

UIC SUSTAINABILITY  
**Rail in Nationally Determined  
Contributions (NDCs)**  
Analysis and recommendations

December 2023



INTERNATIONAL UNION  
OF RAILWAYS

ISBN 978-2-7461-3342-6

**Warning**

No part of this publication may be copied, reproduced or distributed by any means whatsoever, including electronic, except for private and individual use, without the express permission of the International Union of Railways (UIC). The same applies for translation, adaptation or transformation, arrangement or reproduction by any method or procedure whatsoever. The sole exceptions - noting the author's name and the source - are "analyses and brief quotations justified by the critical, argumentative, educational, scientific or informative nature of the publication into which they are incorporated" (Articles L 122-4 and L122-5 of the French Intellectual Property Code).

© International Union of Railways (UIC) - Paris, 2023

# CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>2</b>
<b>1. INTRODUCTION</b> .....	<b>3</b>
Nationally Determined Contributions as an opportunity for the rail sector .....	3
Rail as a climate solution.....	3
<b>2. ANALYSIS</b> .....	<b>5</b>
Methodology .....	5
Findings.....	6
<i>Status</i> .....	6
<i>Leadership</i> .....	6
<i>Policy duration</i> .....	7
<i>Ambition</i> .....	7
<i>Action</i> .....	8
<i>Investment</i> .....	9
<i>Impact evaluation</i> .....	10
<b>3. RECOMMENDATIONS</b> .....	<b>11</b>
What makes a great NDC that promotes rail? .....	11

## UNITS OF MEASUREMENT AND ABBREVIATIONS

<b>CO<sub>2</sub></b>	Carbon dioxide
<b>CO<sub>2</sub>e</b>	Carbon dioxide equivalent
<b>Gg</b>	Gigagrams
<b>Gt</b>	Gigatonne
<b>Mt</b>	Metric tonne
<b>Passenger-km</b>	Unit of measurement corresponding to the transport of a passenger over a distance of one kilometre
<b>Tonne-km</b>	Unit of measurement corresponding to the transport of one tonne over a distance of one kilometre

# EXECUTIVE SUMMARY

Despite global efforts to limit global warming to 1.5°C, in 2022, global CO<sub>2</sub> emissions from the transport sector reached nearly 8Gt CO<sub>2</sub>, accounting for more than a third of emissions from end-use sectors. At the same time, being on track for the Net Zero Emissions Scenario would require transport emissions to fall by approximately 25% by 2030, even if demand grows as anticipated<sup>1</sup>.

Rail accounts for just 1% of transport emissions

Rail can play a key role in curtailing emissions from the transport sector, while ensuring access and connectivity for people and goods. Rail currently transports around 7% of global passenger-kms and 6% of tonne-kms but only accounts for around 1% of transport emissions<sup>2</sup>. Rail must increase its modal share, and doing so requires a concerted and coordinated effort from governments through Nationally Determined Contributions (NDCs). These are country-specific, short to medium-term, politically backed commitments and can help to drive mitigation and adaptation towards the Paris Agreement's climate goals.

Just 25% of NDCs feature Railways

For this report, all of the latest 168 NDCs representing 195 Parties (with the EU-27 all using the same document)<sup>3</sup> were analysed in terms of the commitments made by countries regarding the rail sector. It was found that only around 25% of the Parties mention rail as a climate solution and that only 10% have specific targets, usually referencing specific infrastructure projects and estimating the CO<sub>2</sub> emissions avoided. The Parties who do reference rail are showing commitment through rail network expansion, modal shift

targets and the electrification of both passenger and freight transport. Rail is also rarely mentioned in terms of adaptation and resilience despite it being vulnerable to extreme weather conditions.

Additionally, very few countries clearly state how they intend to finance the projects or the government body responsible for monitoring progress. NDCs can be a powerful tool to encourage international cooperation and will be key for the carbon markets established by Article 6 of the Paris Agreement.

Only 10% of NDCs have targets for Rail

2025 is a chance to boost aspirations for rail in NDCs

Although countries have vibrant rail projects as part of their national transport strategies, they are not always mentioned in their NDCs. Bridging that gap, and increasing aspirations for and the specificity of rail measures in the next cycle of NDCs is given as part of this report's recommendations.

UIC is working together with UITP and Walk21 on a shared template and a capacity building programme for improving NDCs for active travel and public transport, including rail, and interested parties are invited to reach out to these organisations if they interested in learning more about these initiatives.

<sup>1</sup> IEA Energy System: Transport: <https://www.iea.org/energy-system/transport>

<sup>2</sup> IEA Energy System: Transport: <https://www.iea.org/energy-system/transport>

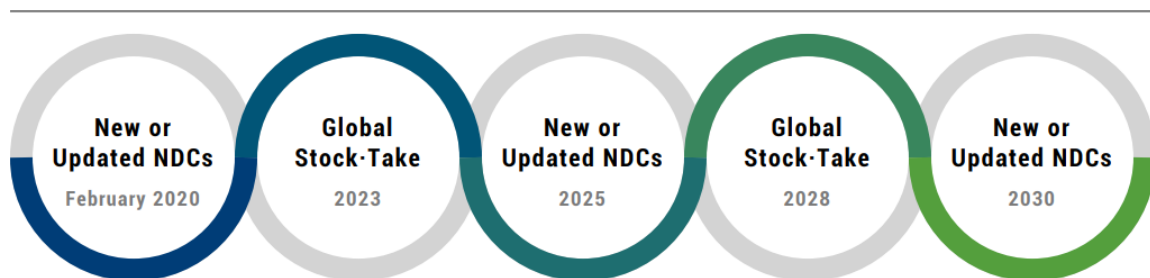
<sup>3</sup> UNFCCC NDC Registry: <https://unfccc.int/NDCREG>

# 1. INTRODUCTION

## NATIONALLY DETERMINED CONTRIBUTIONS AS AN OPPORTUNITY FOR THE RAIL SECTOR

The Paris Agreement is a landmark international treaty adopted at COP21 in 2015, as a legally binding agreement aiming to keep global warming to well below 2°C and striving for 1.5°C above pre-industrial levels. It requests that each signatory country outline and communicate plans for climate action post-2020, which have been designated “Nationally Determined Contributions” (NDCs). These plans present specific measures to reduce greenhouse gas (GHG) emissions and implement climate change adaptation strategies. The Global Stocktake is a mechanism that tracks progress concerning the Paris Agreement, identifying gaps and solutions. Together, the two instruments improve initiatives for and increase the achievement of the Paris Agreement’s goals.

Figure 2 NDC Cycle as set out in the Paris Agreement



Source: ECBI, 2018

Countries delivered their first set of NDCs in 2020 and are expected to produce an updated version every 5 years thereafter. As NDCs run multiple years at a time, this gives a long-term overview which can push countries to plan strategically and develop policies, fostering sustainable and resilient pathways towards progress.

This report highlights the opportunities that developing more ambitious NDCs can provide, by recommending policies that boost rail as a climate solution. Countries can showcase the rail sector’s potential for mitigation and adaptation, demonstrating a long-term commitment to developing rail and attracting further international cooperation to implement these goals.

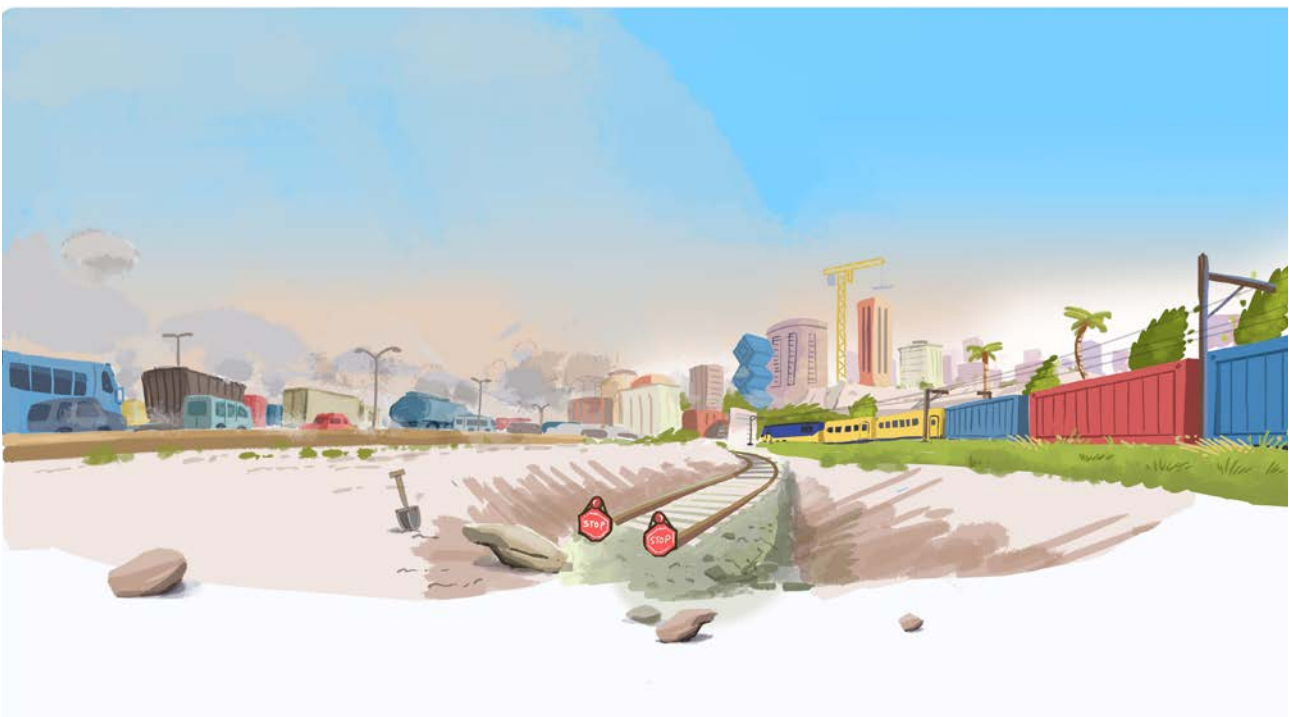
## RAIL AS A CLIMATE SOLUTION

In September 2023, UNFCCC published a synthesis report of the first Global Stocktake, showing overall progress in climate action, although it is still falling short of aims to keep global warming below 1.5°C. The transport sector only received a mention in terms of mitigative action, under Key Finding 6: “achieving net zero CO<sub>2</sub> and GHG emissions requires system transformation across all sectors and in all contexts, including scaling up renewable energy while phasing out all unabated fossil fuels, ending deforestation, reducing non-CO<sub>2</sub> emissions, and implementing both supply and demand-side measures”. This highlights that a modal shift to walking and public transport is “essential in the context of rethinking mobility”.

According to the International Energy Agency, the transport sector is responsible for approximately 23% of all greenhouse gas emissions<sup>4</sup>. Rail transport has long been recognised for its inherent energy-efficiency, responsible for around 7% of global passenger-kms and 6% of tonne-kms while representing only around 1% of transport emissions. In addition, rail transport is associated with multiple benefits like economical land use, reduced air pollution and congestion levels, especially when its planning is integrated into urban and energy development. Collectively, the modal share of rail must grow by more than 40% by 2030 for the transport sector to achieve net zero emissions by 2050.

NDCs act as a guide, showcasing plans for politically supported investment in those critical sectors with the capacity to drive sustainable development and meet climate change mitigation targets. NDCs can be a powerful tool, both as a process and outcome, to accelerate vertical and horizontal coordination efforts within a country, as well as promote international cooperation and financing for mitigative action. National governments are key stakeholders for rail development, through the different ministries (e.g., transport, railways, etc.) or public companies, and are also key players in creating the policies, financing and funding which will enable the rail sector to thrive.

Article 6 of the Paris Agreement, which allows countries to voluntarily cooperate with each other within the carbon market, will also further support the emission reduction targets set out in a country's NDCs. Additionally, there have been proposals to expand "mitigation" to include carbon avoidance. This would provide lower income countries with a mechanism through Article 6 to finance rail projects under the premise of decoupling economic growth from carbon emissions. Generally, having clear targets outlined in NDCs would be an effective tool for countries seeking to trade carbon credits in Article-6-compliant carbon markets<sup>5</sup>.



<sup>4</sup> IEA, Global energy-related CO<sub>2</sub> emissions by sector, IEA, Paris <https://www.iea.org/data-and-statistics/charts/global-energy-related-co2-emissions-by-sector>, IEA. Licence: CC BY 4.0

<sup>5</sup> Bridging the Rail Finance Gap: Challenges and Opportunities for Low- and Lower-Middle-Income Countries

## 2. ANALYSIS

### METHODOLOGY

For this report, all 168 NDCs submitted to UNFCCC by the 195 Parties (with the EU-27 using the same document) were analysed, with only the latest versions of the NDCs, available at the [UNFCCC Registry](#) from September 2023, being used. The methodology adopted is based on the work developed by the Partnership for Active Travel and Health (PATH – through Walk21), as part of a review of the national walking and cycling<sup>6</sup>. The same methodology was used by UITP for similar analysis of public transport policies and measures in NDCs<sup>7</sup>. This is a collective effort to create guidance for better active travel, public transport, and rail representation in the next cycle of NDCs, so that countries can tailor the recommendations to their national context and thereby have comprehensive NDCs for the transport sector.

The analysis is divided into 7 steps:

<b>1. Status</b>	Does the NDC mention rail? Are there <b>specific targets</b> for the rail sector?
<b>2. Leadership</b>	<b>Who oversees</b> the NDC process? What about the rail agenda?
<b>3. Duration</b>	What is the <b>timeframe</b> for achieving targets for railway development?
<b>4. Ambition</b>	Is rail addressed in a <b>mitigative</b> and/or <b>adaptive</b> context?
<b>5. Action</b>	What kind of <b>concrete action</b> do they focus on?
<b>6. Investment</b>	Is <b>funding</b> in place to implement plans for railway development?
<b>7. Evaluation</b>	Is there a clear <b>evaluation framework</b> in place to track progress on rail targets?

<sup>6</sup> National Policies for Walking and Cycling in all 197 UNFCCC countries: <https://pathforwalkingcycling.com/wp-content/uploads/PATH-UNFCCC-policies-report-FINAL.pdf>

<sup>7</sup> Nationally Determined Contributions & Public Transport: <https://cms.uitp.org/wp/wp-content/uploads/2023/12/English-Analysis-report-for-COP28.pdf>

## FINDINGS

### Status

*“Status” identifies any mention of rail in NDCs, and if there are specific targets associated with it.*

Out of the 195 countries that submitted their NDCs, only **54** of them explicitly mentioned rail transport. The fact that rail appears in such a limited manner suggests that, while many countries acknowledge the importance of reducing transport sector emissions, and some even have significant rail projects ongoing and future, they do not account for their mitigative potential in NDCs.

Furthermore, of the 54 countries, only **19** have set specific and measurable targets in terms of rail development and decarbonisation. The type of specific targets shown in NDCs include railway expansion plans, goals facilitating a modal shift from road to rail, and plans to electrify the railway network.

Specific targets are essential for tracking progress and holding governments accountable for their climate commitments. Countries that fail to mention existing rail projects within their NDCs may miss out on an opportunity to make a substantial impact on their carbon emissions and achieve their climate goals.



**Turkey’s NDC** shows plans to construct a total of 4690km of railway routes, including 4088km of high-speed train routes. It also plans for the share of rail in passenger transport to increase from 0.96% to 4.15% and in freight transport from 5.08% to 11.24%.

### Leadership

*“Leadership” identifies the entity or body within the government who is responsible for delivering the rail policies and measures stated in the NDC.*

Although it is most common for transport ministries or equivalent departments to oversee rail sector policies and measures, this is not clearly communicated in the NDCs. Since these documents are a government obligation under the Paris Agreement, usually, one or more national ministries are responsible for leading its development, in consultation with other stakeholders e.g., other ministries, levels of government, civil society, and so on. Clear mandates, financing and funding sources, and mechanisms for cooperation between ministries are needed to facilitate the implementation of rail-related policies and measures.



**Colombia’s NDC** clearly states the responsible entities for its mitigative action, including efforts to improve the digitalisation of rail, and the expansion of rail lines, both of which are attributed to its Ministry of Transport.



## Policy duration

*Average policy duration determines whether the NDC provides a specific timeframe for rail sector action to be carried out.*

Only 14 countries have indicated a timeframe for carrying out rail-related action, with 11 setting a target for 2030. While these countries show a collective commitment to achieving progress within the coming decade, the remainder indicate shorter-term goals, usually referring to the specific due dates of ongoing projects.

All 14 countries are from low and middle-income countries. This phenomenon is not only seen in rail-related NDCs according to UNDP's Climate Promise analysis, as "developing and vulnerable nations are making concrete progress on their ambitions". Incorporating clearly defined timeframes for delivery would greatly benefit countries, as it demonstrates planning and resource allocation priorities. Furthermore, it enhances transparency, both domestically and in a global context, as other countries and stakeholders can better understand a country's commitment to achieving its rail sector objectives within a specified period.



**Paraguay's NDC** promotes its interconnection with Brazil, Paraguay, Argentina, and Chile through the development of rail as a sustainable mode of freight transport, as well as the reactivation of its national rail network for passenger and goods transport, both listed as "Líneas de Acción" ("Lines of Action") for 2030.

## Ambition

*"Ambition" refers to whether countries list measures for the rail sector under mitigation, adaptation, or both.*

Analysis shows that 46 countries have rail measures under mitigation ambition and only 13, all from low and middle-income countries, under adaptation. Seven countries included rail in both.

For mitigation, the most common measures mentioned include (a) *modal shift*, reduced emissions per passenger-km or tonne-km due to a transition from road to rail, (b) *electrification* of railway lines to replace diesel engines, and (c) *enhancing energy efficiency* to decrease the energy usage of rail operations.



**Uganda's NDC** includes the rehabilitation of 634km of narrow-gauge railway by 2026 to facilitate a modal shift of freight from road to rail. It also provides a plan to implement 61km of passenger rail, which would cut 0.0005Mt CO<sub>2</sub> equivalent (CO<sub>2</sub>e) by 2030, and as well as having 1,412km of fully electrified standard gauge rail by 2050.

On the other hand, the limited number of adaptation measures mentioned mainly focus on identifying vulnerabilities within rail infrastructure in response to evolving climate conditions. In recent years, many countries have seen their rail infrastructure damaged due to extreme weather events, like the 2022 floods in Pakistan which affected 3,127 kilometres of railway track<sup>8</sup>. It is vital that the inclusion of adaptation and resilience measures for rail infrastructure is accelerated, in order to both avoid and prepare for such events.



**Vietnam's NDC** indicates that 20% of the country's rail infrastructure is at risk from landslides and flooding due to increased rainfall. It estimates that railway line disruption from rainfall and rising sea levels could lead to economic losses of 2.3-2.6 million USD /day.

### Action

*"Action" classifies the different measures for rail using five independent categories: network development, passenger transport, freight transport, electrification, and modal shift.*

The most common action found in the NDCs is on network development, with 37 out of 55 countries referring to plans to construct or expand rail. This also includes increasing use with new rolling stock purchases, upgrading signalling systems, and restoring existing infrastructure, all of which would also allow a more efficient use of existing assets.



**Burkina Faso's NDC** lists the Ghana-Burkina Faso Railway Interconnectivity Project, which would connect the two capitals, as part of its mitigative action. When completed, the line is estimated to save 748Gg CO<sub>2</sub>e by 2050.

This is followed by 24 countries who list rail as a less carbon-intensive mode of transport. In this group, 7 countries have specifically mentioned measures to shift road transport to rail, for both passengers and goods. Adopting policies that encourage a modal shift is key to supporting other initiatives like network development and electrification. As long as the growth of carbon-intensive modes of transport (such as road and aviation) continues to outpace the use of rail, public transport, and active travel, it will not be possible to achieve the Paris Agreement's climate goals.



**The United Arab Emirates' NDC** includes the expansion of the rail network as a current transport decarbonisation initiative. It estimates that each train carries the equivalent of 300 lorries of freight, thereby leading to a 70-80% reduction in CO<sub>2</sub>e per tonne of freight transported. It is also one of the few NDCs to mention the use of publicity and awareness campaigns to inform the public about the availability of public transport and to promote its use.

<sup>8</sup> Pakistan Floods 2022: Resilient Recovery, Rehabilitation, and Reconstruction Framework (4RF) <https://www.undp.org/pakistan/publications/pakistan-floods-2022-resilient-recovery-rehabilitation-and-reconstruction-framework-4rf>

Electrification is a great opportunity to further reduce emissions in the transport sector, including in rail. Electric rail, which accounts for over 85% of passenger rail activity and 55% of freight transport, does not directly emit CO<sub>2</sub><sup>9</sup>. The electrification of rail and overall transport systems is best harnessed when carried out in tandem with energy planning and offers a great opportunity to boost renewable energy use<sup>10</sup>. This is why 14 countries mention the partial or complete electrification of existing lines, or the construction of new electrified rail lines in their NDCs.



**Costa Rica's NDC** lists the electrification of the Limonense Train (Tren Electrico Limonense de Carga - TELCA) as a mitigative measure for freight transport. Costa Rica NDCs also has a unique approach by stating the impact on wellbeing that the actions will have, based on SDGs. For this measure, electrification is expected to address SDG 8 – Decent Work and Economic Growth, SDG 9 – Industry, Innovation and Infrastructure, SDG 12 – Responsible Consumption and Production, and SDG 13 – Climate Action.

For this study, mentions of passenger and freight initiatives were also analysed. Notably, most countries mentioned both passenger and freight transport measures, with 4 countries only indicating the former and 6 countries only the latter. Passenger rail plans focus on developing and expanding high-speed passenger rail networks, and improving urban public transit, whereas for freight, a modal shift from road to rail is highlighted in terms of its low-carbon advantages.



**Sri Lanka's NDC** has an extensive list of actions for the transport sector and includes rail measures. These include improving reliability, affordability, accessibility, availability, comfort and safety, in order to promote the use of public transport. It also refers to a “switch back from road transport to rail” and the introduction of “a rail-based transport system with inland container depots” to shift freight onto more efficient modes. Additionally, it foresees the modernisation of its suburban railway lines by electrifying and expanding the network. All of these actions are for implementation by 2030.

## Investment

*“Investment” studies NDCs for references to specific plans to finance the rail sector.*

Analysis shows that only 12 countries have explicitly outlined specific rail investment strategies in their NDCs. Notably, only 4 of these countries have specified “conditionality” regarding this financing.

The emission reduction targets presented by lower income countries can be “unconditional” and “conditional”. The first refers to targets that can be achieved using existing financing streams. The second refers to emission reductions that the country expects to achieve with international support. The main challenges that low and lower-middle-income countries face in expanding rail infrastructure is securing adequate financing and attracting foreign investors. These countries generally have limited tax revenue, which limits their ability to fund the upfront infrastructure investment costs of rail projects themselves. NDCs can therefore be a great tool for attracting international support for these more ambitious (unconditional) targets.

<sup>9</sup> IEA rail: <https://www.iea.org/energy-system/transport/rail>

<sup>10</sup> Advancing the Energy and Transport Transitions with Railways, Public Transport and Active Mobility A Land Transport Perspective: [https://slocat.net/wp-content/uploads/2023/07/Advancing-the-Energy-and-Transport-Transitions-with-Railways-Public-Transport-and-Active-Mobility\\_FINAL.docx.pdf](https://slocat.net/wp-content/uploads/2023/07/Advancing-the-Energy-and-Transport-Transitions-with-Railways-Public-Transport-and-Active-Mobility_FINAL.docx.pdf)

**Bangladesh's NDC** has included mitigative measures for the transport sector through rail projects, with both unconditional and conditional targets. It includes a modal shift from road to rail (at least 10% of passenger-km) through the purchase of modern rolling stock and signalling systems, as well as railway electrification and double track construction. A 10% shift in passenger-km is unconditional, which may conditionally increase to 25%. The estimated investment required for this enhanced level of ambition is 25 billion USD, which is also stated in the NDC.

## Impact evaluation

*"Impact evaluation" refers to evaluation frameworks, such as indicators and monitoring mechanisms for the rail sector targets given in an NDC.*

Of the 19 NDCs that have specific targets, 13 included a reference to an evaluation framework. The most common indicators to track progress were rail line kilometres and emissions reduction in Gg CO<sub>2</sub>, with less than a third of them mentioning modal shift targets. Other indicators that were used included: estimated fuel savings and total passenger and tonne-km transported.

Additionally, some countries have indicated the expected benefits to be reaped in terms of the UN Sustainable Development Goals (SDGs). Implementing rail transport has a substantial socioeconomic benefit, including creating jobs, and driving economic access and growth (especially for minority groups), easing traffic congestion, and reducing noise. By monitoring and evaluating the rail sector's contribution to these broader SDGs, countries can gain a more comprehensive understanding of the sector's impact on their society and environment. Tools like the Rail Sustainability Index developed by the International Union of Railways (UIC) provide a structured framework for tracking the performance of rail systems against various SDGs. This approach not only enhances transparency and accountability but also helps governments to make more informed decisions, in order to maximise the rail sector's benefits in terms of sustainable development, addressing both environmental and societal objectives.



**Laos' (Lao PDR's) NDC** lists specific indicators for the Laos-China railway project, which details the project's intended mitigation target. Within this project, the line's passenger-km and tonne-km will be monitored on an annual basis by the Department of Climate Change of the Ministry of Natural Resources and the Environment, with data also being provided by the Ministry of Public Works and Transport.



## 3. RECOMMENDATIONS

### WHAT MAKES A GREAT NDC THAT PROMOTES RAIL?

A NDC can constitute a powerful tool for a country to unlock the rail sector's full potential in reducing the GHG emissions from the transport sector required to fulfil the Paris Agreement, whilst promoting multiple Sustainable Development Goals. In the next cycle of NDCs, countries can demonstrate how the rail sector provides an effective climate solution, by considering the following recommendations:

- 1 Have clearly defined objectives**  
Ensure that NDCs specify precise and quantifiable objectives related to the rail sector, such as targets for rail network expansion, a modal shift, electrification, or emissions reductions.
- 2 Be more ambitious than the previous cycle**  
Countries should set more ambitious goals in NDCs, addressing both the potential for mitigation and adaptation within a given national context.
- 3 Adopt a comprehensive approach**  
NDCs should encompass comprehensive strategies, considering policies and push and pull measures to enhance a modal shift, while expanding the rail network and/or increasing energy efficiency where appropriate.
- 4 Ensure cohesive planning**  
Ensure that rail sector goals and broader national climate and sustainability objectives align. Vertical integration should be incorporated, with policies that enable cities and countries to work together to implement climate action for the rail sector.
- 5 Develop measurable targets**  
Ensure that NDCs include clear, measurable, and time-bound targets related to rail sector performance, emissions reduction, and modal shift percentages. These should be regularly monitored and reported, with clearly identified stakeholders responsible for tracking progress.
- 6 Specify funding and financing mechanisms**  
Countries should clearly indicate how they plan to finance rail projects and, where applicable, differentiate between conditional and unconditional funding to demonstrate their commitment to rail as a solution to climate change.

By implementing these recommendations, in conjunction with further actions that promote public transport and active travel, countries can create an environment which is conducive for implementing climate initiatives that will significantly reduce transport emissions, while maximising the opportunity for international cooperation.

# NDCs AFRICA FACTSHEET

1

## HIGHEST REPRESENTATION OF RAIL IN NDCS

43.3% of countries in Africa mention rail in NDCs, higher than all other regions analysed. Most countries have rail under mitigation (19), with only 5 countries referring to adaptation and only 2 to both.

2

## MAIN LINES OF ACTION

Most countries presented plans to upgrade and expand the rail network, including rehabilitation of existing infrastructure, and building international high-speed rail connection. 10 countries mention promotion of modal shift to rail, with some even setting targets for expected emissions reductions.

3

## RAIL PROJECT INVESTMENTS

8 countries in the region have detailed the investment associated to rail projects, both conditional and unconditional. Nevertheless, only 5 countries present a reference to an evaluation framework which could support tracking progress towards the established goals.

4

## UGANDA'S BEST PRACTICES

Uganda's NDC stands out as it details a very specific and comprehensive inclusion of rail within its adaptation strategy, while also including a detailed mention of financing and funding strategies, conditional & unconditional, for their rail sector goals.

5

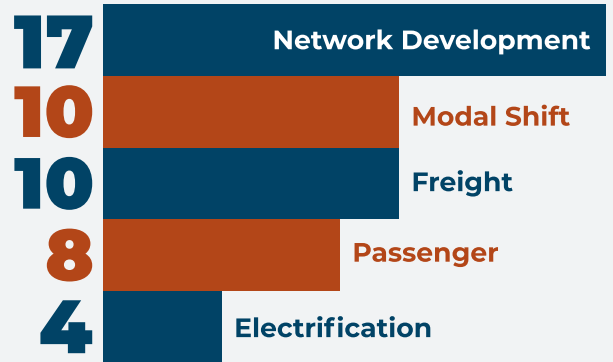
## ENHANCING THE NEXT NDCS

Although not mentioned in the current versions of NDCs, many countries in the region, including South Africa, Liberia, and Rwanda have advanced railway plans in national transport projects. These should be featured in the next cycle of NDCs, along with rail plans from African Union Vision 2063.

AMONG 53 NDCS IN AFRICA\*

23  
MENTION RAIL

\* Libya did not submit an NDC.



## EVALUATION

Burkina Faso, Djibouti, Guinea, Mauritania, Uganda



## INVESTMENT

Burkina Faso, Dem. Rep. of Congo, Djibouti, Egypt, Malawi, Maritania, Sierra Leone, South Sudan



# NDCs ASIA PACIFIC FACTSHEET

1

## 31.9% OF COUNTRIES MENTION RAIL

Most of these countries focus in mitigation measures with only 4 addressing adaptation. Five countries have specific targets and the most common timeframe for actions is 2030.

10  
OUT OF THE 15 COUNTRIES  
are LICs and LMICs

2

## MAIN LINES OF ACTION

The distribution of NDC per type of action is balanced, with freight slightly ahead of passenger rail measures. This is the region with most mentions to electrification, which can further decarbonize rail transport in the region.

- 11** **FREIGHT**  
Bhutan, Cambodia, China, Lao PDR, Mongolia, Myanmar, Nepal, Pakistan, Sri Lanka, Tajikistan, Thailand
- 10** **PASSENGER**  
Bangladesh, China, Lao PDR, Mongolia, Myanmar, Nepal, Pakistan, Sri Lanka, Tajikistan, Thailand
- 8** **ELECTRIFICATION**  
Azerbaijan, Bangladesh, China, Myanmar, Nepal, Sri Lanka, Tajikistan, Turkmenistan
- 8** **NETWORK EXPANSION**  
Azerbaijan, Bangladesh, China, Lao PDR, Myanmar, Nepal, Sri Lanka, Turkmenistan
- 8** **MODAL SHIFT**  
Bangladesh, Cambodia, China, Lao PDR, Mongolia, Sri Lanka, Tajikistan, Thailand

3

## EXAMPLE FROM BANGLADESH

The Bangladesh NDC is worth highlighting for its thorough inclusion of rail. It is one of the few countries to have specific modal shift targets of 10%, and an enhanced level of ambition of 25% achievable with the support of other countries.



4

## ADAPTATION IN VIET NAM

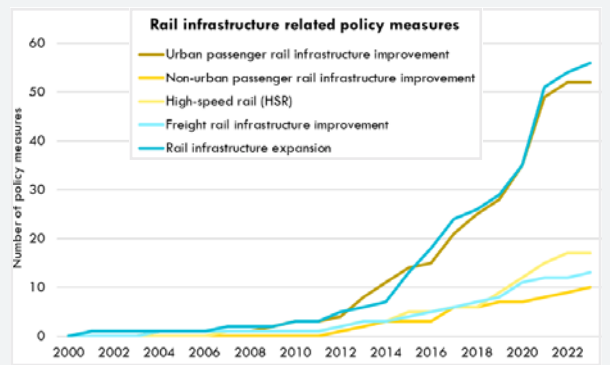
Although Viet Nam does not feature specific targets for rail in the current NDC, it provides details on the potential risk of rail infrastructure due to climate change, including an estimated economic loss of USD 2.3 - 2.6 million/day from climate-related disruptions.



5

## ENHANCING THE NEXT NDCS

According to the ATO analysis, Asia-wide, 42% of the rail economies have a dedicated rail policy. Yet, only a subset of these countries mention rail in their NDCs. Increasing the level of ambition for rail in Asia-Pacific is key to ensure decoupled economic growth from transport emissions.



# NDCs MIDDLE EAST FACTSHEET

1

## 6 OUT OF 14 COUNTRIES MENTION RAIL

All countries have rail measures under mitigation efforts, most of them through railway network expansion.

## UAE and Turkey

are the only 2 countries to have **SPECIFIC TARGETS FOR RAIL**

2

## BEST PRACTICE FROM TURKEY

Through the construction of 4690KM railway routes, the country expects to more than quadruple rail passenger share to 4.15% and double freight to 11.24%.



3

## EXAMPLE FROM UAE

When fully operational, Etihad Rail will be reducing carbon emissions from road transport by 21% by 2050, (8.2 million tonnes), with each train trip taking up to 300 trucks off the roads carrying the same load.



4

## ENHANCING THE NEXT NDCs

Countries in the region could benefit from including the extended plans for expansion of the GCC rail network, as well as further including adaptation measures for rail infrastructure in NDCs.





# NDCs EUROPE FACTSHEET

1

## LEAST MENTIONS OF RAIL IN NDCS

This is due to the fact that all European Union countries share the same NDC document, which does not mention rail. As a result, 18 of the 27 EU countries that have extensive rail plans in national transport strategies, fail to be represented.

OUT OF 46 COUNTRIES IN EUROPE

**ONLY 2**  
MENTION RAIL IN NDCs

2

## ALBANIA AND MOLDOVA

Are the only 2 countries that mention rail measures in the NDC analysis for Europe. While Albania has a 30% modal shift target for transport over 300km, Moldova mostly focuses on the improving planning for climate-resilient infrastructure in transport.



3

## ENHANCING THE NEXT NDCS

Europe is one of the regions with the most rail activity, with the various ongoing projects for expansion of high-speed rail, revitalization of night trains, electrification of networks, among others. Including these projects in NDCs would further support rail as a climate solution.

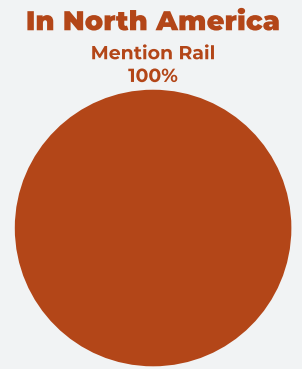
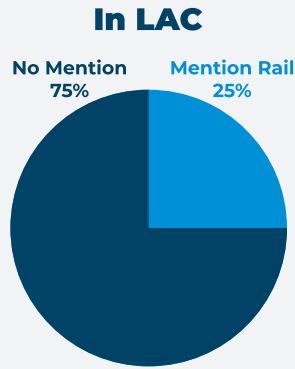


# NCDs AMERICAS FACTSHEET



## 34.7% OF COUNTRIES MENTION RAIL

For Latin America and the Caribbean (LAC), 25% of the countries mention rail while in North America, all three countries mention it. Only Colombia, Vosta Rica and Venezuela have specific targets for the rail sector.



## REGIONAL CONTEXT

Network development is the most common measure found for countries in LAC that mention rail. Colombia is the only country to indicate financing needs to deliver rail targets. It is worth noting that the small island countries in the Caribbean do not have a railway network, which is reflected in their NDCs.

### IN LATIN AMERICA AND THE CARIBBEAN

- COLOMBIA
- COSTA RICA
- DOMINICAN REPUBLIC
- PARAGUAY
- VENEZUELA



All three countries acknowledged rails potential to be a climate solution in terms of mitigation, but none included specific targets and Mexico was the only country to mention both passenger and freight.

### IN NORTH AMERICA

- CANADA
- MEXICO
- USA



## ENHANCING THE NEXT NDCS

Countries in the region could benefit from further including adaptation measures in NDCs, as well as carrying over existing rail plans, like the high-speed lines in the US and Mexico, and extensive rail strategy in Canada, into the next cycle of NDCs.







INTERNATIONAL UNION OF RAILWAYS  
16, rue Jean Rey - 75015 Paris - France  
Tel. +33 (0)1 44 49 20 20  
Fax +33 (0)1 44 49 20 29  
E-mail: [info@uic.org](mailto:info@uic.org)

Published by: UIC Sustainability  
Director of publication: Joo Hyun Ha  
Cover and layout: Ludovic Wattignies  
Photo credits: Adobe Stock  
Printing: UIC

ISBN 978-2-7461-3342-6  
Copyright deposit: December 2023

[www.uic.org](http://www.uic.org)



#UICrail

