



## Moving from ambition to action and from pledges to policies

How selected countries plan to implement  
their NDC commitments

Nadja Taeger, December 2022



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# CHANGING TRANSPORT

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GIZ works on changing transport towards a sustainable pathway and facilitating climate actions in mobility. We support decision-makers in emerging and developing countries through training and consulting services, as well as by connecting stakeholders. Our ultimate goal is to keep global temperature change to well below 2 degrees Celsius.

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## Project Context

The 'Advancing Transport Climate Strategies' (TraCS) project is funded by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection's, International Climate Initiative.

The project aims to support developing countries in systematically assessing greenhouse gas emissions from transport, in analysing emission reduction potentials and in optimising the sector's contribution to the mitigation target in countries' NDC. TraCS feeds into other international cooperation projects run by the Government of Germany.

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## Introduction

The transport sector is a major contributor to climate change. Greenhouse gas (GHG) emissions caused by moving goods and passengers will have to decrease by 70% to 80% below current levels to limit global heating to 1.5°C above pre-industrial levels. At the moment, however, transport emissions are still increasing and at a faster rate than in most other economic sectors (IPCC 2022).

According to the ITF Outlook 2021, ambitious policies could cut transport CO<sub>2</sub> emissions by nearly 70%. Awareness of the sector's importance among policymakers is increasing and many of the Nationally Determined Contributions (NDCs) that countries have submitted over the past two to three years contain transport measures and targets.

While in the first NDC generation only 21% of NDCs contained any kind of transport target, 42% of second-generation NDCs commit either to emission reductions in the sector or to other kinds of quantifiable action (GIZ, SLOCAT 2022). The share of NDCs containing transport mitigation measures also increased, from 65% to 78%.

Now, it is time for the pledges and commitments contained in the NDCs and long-term strategies (LTS) to be translated into tangible policies and action.

We interviewed GIZ colleagues and ministry representatives from **Chile, China, Colombia, India, Kenya, Morocco, Philippines, Uganda, and Vietnam** in an attempt to identify the most important drivers and prerequisites for implementing climate measures in the transport sector.<sup>1</sup>

In the following, we present countries' approaches to implementing NDC commitments in terms of laws, governance structures, stakeholder ownership, inclusiveness, funding mechanisms, and accountability. If you want to get to the main findings, you can skip the next section, which outlines transport targets in the latest NDCs.

This work is based on the [Tracker of Climate Strategies for Transport](#), an online database jointly developed and maintained by GIZ and SLOCAT. Contributions to this analysis have been made by Nikola Medimorec (SLOCAT).

## Transport measures in selected countries' NDCs

In its most recent NDC submission **Chile** commits to transitioning to electric mobility for taxis, public buses, and private and commercial vehicles. This includes a target for 100% zero-emissions buses by 2040. In addition, Chile will promote a shift from private vehicle ownership to the use of buses and bicycles.

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<sup>1</sup> In an attempt to achieve balanced regional and economic representation of countries in our report we talked to GIZ colleagues that work for or collaborate with IKI-funded GIZ projects *NDC Transport Initiative for Asia* as well as *Advancing Transport Climate Strategies in Rapidly Motorising Countries*.

**China's** NDC submission outlines the introduction of comprehensive transport networks, multi-modal systems, and an increased reliance on rail and waterways in freight transport. Passenger transport will be supported by operational improvements in passenger transport enterprises and the expansion of large-capacity public transport infrastructure (urban railways, bus rapid transit, etc.). Energy efficiency standards for fossil fuel-powered vehicles and vessels will be progressively upgraded. The measures support China's goal of peaking CO<sub>2</sub> emissions before 2030 and achieving carbon neutrality before 2060.

**Colombia's** updated NDC contains a diverse set of transport actions linked to the Agenda 2030's Sustainable Development Goals. The main elements are the electrification of various transport modes and the reduction of freight transport activity through logistics optimization.

**India's** updated NDC, by contrast, omits any mention of sectoral targets or actions. However, the three-page document includes an overall target of reducing the emissions intensity of GDP by 45% relative to 2005 levels by 2030 and the long-term goal of reaching net-zero emissions by 2070.

**Kenya's** most recent NDC features more transport adaptation actions than mitigation measures. Whereas the section on mitigation refers only to the "promotion and implementation of low carbon and efficient transport systems," the adaptation section covers the enhancement of capacity to "climate-proof" road infrastructure through vulnerability assessments and the creation of at least 4,500 km of all-weather roads.

## Subsector in the spotlight: Civil aviation in Kenya

In 2021, Kenya submitted its updated NDC with an increase in ambition from 30 to 30% reduction of emissions by 2030 in comparison to the BAU scenario. Similar to most NDCs, the aviation sector is not covered in Kenya's latest NDC. However, the NDC is based on Kenya's [National Climate Change Action Plan 2018 – 2022](#) which outlines the country's intention to promote low-carbon technologies in the sector.

According to Mr. Francis Mwangi, Senior Planning Official at the Kenya Civil Aviation Authority (KCAA), Kenya submitted its [Action Plan for the Reduction of CO<sub>2</sub> gas Emissions in Aviation Sector](#) in September 2022 to showcase and implement Kenya's efforts in the sector.

In order to mainstream and strengthen climate action in the sector, a department for environmental protection was created within KCAA. The NDC, the National Climate Action Plan and the Action Plan for Aviation all build upon each other which fosters continuity and implementation according to Mr. Mwangi.

The sector strives for a collaborative and inclusive approach that counts on peer learning and open exchange. Working groups made up of private and public stakeholders meet on a quarterly basis to advance implementation. There is a dedicated working group for tracking implementation of measures. Annually, reports on the activities of the different working groups are being submitted. Bilateral cooperation (e.g., with Germany) on issues such as CORSIA further provides opportunities for exchange and learning from each other.

**Morocco's** updated NDC features a wide array of transport actions. Morocco intends to extend urban tramways and to introduce a bonus–malus system, efficiency standards, and a vehicle-renewal program, conditional on financial support.

The **Philippines** submitted a brief NDC with an economy-wide target of a 75% emission reduction (2.71% unconditional and 72.29% conditional) relative to 2030 business-as-usual emissions. The document states that transport is of major importance in tackling emissions but fails to include detailed actions.

**Vietnam's** updated NDC sees transport as a major contributor to climate action. It includes measures to promote bus rapid transit, urban rail, electric motorcycles, fuel economy, and a shift of freight from roads to waterways.

## Laws on climate change and transport

Most countries have comprehensive laws on climate change and environmental protection that serve as the basis of national climate action. In **Kenya**, the 2016 Climate Change Act requires all ministries to establish climate change coordination units, among other sectoral requirements. In 2020, **Vietnam** introduced the Law on Environmental Protection, which determines the emissions reduction target for the transport sector and thus guides sectoral action. **Chile's** Climate Change Law obliges all sectors to develop plans to lower emissions. **Uganda** approved the Climate Change Act in 2021, concurrent with its NDC revision. The legislation mandates the implementation of the Paris Agreement in **Uganda** and provides a basis for the implementation of NDC pledges. The **Colombian** Climate Action Law sets out a catalog of government actions and outlines an agenda for compliance with the Paris Agreement and carbon neutrality by 2050.

**China** has developed a “1+N” policy system for CO<sub>2</sub> peaking and carbon neutrality. The “1” stands for 2030 CO<sub>2</sub> peaking and 2060 carbon neutrality guidance, while the “N” refers to the pre-2030 CO<sub>2</sub> peaking action plan along with relevant policies and plans for key areas and sectors, including transport.

In some countries, climate laws foresee specific governance structures – such as the establishment of a climate change unit within each department of government, as is the case in **Kenya**. Many of these laws are comprehensive and cross-cutting in scope, obliging ministries (and other public and private actors) to consider climate change in their policymaking. However, when national or regional authorities fail to back climate action with corresponding budget allocations, climate ambition may amount to so much “hot air”.

At the sectoral level, some countries have already developed strategy frameworks for transport and climate change. In **Vietnam** and **Chile**, for example, climate change laws contain binding sectoral targets and outline sectoral actions. In certain cases, climate change and transport-sector development are taken up in national development plans: **Morocco**, for example, has included the decarbonization of transport in its Vision 2030 and energy strategy.

For further information on climate change laws (governing transport and beyond), please visit <https://climate-laws.org/>.

## Governance approaches

Translating long-term strategies and NDC-based targets and measures into real-world action requires the activation of various actors, including national, regional, and local officials, as well as stakeholders in the private sector. A comprehensive governance framework can help to harmonize the activities of actors, i.e. between federal ministries or economic sectors (i.e. horizontally) or at different levels of government (i.e. vertically).

The establishment of interagency climate coordination units and intersectoral teams are two possible solutions for improving vertical and horizontal coordination. **Chile** is currently taking a decentralized approach by setting up infrastructure planning units at the regional level. The planning units are led by the regional governments in coordination with SECTRA (Secretaría de Planificación de Transporte). Since SECTRA is a programme of the Ministry of Transport and Telecommunication it works as the national counterpart of the regions. The regional governments and units are comprised of representatives from different sectors. They are tasked with aligning national policies with regional priorities and on-the-ground realities, and with developing sustainable development plans for their regions. In this way, Chile's infrastructure planning units help to coordinate policy both vertically (as they provide a vehicle for the expression of national policy at the regional level) and horizontally (because they coordinate actors between sectors within a given region).

The **Philippines'** Climate Change Commission was instituted in 2009 with the passage of the Climate Change Act (<https://climate.gov.ph/>). It is the lead policy-making body of the government, tasked with coordinating, monitoring, and evaluating government programs and with ensuring the mainstreaming of climate change in national, local, and sectoral development plans. It is not empowered to exercise real political authority over other ministries, however. The commission is chaired by and reports directly to the country's president. While this direct link to the highest level of government promises to place climate change high on the political agenda, it may also jeopardize its success, insofar as the party in power is resistant to climate action.

In **Kenya**, the Climate Change Directorate (CCD) of the Ministry of Environment and Forestry is the lead agency for the coordination of national climate change planning and action. The national Climate Change Council, chaired by the country's president, provides overarching national coordination. In addition, a Climate Change Coordination Unit (or team) in each state department of the Ministry of Transport (MOTIHUD) is tasked with mainstreaming climate change considerations in all transport subsectors and with supporting monitoring and reporting activities. (For more, see "Accountability and monitoring" below.)

In **India**, climate policy formation is mostly centralized. The Prime Minister's Office and the government think tank NITI Aayog work together to develop national climate change policies.

At the central level of the **Chinese** government, a Carbon Peaking and Carbon Neutral Leading Group has been established, with the Vice Premier of the State Council chairing the group. The National Development and Reform Commission (NDRC) takes over the duties of the office of the Leading Group, strengthens organizational leadership and coordination for the "1+N" policy system. The NDRC together with relevant departments, such as the Ministry of Transport (MoT), develops and introduces implementation plans in the 1+N policy system for key areas and serves as interface with localities. The MoT has set up a MoT Leading Group for Carbon Neutral Work to coordinate and solve obstacles in reducing emissions from transport. The Ministry for Technology and Information and the Ministry of Ecology and Environment are also contributing to the policy development and implementation for transport sector in the "1+N "policy system.

The National Development and Reform Commission (NDRC) is the most important supervisory authority for economic development in **China**. Within the NDRC, a carbon working group has been established, responsible for overseeing the achievement of carbon peaking by 2030 and carbon neutrality by 2060. The Ministry of Transport established its own carbon working group, which is chaired by the minister or vice minister, and which collaborates with the NDRC. The NDRC is responsible for coordinating activities between different ministries concerned with transport, such as the Ministry of Transport, the Ministry for Technology and Information, and the Ministry of Ecology and Environment. As part of this work, the NDRC has developed the "Green and Low-Carbon Transport" report, which is currently not available to the public.

**Colombia's** Decree of the National Climate Change System (SISCLIMA) aims to "coordinate, articulate, formulate, monitor and evaluate policies, rules, strategies, plans, programs, projects, actions, and measures related to the adaptation to climate change and mitigation of greenhouse gases" (Art. 1 of the Decree) based on collaboration between public, private, and nonprofit entities. SISCLIMA advocates for enhanced ambition in all sectors by assessing ministries' decarbonization plans.

In this way, governance approaches differ between countries. Some countries have established climate change units within each government agency, thus shifting responsibility to the agency level. Others have created a centralized agency responsible for all steps, including the setting of targets, the development and implementation of measures, and their monitoring and evaluation. These climate change agencies can be powerful actors that drive action across sectors and at varying levels of government. However, when such agencies are not equipped with an adequate budget or the necessary political authority, they are likely to remain on the sidelines, unable to trigger meaningful climate action.

## Ownership of stakeholders

Stakeholders taking responsibility for or “owning” a set of policies or targets can be a determining factor for successful implementation. When the first INDCs and NDCs were developed prior to and in the years after the ratification of the Paris Agreement, some ministries acted precipitously and did not involve other stakeholders in a meaningful way.

In the run-up to the second round of NDCs due in 2020–2021, the approaches of many ministries changed, and sector ministries such as transport ministries became more deeply involved. Extensive stakeholder consultations that integrated the public were held in many countries, including **Kenya**. Still, very few NDCs mention the involvement of the transport ministry. An exception is the NDC submitted by **Vietnam**, which updated its Transport Development Strategy with a vision up to 2030. The transport ministry contributed to the country’s NDC.

To be sure, success in combatting climate change depends on stakeholders at various levels genuinely identifying with adopted policy. In line with this insight, the NDC revision process in **Colombia** was bottom-up and top-down, with both local and national perspectives shaping the outcome. In addition, Colombian cities are responsible for developing their own mitigation plans, which further enhances ownership at the local level.

The infrastructure units described in the governance section have helped **Chile** foster ownership in its cities and regions. By contrast, **India** has been pursuing a very centralized approach, in which the national government assigns numerous responsibilities and targets to cities and states, without consulting them beforehand. To encourage action at the municipal level, **India** has developed a system in which selected cities compete with each other in terms of sustainable development, based on indicators developed by NITI Aayog.

According to an official of the **Kenyan** Transport Ministry, interest in the topic and awareness of the sector’s role can be increased through attendance at events such as the annual climate summit and other UNFCCC processes. In **Morocco**, the Department of Sustainable Development is responsible for keeping other ministries informed about climate change matters and involving them in conferences, such as annual climate summits. It is also responsible for asking ministries to propose events or projects, and for promoting discussions about sectoral decarbonization.

Transport stakeholders should partake in the NDC development process from the start as it is them who have to translate NDC commitments into policies and actions. Strong political obligations (e.g., from climate change laws), awareness raising and involvement in climate change discussions and competitions can incite engagement and ownership of stakeholders as the country examples have shown.

## Inclusiveness

Climate change reveals – and exacerbates – existing inequalities in our societies. Accordingly, transport measures designed to reduce emissions and support adaptation must be inclusive and equitable. As the IPCC puts it, “Attention to equity and broad and meaningful participation of all relevant actors in decision-making at all scales can build social trust, and deepen and widen support for transformative changes” (2022, p. 56).

**Morocco**, for example, has established the Economic, Social and Environmental Council (CESE). The CESE seeks to promote dialogue and debate, with the aim of encouraging societal consensus on important issues. In the past, it has recommended sustainable mobility policies to the government, based on its discussions with civil society.

The **Ugandan** NDC intends to assure that the updated NDC actions will be implemented through a whole-of-society approach that involves government, the private sector, academia, civil society, youth, and international development partners.

## Financing climate action

Fifty countries, almost all of them Non-Annex I countries, have indicated financing needs in their new and updated NDCs. Nevertheless, these NDCs contain little information on how implementation is to be financed.

In the past, national public and private sources of funding accounted for 98% of global transport investment. Public sources of investment (and accompanying regulations) are necessary to leverage larger streams of private funding. Economic instruments such as taxes and subsidies can be used to incentivize or discourage certain investments, sometimes while generating government revenue. **India**, for example, is seeking to promote economic growth while pursuing climate action with its FAME II and PLI schemes. FAME, which is short for Faster Adoption and Manufacturing of (Hybrid and) Electric Vehicles, is a subsidy program available to manufacturers and infrastructure developers. Under PLI, the Production Linked Incentive scheme, the government provides budgetary outlays, tax breaks and incentives for enhancing the country’s manufacturing capabilities for automotive products, solar modules, and battery storage.

The National Planning Department of **Colombia** has developed a financing system that assesses how public investment measures affect climate change, including those in the transport sector. In addition, the **Colombian** government created a national carbon tax in 2016 to discourage the use of fossil fuels and generate revenue. These are just two of the many financing instruments that Colombia has implemented.

The **Ugandan** Ministry of Finance Planning and Economic Development is in the process of setting up a Climate Finance Unit. The unit will be tasked with enhancing

institutional coordination and will have the capacity to design funding programs and mobilize resources for climate actions stipulated under the country's NDC.

Regardless of whether funding comes from domestic public or private sources or from international funds (such as the Green Climate Fund), transport ministry officials need to know how to access necessary financing and how to shift funding from carbon-intensive transport infrastructure and systems to sustainable means of transport. Application processes for international funds can be tedious, time-consuming, and cost intensive, which is why many developing countries obtain much less funding than they are eligible to receive. Accessing domestic resources or implementing fiscal measures that generate revenue also require knowledge and capacities that are not always available to transport officials.

## Accountability and monitoring

Only by using monitoring and reporting emissions and verifying reductions can the effectiveness of measures be ensured and further improved. This is why the Paris Agreement established the Enhanced Transparency Framework (ETF), which obliges countries to track their progress toward implementing and achieving the NDCs and to issue regular reports.

**Kenya's** Climate Change Act (2016) requires public- and private-sector actors to develop and report GHG profiles. Each Climate Change Coordination Unit at the State Department for Transport is responsible for consolidating transport data relevant for the GHG inventory. In 2019, the transport sector was the first sector to comply with the act's requirement of publishing an annual climate change report that describes the transport sector's emissions and mitigation actions. In addition, Kenya publishes emission projections for different sectors at the [KCERT 2050 Calculator website](#), helping policymakers and the public understand the emission-related choices that the country faces.

Since 2021, **Chile** has been working to standardize its MRV system across all sectors in order to make them comparable and increase accountability. In **Colombia**, a centralized MRV system for tracking mitigation actions and emissions is in place. Compliance is mandatory, but so far there has been no follow-up. In fulfillment of the 06/ND-CP directive, the **Vietnamese** Ministry of Transport is currently developing an MRV system. **Morocco** has a national inventory system and offers training courses for ministry employees. Enhancing the capacity of ministry officials regarding MRV systems is a priority in all Moroccan departments.

To encourage and measure action at the municipal level, **India** has developed a monitoring system based on indicators developed by both Smart Cities Mission and NITI Aayog. It monitors impact and replicability of urban strategies and projects in selected smart cities.

So far, 23 countries have set GHG emission targets for the transport sector in their latest NDC. Uganda is the only one of the assessed countries that mentions a quantified target (but formulates it rather as potential target than as commitment).

Sectoral targets may simplify monitoring and reporting because it is possible to track them by setting up a GHG inventory while tracking the mitigation effect of isolated mitigation measures requires the set-up of complex MRV systems (as is being done in Colombia).

## The time to act is now

If the world continues to release emissions at its current level, we will pass the 1.5°C limit in nine years ([Global Carbon Budget 2022](#)). Hence, there's no time to lose: climate pledges need to be implemented now. This is no easy task, as interviewees from nine countries have made abundantly clear. The challenges are multifarious, including difficulties in harmonizing action between departments of government; lack of access to adequate funding; and shifting policy priorities at the national level following elections. However, there are various approaches for overcoming these obstacles, as outlined above. In this, strong political will at high levels and in climate change line ministries is only one important element; the other side of the coin is (early) involvement of sectoral players at all levels as well as support for building capacity and providing financial resources.

We hope that this report inspires policymakers and climate change advocates to further increase peer learning efforts in order to adjust and improve implementation mechanisms with the goal of setting the wheels in motion for sustainable transport and a livable future.

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