.cer.be](http://www.cer.be) or follow [@CER\\_railways](https://twitter.com/CER_railways) on Twitter.

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## Endnotes

<sup>1</sup> Ms von der Leyen has announced the Green Deal [to the European Parliament](#) and in her [mission letter](#) to European Commission Executive Vice President Frans Timmermans.

<sup>2</sup> These numbers have been [put forward](#) by the European cross-sector [Platform for Electro-mobility](#) in March 2019.

<sup>3</sup> Referring to the Paris Agreement, [ITF regrets](#) that "only 10% of the Nationally Determined Contributions include a transport CO<sub>2</sub> reduction target" and concludes (under "To Dos"): "It is not enough that 6 in 10 NDCs contain transport measures when the sector is the second-largest emitter. The NDCs must include more, and especially more specific, commitments."

<sup>4</sup> CERRE [stressed](#) the need to "implement tailored policies that can deliver the modal shift required in European mobility". The Jacques Delors Institute (Berlin and Paris) [recommended](#) to "encourage a shift from dirty modes of transport towards cleaner ones". Specifically, the EU should "better support innovation in the railway sector, including freight and night trains". Bruegel [recommended](#) "a switch from road to rail and maritime transport" for freight and "substitution by high-speed trains" for passenger aircraft.

<sup>5</sup> A European action plan for rail freight could aim to take to the next level the existing national plans (e.g. Germany's 2017 "Masterplan Schienengüterverkehr", set out in German by the transport ministry [here](#) and summarised by the sector [here](#)).

<sup>6</sup> Published in June 2019, DG MOVE's [study](#) on "Sustainable Transport Infrastructure Charging and Internalisation of Transport Externalities" states in its executive summary (see [Main Findings](#), p. 16): "MSCP is not achieved at the EU28 level (...) Variable infrastructure and external costs are generally not covered by variable taxes/charges. An exception is rail transport (particularly high speed trains and diesel passenger trains), where the rail access charges and diesel taxes reflect the variable nature of the external costs and the variable part of the infrastructure costs." Variable costs (total costs minus fixed costs) per passenger-km or ton-km are a good proxy for marginal costs.

Rail's good coverage of marginal or variable costs, much better than e.g. in road transport, is illustrated in a recent [CER factsheet](#), which summarises and explains key results from DG MOVE's study.

<sup>7</sup> See the European Parliament's [Resolution on low-emission mobility](#) of 14 December 2017, item 18.

<sup>8</sup> Details are outlined in a [CER position paper on CEF](#) and another [one on MFF](#).

<sup>9</sup> An electrification share of 77% of train-km has been determined for European rail networks included in the [PRIME benchmarking](#) on 2017 data; see [executive summary](#) (slide 7) or [full report](#) (slide 34). Switzerland's railway lines are 100% electrified, while Luxembourg (95%), Belgium (86%), the Netherlands, Sweden, Italy, Bulgaria and Austria are all above 70%; see "EU transport in figures": [Statistical pocketbook 2019](#), p. 81.

<sup>10</sup> ERTMS deployment is a basis towards a progressively more automated interconnected railway system. Combined with automated train operations (ATO) and other new technologies, such as artificial intelligence, digital information sharing and embedded sensors and telematics, it makes the system smarter and more effective. The digital railway will drive the integration of the overall mobility-digital eco-system for all transportation modes.

<sup>11</sup> An overview of rail investments' wider socio-economic benefits is provided in this [CER factsheet](#), based in particular on [2018 TEN-T investment analysis](#) by the European Commission and on a [2014 study of rail's economic footprint](#) by Ecorys.

<sup>12</sup> This external cost estimate was [put forward](#) by Germany's Umweltbundesamt (federal environmental agency) in November 2018. Applying this value as a carbon price in Europe is [supported](#), for example, by the European Environmental Bureau. For Sweden, a price of 7 SEK per kg CO<sub>2</sub>, i.e. 650 € per ton CO<sub>2</sub>, has been recommended by ASEK, a group of researchers connected to Trafikverket and responsible for recommendations on the socio-economic value factors in Sweden, see e.g. p. 31 of their [recent report](#).

<sup>13</sup> In revising the [current directive](#) and further to its May 2017 [proposal](#) (broadly welcomed by CER in its [summary sheet](#) of September 2017), the Commission rightly praised the European Parliament's amendments put forward in its [1st reading position](#) of October 2018. For EU Council discussions, CER made concrete recommendations in a [position paper](#) in April 2019.

<sup>14</sup> See [Single European Railway Area \(SERA\) directive](#) art. 31(3): rail infrastructure use charges "shall be set at the cost that is directly incurred as a result of operating the train service", implying a distance-based charging obligation.

<sup>15</sup> Historically, a guarantee waiver, i.e. relief from the obligation to pay a guarantee for customs debt or other charges, has always been granted to EU railway undertakings; see art. 95 of the Community Customs Code that was applicable until 1 May 2016 (before a 3-year transition period): "2. Except in cases to be determined where necessary in accordance with the committee procedure, no guarantee need be furnished for: ... (d) operations carried out by the railway companies of the Member States."

<sup>16</sup> EN 16258 is a step in the right direction, but a consistent cross-modal eco-label for transport remains to be developed.

<sup>17</sup> See [IEA-UIC Railway Handbook 2017](#), p. 28: "Between 1990 and 2015, energy consumption per transport unit (a weighted combination between passenger-km and freight tonne-km) decreased by 22.2% and CO<sub>2</sub> emissions per transport unit decreased by 45.2%."

<sup>18</sup> The sustainable mobility targets for the European railway sector can be found in Section 8 (page 45) of the CER and UIC brochure "[Rail Transport and Environment facts and figures](#) (2015)"

<sup>19</sup> This is according to projections used by the European Commission in its [EU Reference Scenario 2016](#), which analyses the long-term economic, energy, climate and transport outlook based on the current policy framework.

Rail is expected to remain at least four times as energy-efficient as any other motorised mode, both for passengers and freight – except for inland navigation, which in 2050 is expected to be only about 20% less energy-efficient than freight rail.

In terms of specific CO<sub>2</sub> emissions, European railways – low-carbon already today – are expected to increase their CO<sub>2</sub> efficiency by more than any other motorised mode, both for passengers and freight, to become at least 20 times as efficient as the other modes, except for inland navigation (6 times).