



Climate Finance Options for Railway Projects

Railway Continental Workshop

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Ramada Resort by Wyndham
Dar-Es-Salaam, Tanzania

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the Africa Union Program for the Development of
Infrastructure in Africa (PIDA)*



An Integrated, Prosperous
and Peaceful Africa

- **Overview**
- **Challenges**
- **Unlocking the Potential for Railway through Climate Finance**
- **Climate Finance Options for Railway Projects**
 - **Project Preparation Funding**
 - **Project Financing**
 - **Operations & Maintenance**
- **Conclusions and Discussion**

- **GIZ's Green Infrastructure Corridors for Intra-African Trade project has prioritized assisting the African Union (AUC and AUDA-NEPAD) to plan for low carbon and climate resilient infrastructure projects and with mobilizing climate finance for PIDA projects, including inter alia:**
 - **The development of the Master Plan for transport projects, particularly the African Integrated High-Speed Railway Network**
 - **The development of a “railway sourcebook for Africa” and green-railway related policy recommendations**
 - **The identification of potential financiers for the Uvinza – Musongati – Gitega Electrified Standard Gauge Railway (SGR) amongst other projects**

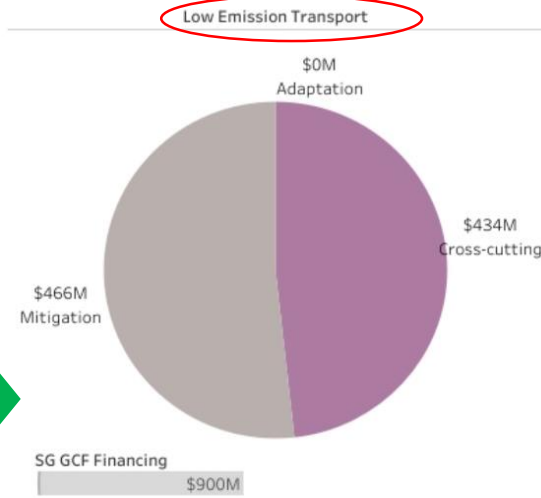
- **Climate Finance refers to domestic or international financing provided by any public or private entity for activities that, in whole or in part, mitigate GHG emissions or support adaptation and resilience to climate change. (World Bank Group 2022) (UNDP 2023)**
- **Climate Change Adaptation refers to “actions that help reduce vulnerability to the current or expected impacts of climate change” (e.g., floodings, sea-level rise, droughts, heatwaves) (UNDP 2023)**
- **Climate Change Mitigation refers to any action taken “to reduce or prevent GHG emissions or to enhance carbon sinks, that remove GHG from the atmosphere” (UNDP 2023)**

- **The amount of investment needed is substantial. The McKinsey Global Institute estimated that globally USD 300 billion additional investment in railways is needed every year**
- **Just to keep pace with expected economic growth and more would be needed to reach the United Nations Sustainable Development Goals and to make rail infrastructure climate resilient**
- **A recent International Union of Railways (UIC) white paper estimates that low- and middle-income countries (LMICs) would need between USD 25 and USD 80 billion annually between now and 2050**

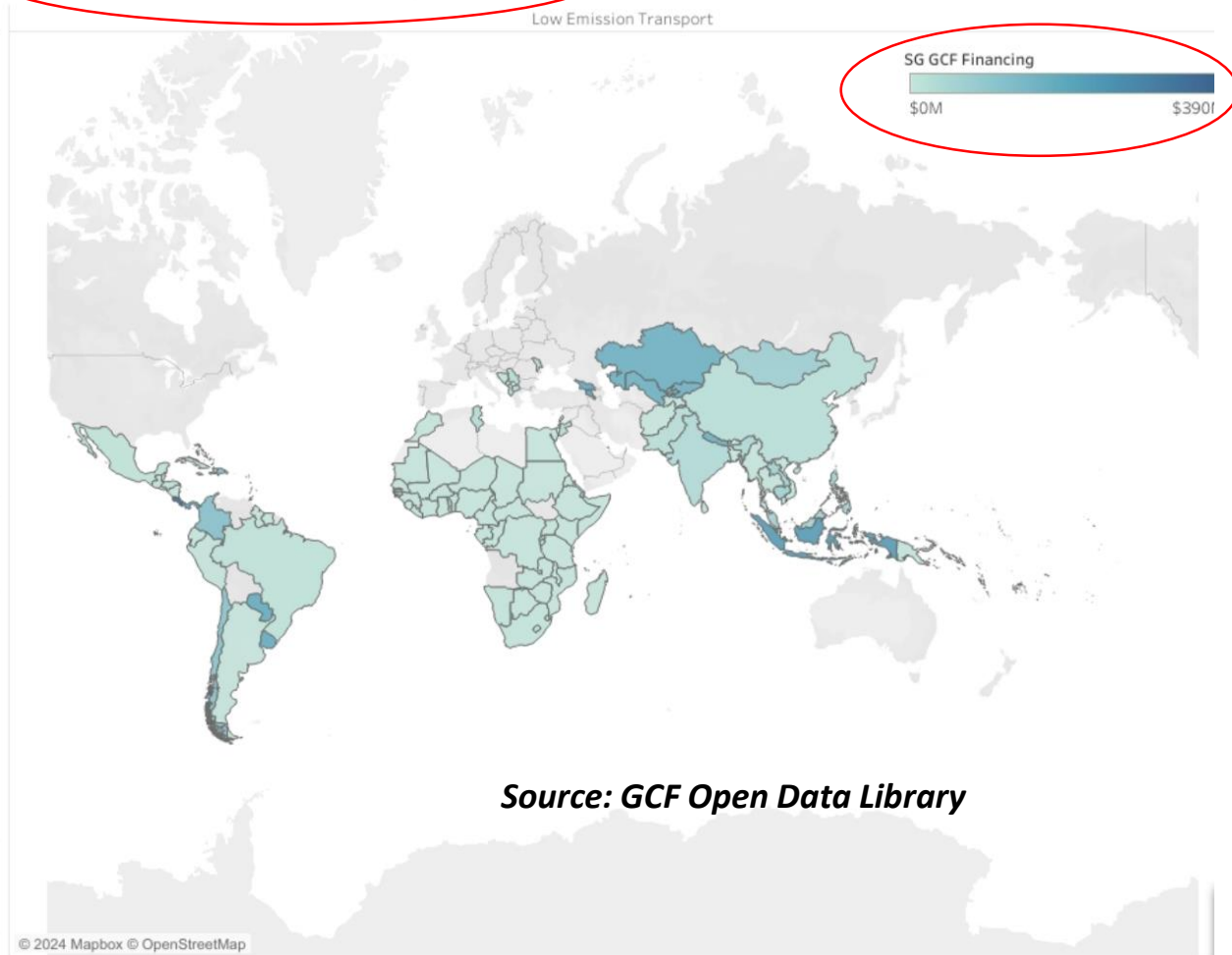
Sectoral Guides by Financing



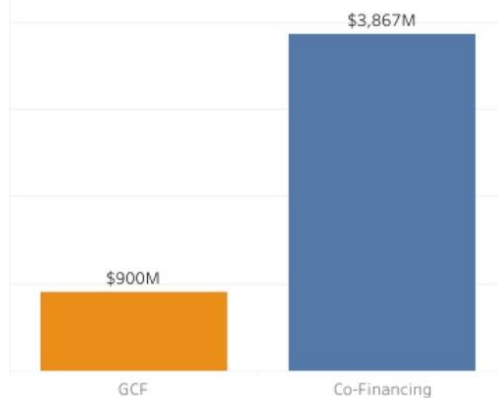
Sector Guide Financing - Nominal - by Theme



GCF Financing - Nominal - in countries by Sector Guide



Sector Guide Financing- Nominal - GCF vs Co-Financing



Railways have had limited success in accessing climate specific financing instruments

Source: GCF Open Data Library

- **Climate funds: their resources are relatively limited - in 2020 their total funding was USD 5 billion - and only a fraction of that went to rail**
- **Fiscal space: major sources of funding are often government revenue (general taxes, earmarked taxes, intra-governmental transfers, or non-repayable grants), user revenue (whether freight or passenger services), commercial revenues, and real estate development revenue**
- **Harmonization: Move from cape gauge or metric gauge to standard gauge would cost a lot and hamper the funding mobilization**
- **Investment risks: result from the inherent associated with emerging economies, including macroeconomic stability, currency volatility, political instability, and others**
- **Domestic Resource Mobilization strategies: most financing is in form of loans overburdening African states with debt and hindering locally led-action**

Compared to other modes rail has one of the smallest carbon footprints, with an average emission of 22g of CO₂ per passenger-km

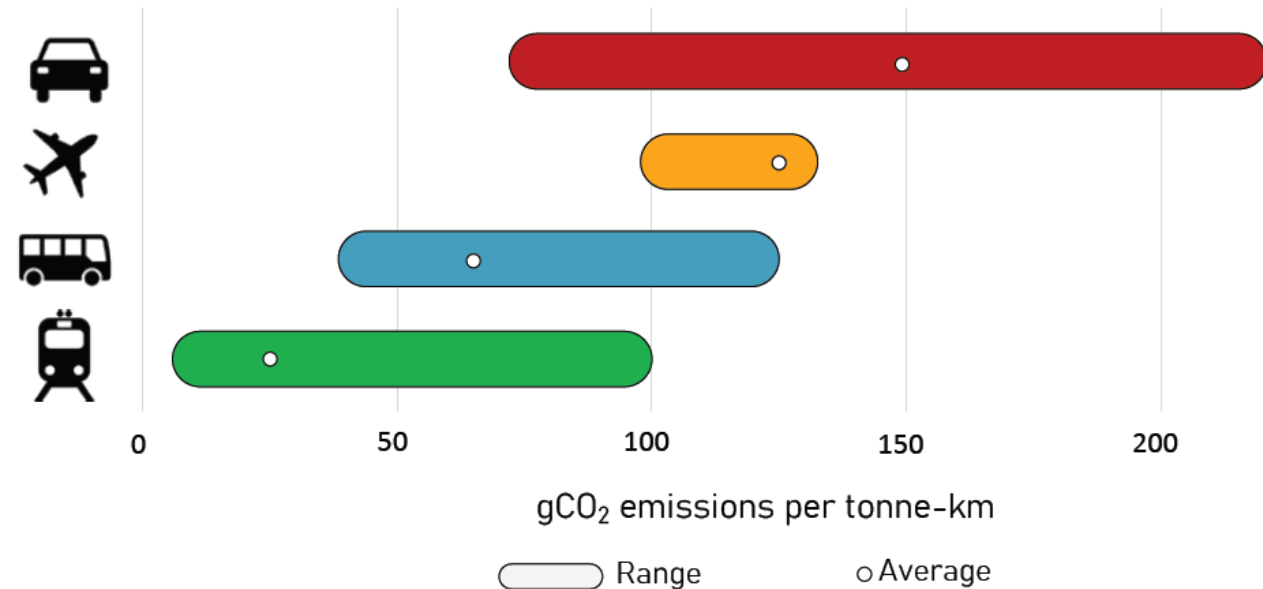
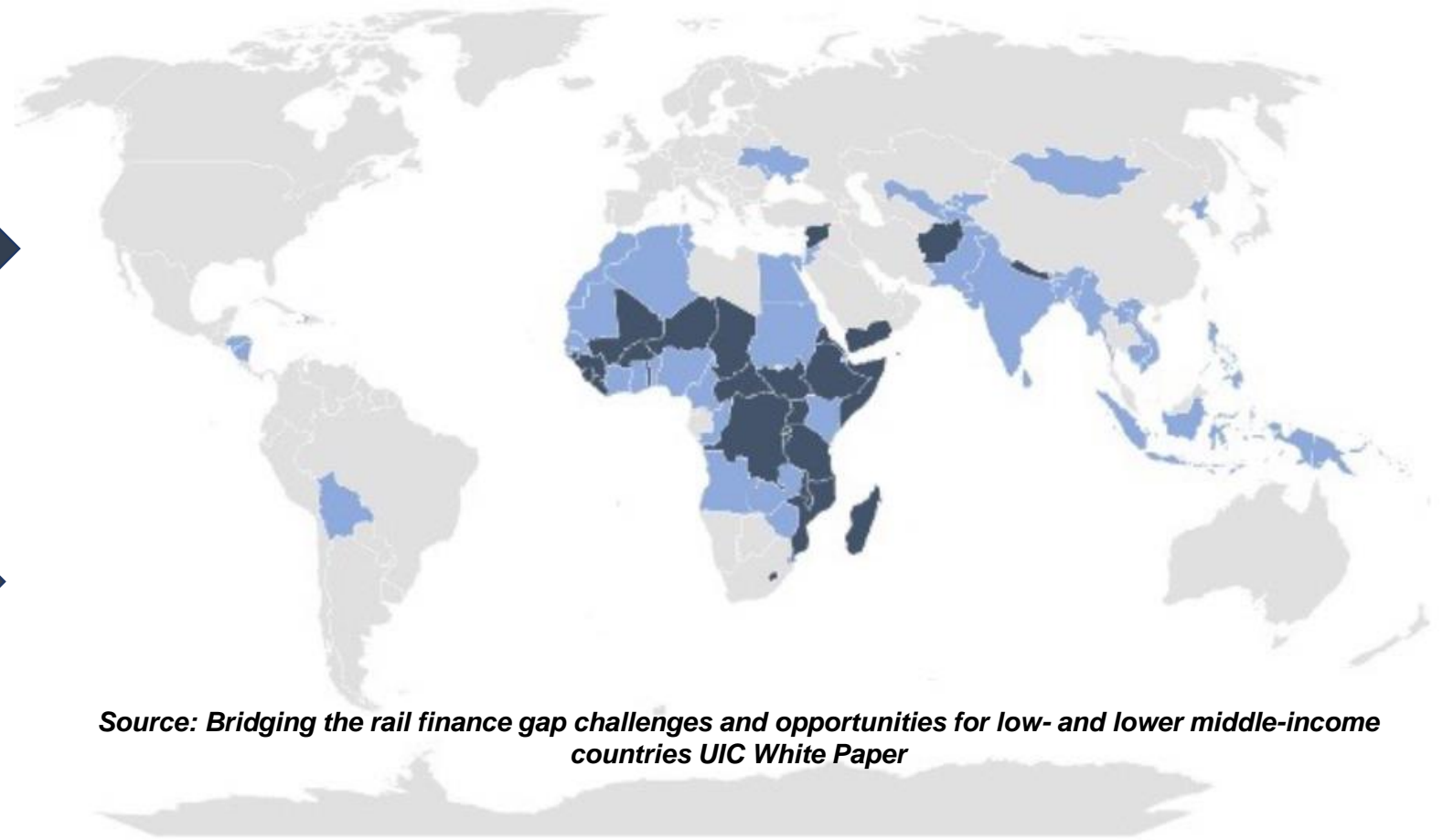


Figure 1. Average emissions per passenger-km for different transport modes

Source: *Bridging the rail finance gap challenges and opportunities for low- and lower middle-income countries UIC White Paper*

Low-income countries (LICs) are those with a GNI per capita of USD1,135 or less in 2022

Lower middle-income countries (LMICs) are those with a GNI per capita between USD1,136 and USD 4,465



Source: *Bridging the rail finance gap challenges and opportunities for low- and lower middle-income countries UIC White Paper*

Low-income countries (LICs)

Lower middle-income countries (LMICs)

- **Decoupling growth from carbon emissions in low-income and lower-middle-income countries (LICs and LMICs) is crucial globally**
- **If transport emissions in these countries matched those of high-income nations global emissions would more than double increasing by 16%**
- **Monetizing this amount at recent Social Costs of Carbon estimates values avoiding these emissions at over USD 1.5 trillion annually**
- **International Finance Institutions are shifting towards financing projects aligned with the Paris Agreement potentially redirecting funding from roads and airports to rail and ports**

- **This presentation examines hands-on experiences in attracting financing from climate-specific financing instruments of railways in LICs and LMICs**

- **The review encompasses at each stage of the project lifecycle as it applies:**
 - **Private sector climate finance whose resources could potentially meet the entire rail financing gap**

 - **Carbon markets to finance or refinance eligible projects linked to electrified and low-carbon rail infrastructure for passenger and freight transport**

 - **Climate funds as a potential co-financier for railway projects**

- **What would it take to scale up climate-specific finance of railways? We would like to hear from your experiences**

Project Preparation Funding

YEAR OF APPROVAL	PROJECT TITLE	OBJECTIVES OF THE PROJECT	BENEFICIARY COUNTRIES	REGION	COMMITTED BY NEPAD-IPPF (USD)	STATUS	PIDA (YES/NO/BEFORE PIDA-PAP/CONTRIBUTING TO PIDA-PAP)	ESTIMATED TOTAL PROJECT COST (USD)
2020	Mozambique - Portos E Caminhos De Ferro De Moçambique EP (CFM)	To conduct environmental studies for project development and securing financing . This includes an ESIA, ESMP), a RAP, and an ESMS for CFM.	Mozambique, Zimbabwe	Southern Africa	665,000	Main studies completed; other activities ongoing	Yes (TR09: Beira-Nacala Multimodal Corridors)	70 Million
2019	Standard Gauge Railway (SGR) connecting Ethiopia and Sudan	To undertake full FS – technical, economic, and financial feasibility for the development of the Ethiopia to Sudan Standard Gauge Railway project, including an ESIA.	Ethiopia and Sudan	Eastern Africa	2,000,000	Studies completed	No	7 Billion
20..	...							

NEPAD-IPPF RAILWAY PROJECTS

Technical Screening Criteria: key considerations

An application is considered successful if the applicant can obtain a minimum total score of 70% and has scored at least 50% in each section

Screening criteria sections	Score (%)	Key considerations
1. Regional Integration	20	<ul style="list-style-type: none"> ▪ This is at the heart of the NEPAD-IPPF's mission. ▪ It also ensures that the project has been previously identified as a regional priority.
2. Potential for Securing Downstream Financing (including PPP Participants)	20	<ul style="list-style-type: none"> ▪ To promote attractiveness to non-public funding sources ▪ To improve the odds of reaching financial close, which is the intended outcome of project preparation ▪ To assess the recoverability of invested project preparation funds.
3. Project Readiness	15	<ul style="list-style-type: none"> ▪ To assess how much groundwork has been done, and if the necessary support and authorizations from governments, and regional bodies have been secured.
4. Execution capacity of implementing institutions	15	<ul style="list-style-type: none"> ▪ To assess the availability of counterpart funding for project preparation activities. ▪ Institution's prior experience with applying for the NEPAD-IPPF Facility and portfolio performance ▪ To minimize or avoid unnecessary delays following admission into the pipeline, and to improve the likelihood and timeliness of completion.
5. Development Impact	20	<ul style="list-style-type: none"> ▪ Ultimate end goal is that projects should catalyse socioeconomic growth in a sustainable manner and in line with the SBP's objectives
6. Sector Alignment	10	<ul style="list-style-type: none"> ▪ To recognize the sector-specific attributes/ risks relating to each project and ensure it aligns with the NEPAD-IPPF's technical sector approach
TOTAL	100	

Other AfDB Funds such as **the Transition Support Facility (TSF)** also support the rail sector

Abidjan Light Train Line 1

Abidjan Light Train Line 1 project also known as Metro d'Abidjan is a 37km-long elevated rapid transit network

Total project cost is USD 1,5 Billion

Preliminary preparatory works were financed in the form of a 2-year bridging loan to the tune of Euro 30 Million by a local private commercial bank (BACI) in 2017

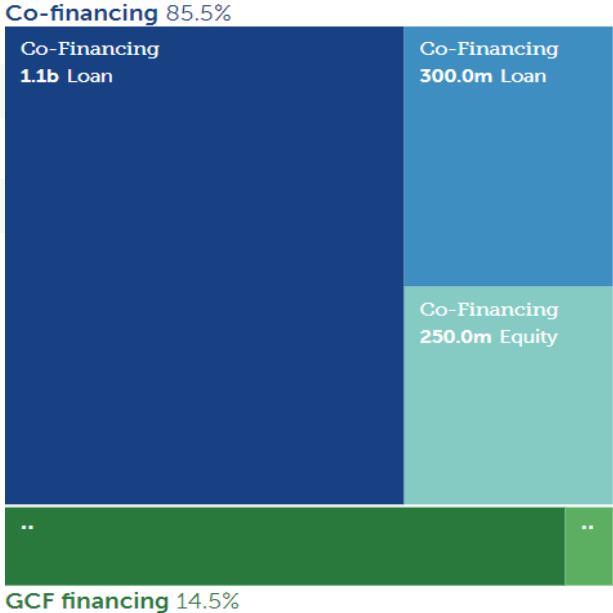
Two exit mechanisms: assignment of severance indemnity to the Lender or long term-term relay refinancing loan by ECA and DFIs



Light Rail Transit for the Greater Metropolitan Area COSTA RICA Approved in July 2021 Co-financing ratio of 15:85

1.9 Billion USD

This project aims to install an 85 km double-track electric light rail transit system in San José’s Greater Metropolitan Area which will be powered by more than 98 percent renewable electricity








GCF financing

INSTRUMENT	AMOUNT
● Loan	USD 250,000,000
● Grant	USD 21,300,000
TOTAL GCF FINANCING	
	USD 271,300,000

Co-financing

CO-FINANCER	INSTRUMENT	AMOUNT
● Co-Financing	Loan	USD 300,000,000
● Co-Financing	Equity	USD 250,000,000
● Co-Financing	Loan	USD 1,052,000,000
TOTAL CO-FINANCING		
		USD 1,602,000,000

Source: GCF Open Data Library

Climate Finance Facilities	
Green Climate Fund (GCF)	
Global Environment Facility (GEF)	
OPEC Fund for International Development	
Saudi Fund for Development (SFD)	
Emerging Africa Infrastructure Fund (EAIF) <i>(only for potential private operators)</i>	

Source: ALG

Moroccan Railways Green Bond In Morocco

- **The Office National des Chemins de Fer du Maroc (ONCF) is the state-owned passenger and freight rail operator**
- **It was the first company in Africa to issue a corporate green bond for sustainable mobility projects**
- **The World Bank supported the Government of Morocco and the railway to structure compensation for public services and restructure ONCF's balance sheet shedding certain debt. The technical assistance offered played a crucial role in readying ONCF to be creditworthy**
- **The inaugural bond was issued in 2022 and valued at approximately USD 95 million**
- **For this project funding of green certification costs by the EBRD instead of the Moroccan partners was pivotal for the successful issuance**

Carbon Markets for Railways

- **Carbon finance markets incentivize activities that reduce or remove greenhouse gas emissions**
- **Emissions are quantified into carbon credits, which can be bought and sold**
- **Two main types: voluntary markets and compliance markets**
- **Voluntary markets allow entities to sell the rights to emission reductions, while compliance markets have regulations restricting emissions**
- **Third-party verification ensures emissions savings are legitimate**
- **Railways have not yet benefited significantly from carbon markets due to lacking standards and regulations**
- **There's potential for railways to tap into carbon markets with improved standards and regulations**

Carbon Markets for Railways

- **The AUC is organizing the Africa Multi-Stakeholder Conference on Carbon Market Approaches in Q3-2024**
- **The overall outcome of the conference is policy recommendations in the form of “An African Action Plan on Carbon Markets (AAPCM)” and**
 - **Increased awareness and understanding of carbon markets and their potential in Africa**
 - **Key opportunities and challenges and areas for research and action related to carbon markets in Africa highlighted**
 - **Practical recommendations and principles that will guide the continent in its engagement in the carbon landscape**
 - **Pilot projects are showcased to explore Carbon Market Trading opportunities**

What would it take to scale up climate-specific financing of railways?

- **Climate funds should be used to de-risk projects and leverage commercial financing**
- **In carbon markets we need:**
 - **Verification Agencies to develop monitoring, reporting, and verification standards**
 - **In compliance markets regulations should be expanded to cover surface transportation including rail**
 - **And for biggest impact Governments and railways need to work together to make their railways creditworthy to access sustainable commercial financing**
- **Unlocking these additional sources of financing will help pave the way for the decarbonization of transport and lasting sustainable economic development**

Thank you

Merci

شكرا

Obrigado

Asante

