

# Climate Strategies for Transport in Asia



This infographic examines transport in Nationally Determined Contributions (NDCs) and Long-Term Strategies (LTS) submitted in the framework of the Paris Agreement. The focus is on second-generation NDCs (new or updated NDCs as of 10 April 2022).

On behalf of:



of the Federal Republic of Germany

## Key insights

Asia emits the most greenhouse gas (GHG) emissions from transport of any global region, so ambition and specific targets to reduce these emissions will be critical to achieving the goals of the Paris Agreement. However, only 5 Asian countries have included GHG targets to reduce their transport emissions in their second-generation NDCs.

Transport mitigation actions and targets in Asian NDCs mainly focus on e-mobility and vehicle technology improvements.

## Transport targets

### Transport GHG emission targets

Globally, 19 countries have included specific transport GHG emission targets in their second-generation NDCs, 5 of which are in Asia.

**Cambodia, Japan, Republic of Korea, Singapore and Thailand's** Long-Term Strategies include goals to achieve net-zero emissions by 2050 or shortly after.

**Bangladesh:** Reduce transport emissions by 3.39 million tonnes CO<sub>2</sub>-eq (unconditional) and 6.33 million tonnes CO<sub>2</sub>-eq (conditional) a year by 2030.

**Georgia:** Reduce transport emissions by 15% below BAU level by 2030 (unconditional).

**Israel:** Limit transport emissions increase to 3.3% compared to 2015 levels by 2030 (unconditional).

**Japan:** Reduce transport emissions to 146 million tonnes CO<sub>2</sub> by 2030 (unconditional).

**Sri Lanka:** Reduce transport emissions by 1% (unconditional) and additional 3% (conditional) below BAU by 2030.

While Asia's second-generation NDCs focus on electrification and zero-emission fleets, they do not include any targets on using renewable energy to power transport. Globally, only 3% of NDCs include such targets.

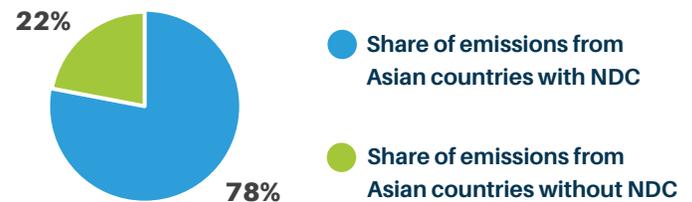
## Regional snapshots

### 38 second-generation NDCs 8 LTS

38 countries in Asia submitted second-generation NDCs. These countries account for 78% of Asia's transport CO<sub>2</sub> emissions. Outstanding submissions by **India, Iran and Turkey** would cover nearly all transport CO<sub>2</sub> emissions generated in the region.

Long-Term Strategies have been submitted by a mix of middle- and high-income countries, including **Cambodia, China, Indonesia, Japan, Nepal, Republic of Korea, Singapore and Thailand.**

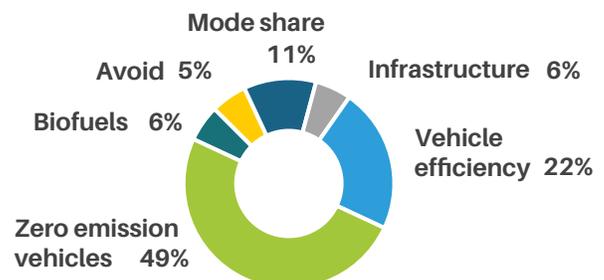
### Share of transport CO<sub>2</sub> emissions by Asian countries with and without 2nd generation NDCs



### Non-GHG emission targets

Half of Asia's second-generation NDCs include targets for zero-emission vehicle fleets. Rather than setting targets to avoid growth in motorisation or promote shifts to more sustainable modes, Asian NDCs mainly focus on improve actions (vehicle technologies, electrification and efficiency improvements).

### Non-GHG transport targets in second-generation NDCs





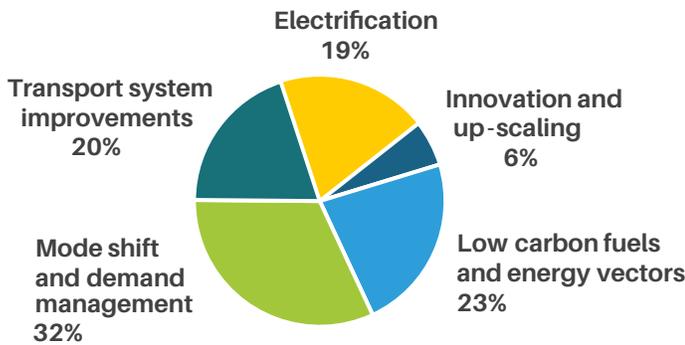
## Transport mitigation and adaptation actions

Asian second-generation NDCs reflect a balanced approach between intended mitigation actions.



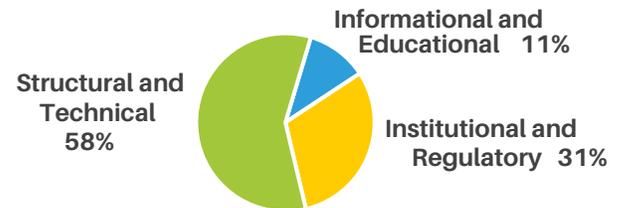
The distribution of actions follows global trends in second-generation NDCs. E-mobility has doubled its share in second-generation NDCs, overshadowing actions related to mode shift and low-carbon fuels and energy vectors.

### Transport mitigation actions by category



12 Asian countries have updated transport adaptation content in their second-generation NDCs. The main focus of this content is on structural and technical solutions (58%), while there are also many efforts related to the implementation of institutional and regulatory adaptation actions (31%).

### Transport adaptation actions by category

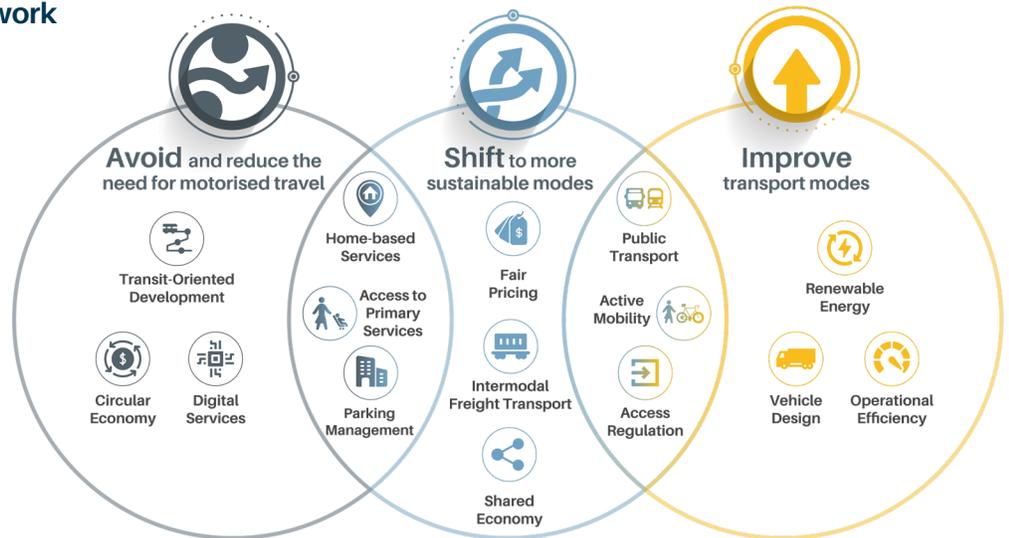


## Avoid-Shift-Improve framework

Applying Avoid-Shift-Improve (ASI) actions through integrated, inter-modal and balanced approaches is critical to unleashing the full benefits of sustainable, low carbon transport.

Learn more about the Avoid-Shift-Improve Framework [www.slocat.net/asi](http://www.slocat.net/asi)

In Asia, between first and second-generation NDCs, the main focus has changed from Shift to Improve actions. In second-generation Asian NDCs, Shift-focused actions have been reduced by 9% compared to first-generation NDCs. This is consistent with global trends focusing more strongly on transport electrification (Improve actions).

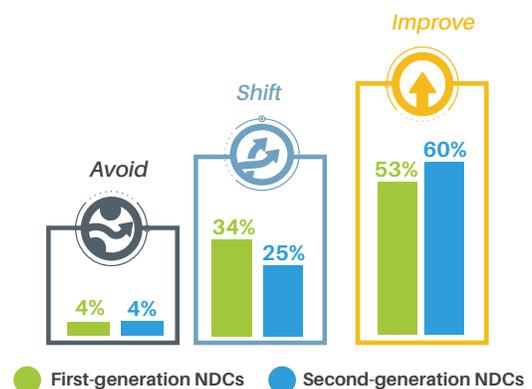


\*The A-S-I diagramme presents a non-exhaustive list of measures for illustrative purposes only.

**Sri Lanka's** updated NDC presents a comprehensive, well-balanced set of actions across the Avoid-Shift-Improve framework, including:

- Avoid motorised travel by reducing commute and travel times and parking management.
- Shift passenger transport through enhanced public transport, expanded pedestrian walkways and the promotion of cycling.
- Shift freight transport to rail and sea transport.
- Improve vehicle efficiency and promote electrification.

### Mitigation actions by Avoid-Shift-Improve



## Electrification

66% of NDCs in Asia include actions on electrification. This is higher than the global average, which amounts to 53% of all second-generation NDCs containing such actions.

In general, Asian NDCs present a stronger focus on the electrification of passenger cars and other personal road vehicles than on the electrification of buses.

## Freight

Only 5% of mitigation actions in Asian NDCs explicitly refer to freight transport, despite Asia's major role in the world economy and the transportation of global supply chains. This represents the lowest share of freight actions in NDCs among the Africa, LAC and Middle East and North Africa regions.

### Mitigation actions in second-generation Asia NDCs, passenger and/or freight transport

Number of transport mitigation actions explicitly mentioning transport activity



Passenger transport

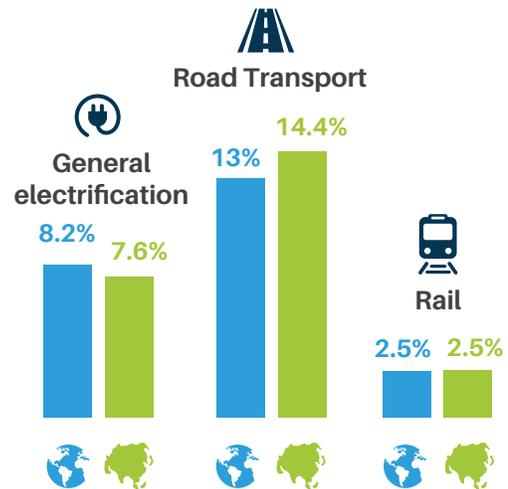


Freight transport



Both explicitly mentioned

### Share of electrification measures by mode



**Nepal** has set increasingly ambitious intermediate targets towards the electrification of vehicle fleets:

- 25% of vehicles sold (passenger cars and two-wheelers) and 20% of public transport (excl. rickshaws) to be electric by 2025;
- 90% of vehicles sold (passenger cars and two-wheelers) and 60% of public transport (excl. rickshaws) to be electric by 2030;
- By 2030, 200 km of electric rail to be implemented.



**China's** NDC has mainly focused on road-to-rail and road-to-water bulk cargo transport, resulting in rail freight activity growing by 10% for railways (compared to 8% for roads) between 2016 and 2019. According to its second-generation NDC, China will continue to pursue green logistics actions and optimise the use of transport resources.



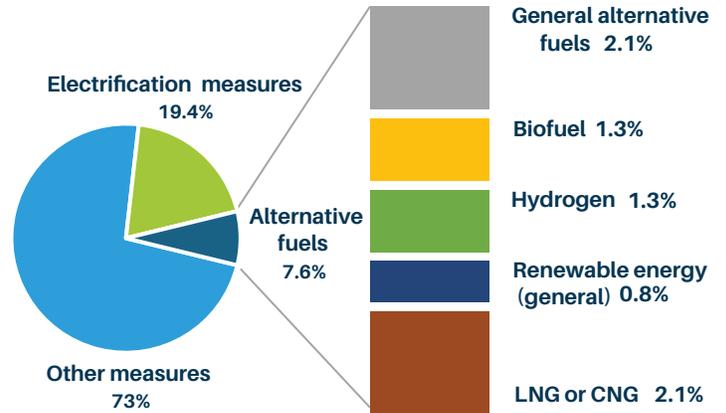
## Renewable energy and alternative fuels

To reduce emissions from the transport sector, it is essential that electrification is supported by renewable energy. However, no Asian NDC has a target to support transport decarbonisation through renewables and only two Asian NDCs (**Armenia** and **Uzbekistan**) link sustainable transport actions to renewable energy.

## COP26 commitments

COP26 saw an unprecedented number of commitments and initiatives on sustainable, low carbon transport. The table cross-referenced COP26 transport commitments with the second-generation NDCs submitted by countries which signed up to the initiatives.

## Alternative fuels and e-mobility compared to other actions



Declaration on accelerating the transition to 100% zero emission cars and vans



Breakthrough agenda - road transport



International aviation climate ambition coalition



Clydebank declaration for green shipping corridors



- Country is a signatory but has not submitted its second-generation NDC.
- Country is a signatory and has included some content related to it in its second-generation NDC.

⋮ SLOCAT blog on transport commitments and initiatives launched at COP26

⋮ SLOCAT preliminary analysis of coherence between commitments and initiatives launched at COP26 and the NDCs of signatory countries

This analysis uses the geographic regions defined by the UN M49 Standard.

This infographic was produced by GIZ and SLOCAT based on:

GIZ and SLOCAT (2022), Tracker of Climate Strategies for Transport, a database on ambition, targets and policies in NDCs and LTS of the Paris Agreement, <https://changing-transport.org/tracker/>

SLOCAT (2021), Climate Strategies for Transport: An Analysis of NDCs and LTS, <https://slocat.net/ndcs/>

GIZ (2021), Key insights - Transport in new NDCs and LTS, <https://changing-transport.org/publication/transport-in-ndcs-and-lts/>

Learn how to raise climate ambition for sustainable, low carbon transport:

