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Urgent call for rail investment to meet global climate targets as global railway networks and investments shrink

How can COP29 boost rail investment to support decarbonisation efforts?

(Paris, 14 November 2024), As the world prepares for the 29th Conference of the Parties (COP29) in Baku, Azerbaijan, from 11-22 November 2024, the global community faces a pivotal moment in the fight against climate change.

The International Union of Railways (UIC), a longstanding advocate for sustainable rail transport at COP events, will also return this year to highlight the essential role of rail in decarbonisation. Having participated actively in COP events for many years, including COP26, COP27, and COP28, UIC has consistently promoted rail as a key contributor to reducing emissions, increasing energy efficiency, and enhancing resilience to the effects of climate change.

With countries expected to submit their Nationally Determined Contributions (NDCs) 3.0 ahead of COP30, the pressure is mounting to deliver ambitious, economy-wide emission reduction targets aligned with the goal of limiting global temperature increases to 1.5°C. By clearly defining specific policy and investment needs for decarbonisation, governments can strengthen their position in order to attract financing and obtain the funding and technical support necessary for realising their goals. This is currently particularly important, as the latest data reveals alarming trends in rail activity and investment that threaten to undermine these essential climate goals.

According to the International Energy Agency (IEA), the transport sector is responsible for 7.98 Gt of CO₂ emissions, making it the third largest source of global emissions. Therefore, to achieve the IEA's Net Zero Scenario, emissions from transport must drop to 6 Gt CO₂ by 2030.¹ Railways are crucial for achieving these targets, as they currently carry 7% of global passengers and 8% of freight while accounting for only 1.2% of total transport emissions.

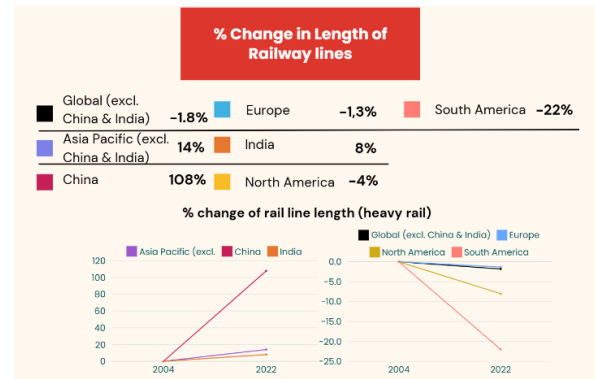
Alarming trends in rail activity and investment

**Length of railway lines and electrification:
global network expansion with regional
disparities**

¹ [Rail - IEA](#)

Between 2004 and 2022, global railway networks shrunk in most regions. Asia Pacific was the exception to this trend, notably thanks to China and India, and now holds the largest share of global rail kilometres, surpassing the Americas and Europe. Moreover, the Americas saw the biggest decline in network length in this timeframe.

Regarding electrification, Europe leads with 55% of its railway lines electrified, closely followed by the Asia Pacific region at 53%. With a global electrification rate of 35% in 2022, rail remains the most electrified mode of transport, proving its role as the backbone of sustainable transport by reducing carbon emissions with electrification.



Freight transport: market share losses for rail in favour of road



The global shift towards road transport has reduced the share of freight moved by rail, underscoring an urgent need for focused policies and investment in rail to promote sustainable transport.



However, Europe and Australia offer encouraging examples of how concerted policy efforts can help increase rail freight's share of the market. In the EU, the European Green Deal has called for more efficient use of rail capacity, with modal shift targets setting the region on the path to doubling freight rail capacity by 2050.



Policies promoting cross-border interoperability have positioned rail as a key player in inland freight, with its share recovering after a brief dip during the COVID-19 pandemic.

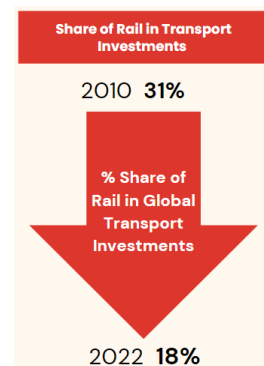
Passenger transport: significantly affected by COVID-19

COVID-19 directly impacted rail's share in global passenger transport, however, at different levels for different regions. Comprising just 1% of inland passenger transport in the US, no major changes were seen for rail during this period. In the EU-27 however, the pandemic engendered a 2% loss (2020-2021) from the stable share of 8% until 2019, before returning to 8% in 2022.

In South Korea, railways have carried 7% more passengers since 2008, leading to a total of 22% in 2022. Considering all of the data available, 7% of all inland passenger transport was covered by rail in 2022, with 72% of all rail passengers worldwide being carried by trains in the Asia Pacific region.

Inland transport infrastructure investment: public spending for road is four times higher than rail

Originally at 31% of total transport infrastructure investments in 2010, the proportion dedicated to rail had dropped to an alarming 18% by 2022. Nevertheless, significant differences can be observed across and within world regions. In the EU-27, rail saw increased investment between 2008-2022 (from 39% to 44%), especially in Slovenia, Denmark, France, and Italy, where the share of rail investment increased by 20 percentage points in this period. In Asia and Oceania, Australia, Japan and South Korea increased their rail investment share, while Chinese investments prioritised road transport, causing a significant decline of rail's share in total investments. Looking to North America, despite a commitment to rail projects being announced, reports find a staggering decline from 12% in 2020 to approximately 8% in 2022.



Finance COP and the NCQG

COP29, dubbed the "finance COP", will focus on establishing the New Collective Quantified Goal on Climate Finance (NCQG). The NCQG, set to replace the previous \$100 billion annual target, is expected to mobilise resources on a much larger scale, which could help address the significant financing gap faced by rail projects, especially in low and middle-income countries (LICs and LMICs). By providing substantial funding through grants, or loans with significant grant-based components, the NCQG could greatly increase the financial viability of rail projects and leverage additional concessional financing.

Unlocking ITMO markets for rail

As the most decarbonised and energy efficient mass mode of transport, the rail sector has significant potential to benefit from carbon markets including the emerging Internationally Transferred Mitigation Outcomes (ITMO) carbon market at COP29. As countries seek to meet their Nationally Determined Contributions (NDCs) under the Paris Agreement, rail projects offer a vital opportunity to reduce emissions by generating carbon credits, particularly focusing on the ITMOs established in Article 6 of the Paris Agreement. By quantifying and monetising the emissions reductions achieved through shifting passengers and freight from higher-emission modes to rail under ITMOs, railway companies could access new funding streams that improve their financial performance while incentivising further sustainable transport development.

Delhi Metro's success with carbon credit sales through the Clean Development Mechanism shows how public transport can drive climate action. By offering millions

of people reliable, high-quality services, we have reduced emissions and promoted sustainable mobility. Article 6.4 of the Paris Agreement must now include projects that avoid emissions through a modal shift. The proven methodologies are in place, and including these projects in carbon markets will accelerate the global transition to low-carbon transport.

S.A. Verma, General Manager Delhi Metro Corporation (DMRC)

Building resilient railways

As extreme weather events become more frequent and severe, COP29 must also prioritise efforts to build resilience into rail transport infrastructure. Existing efforts to operationalise the Loss and Damage Fund agreed upon in 2022 (including establishing institutional arrangements, modalities, structure, governance and terms of reference), must address the vulnerability of railway systems to climate hazards, providing funds to repair and restore damage, thereby ensuring the long-term viability and effectiveness of low-carbon transport solutions such as rail.

In conclusion, COP29 represents a critical opportunity for countries to acknowledge the essential role of railways in lowering transport emissions. By investing in rail infrastructure and leveraging carbon markets, we can significantly alleviate the financial burden on railways companies while enhancing rail's role in order to achieve the necessary climate goals.

For more information, please contact Joo Hyun Ha at ha@uic.org or visit our webpage:

[Rail at COP29: Accelerating Sustainable Mobility Solutions | UIC - International union of railways | Events](#)

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UIC is the worldwide organization for promoting sustainable rail transport at a global level and advocating for its integration as a key player in the global mobility system. It brings together some 200 members on all 5 continents, among them rail operators, infrastructure managers, railway service providers, etc. UIC maintains close cooperation links with all actors in the rail transport domain around the world, including manufacturers, railway associations, public authorities and stakeholders in other domains and sectors

whose experiences may be beneficial to rail development. UIC's main tasks include understanding the business needs of the rail community, developing innovation programmes to identify solutions to those needs, as well as preparing and publishing a series of documents such as reports, specifications, guidelines and IRS that facilitate the implementation of the innovative solutions.