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Urgent call to boost rail investment to combat climate change

(Paris, 21 November 2023) Using OECD rail and road transport data from 2007 to 2021, a new analytical memo on the modal share of rail in inland transport, developed by the UIC Statistics Unit, has revealed a pressing need for increased investment in rail infrastructure and operations to support the growth of rail's modal share in inland transport. Despite the global rail market's overall expansion, in numerous countries, the modal share of rail in both freight and passenger transport, as well as in infrastructure investment, has been experiencing a steady decline in favour of road transport.

Transport sector emissions have also increased at a rate of 1.7% on average annually since 1990. However, according to the International Energy Agency, these will need to decrease by more than 3% annually by 2030 to have net zero emissions (NZE) for the 2050 Scenario.

Rail is the only mode of transport to have reduced its emission levels and has the lowest greenhouse gas usage and energy consumption of all transport modes, carrying 8% of the world's passengers and 7% of global freight transport for only 2% of total transport energy demand. Exploring the rail sector's potential will be key to support the transition to a decarbonised economy without sacrificing connectivity and livelihoods.

The analytical memo gives insight into three categories:

Freight transport: In the EU-27, over the past 15 years, rail's share of inland freight transport has averaged approximately 19%. However, it has also shown a slight decline since 2016. In Russia, Belarus, Ukraine, and Georgia, rail freight transport accounts for more than 60% of inland tonne-kilometres, although trends vary. In North America, rail's modal share for freight has fluctuated on the whole, but there has been a decline since 2016. In China and India, the modal share of rail freight has seen a significant decrease, while this is the opposite in Australia.

Passenger transport: In the EU-27, rail's modal share of inland passenger transport was around 8%, with a notable decline in recent years due to the impact of COVID-19. In North America, less than 1% of inland passenger transport is by rail. India's rail passenger transport has also decreased significantly, although Japan, South Korea, and Australia saw relative stability until 2019. Globally, rail represents approximately 8% of inland passenger transport, with a slight negative trend, which was exacerbated in 2020 and 2021. Although data beyond 2021 is yet to be released, rail passenger activity data shows that the sector has started to recover to pre-pandemic levels, but this does not mean that it is reaching real growth in most parts of the world.

Inland transport infrastructure investment: Globally, rail infrastructure investment increased until 2010, with slow growth until 2015, which was then followed by stagnation. Meanwhile, road infrastructure investment saw significant growth from 2015 onwards. Rail infrastructure investment showed a slight increase from a 26% modal share in 2007 to 31% in 2010, which then transformed to a steady decline to 19% in 2021. Regional variations include an increase in Australia and Japan, while China and, to a lesser extent, India witnessed a decrease. In the EU-27, infrastructure investment in rail increased significantly over the past 15 years, reaching a 46% modal share in 2021.

These findings underscore the urgent need for increased investment in rail transport to combat climate change and promote sustainable transport solutions, in line with the recent recommendations of the Global Stocktake's synthesis report, a critical process of the Paris Agreement, which states that a "*modal shift towards walking and public transport is crucial for rethinking mobility*".

The data-driven analysis calls for governments and policymakers to prioritise rail investment, particularly as they update their National Determined Contributions (NDCs) under the Paris Agreement. These NDCs can serve as powerful policy tools to increase rail's modal share. Policies need to be combined with financing, so that they can be implemented through innovative financing mechanisms, including carbon markets established by Article 6.4 of the Paris Agreement and use of the loss and damage funds.

As countries prepare to meet at COP28 in Dubai, UIC will be launching two knowledge products:

- **Rail analysis and recommendations for better Nationally Determined Contributions (NDCs):** *NDCs are a vital component of the Paris Agreement. Each participating country within the Paris Agreement is asked to submit an NDC, outlining the commitments and actions that it intends to take to reduce its greenhouse gas emissions and strategies to adapt to the ramifications of climate change. Including rail within NDCs can help accelerate the decarbonisation of the transport sector in many ways. UIC has analysed 193 NDCs to determine to what extent rail is mentioned, and provides recommendations that help build more comprehensive NDCs for the upcoming 2025 round of NDCs.*

  Climate financing for rail in LMICs: *UIC has partnered with the World Bank, Alstom, the University of Birmingham, and Roland Berger on a climate finance study to bridge the investment gap in rail projects in Low Income Countries (LICs) and Low-Middle Income Countries (LMICs). As one of the main contributors to global emissions, the transport sector must be decarbonised, and railways can support the transition. In LMICs, investment in rail is growing at a much slower rate, and this study shows the climate benefits of increased investment in rail and provides recommendations on how to close the investment gap and help realise socioeconomic development, without increasing emissions in the transport sector.*

UIC is working with partners such as the International Association of Public Transport (UITP), Walk21, SLOCAT, the World Bank, Alstom, the University of Birmingham, and Roland Berger to bring these messages to COP28 and advocate for further action to support rail development as a climate solution, under the More Trains campaign. Cecile Texier, VP of Sustainability & CSR at

Alstom, has emphasised that: “The trends shown in UIC’s analysis are not encouraging. Fulfilling the Shift agenda, by moving demand to lower emission modes of transport like rail, for both passenger and freight, must play an integral part in moving the transport sector onto a Net Zero pathway. It is imperative that governments, policy makers, financial backers, and the rail industry work together to create the conditions that will increase rail investment throughout the world.”

UIC Director-General Francois Davenne who will lead the UIC delegation for COP28 added that: “It’s deeply concerning to see the alarming decline in rail’s modal share and in its investment trends. Governments, international finance institutions and businesses need to take immediate action to slash transport sector emissions and capitalise on the pivotal role that rail can play as a climate solution. This is the message that UIC will push for at COP28, on behalf of the wider rail community".

The modal share of rail in inland transport and infrastructure investment:
https://uic.org/com/IMG/pdf/the_modal_share_of_rail_in_inland_transport_and_infrastructure_investment.pdf

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