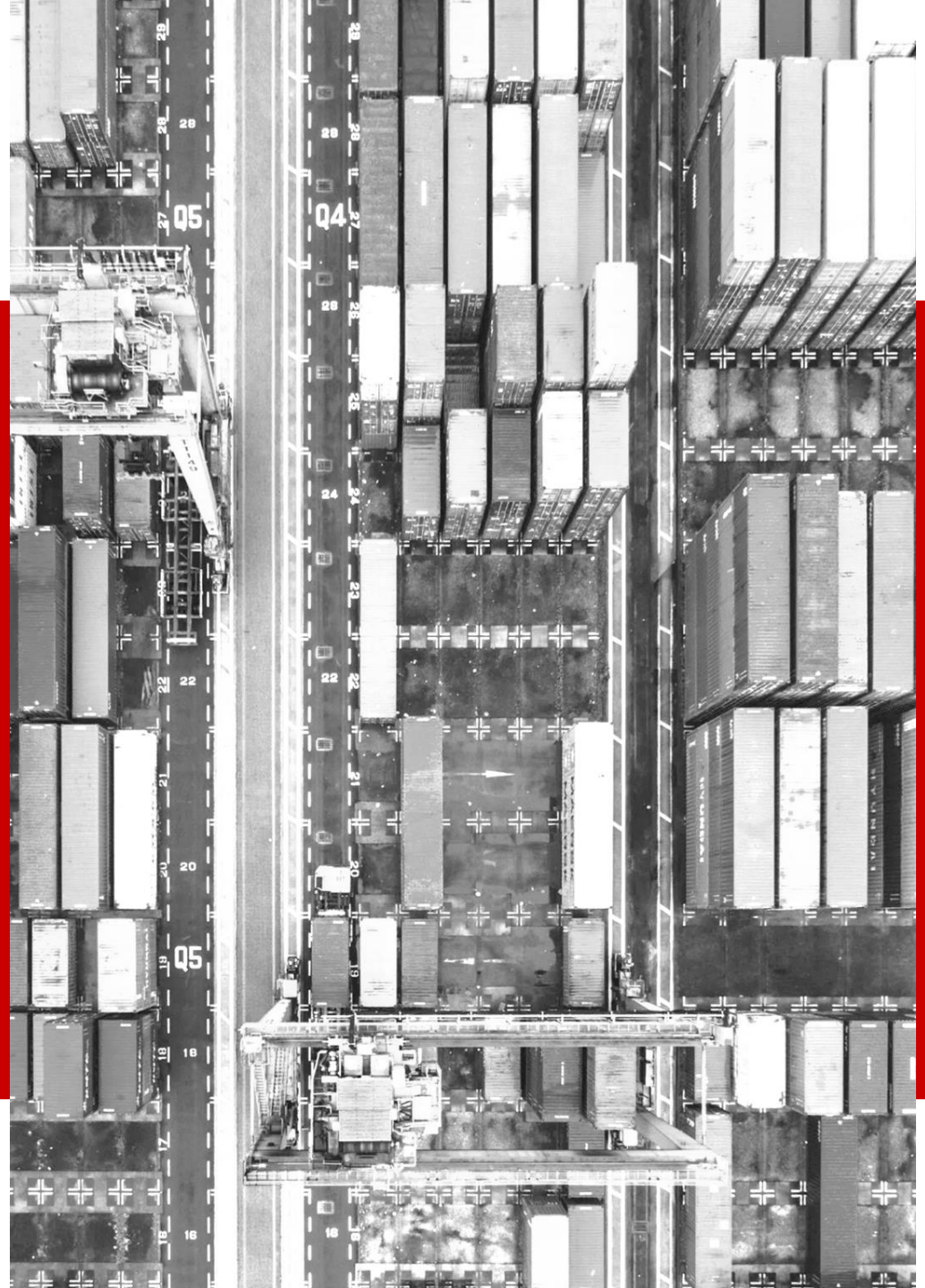
Asian Transport Outlook

ACCELERATING CHANGE: DECARBONIZING FREIGHT TRANSPORT IN ASIA

ALVIN MEJIA
CO-TEAM LEAD,
ASIAN TRANSPORT OUTLOOK



ADB ASIAN DEVELOPMENT BANK
AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK

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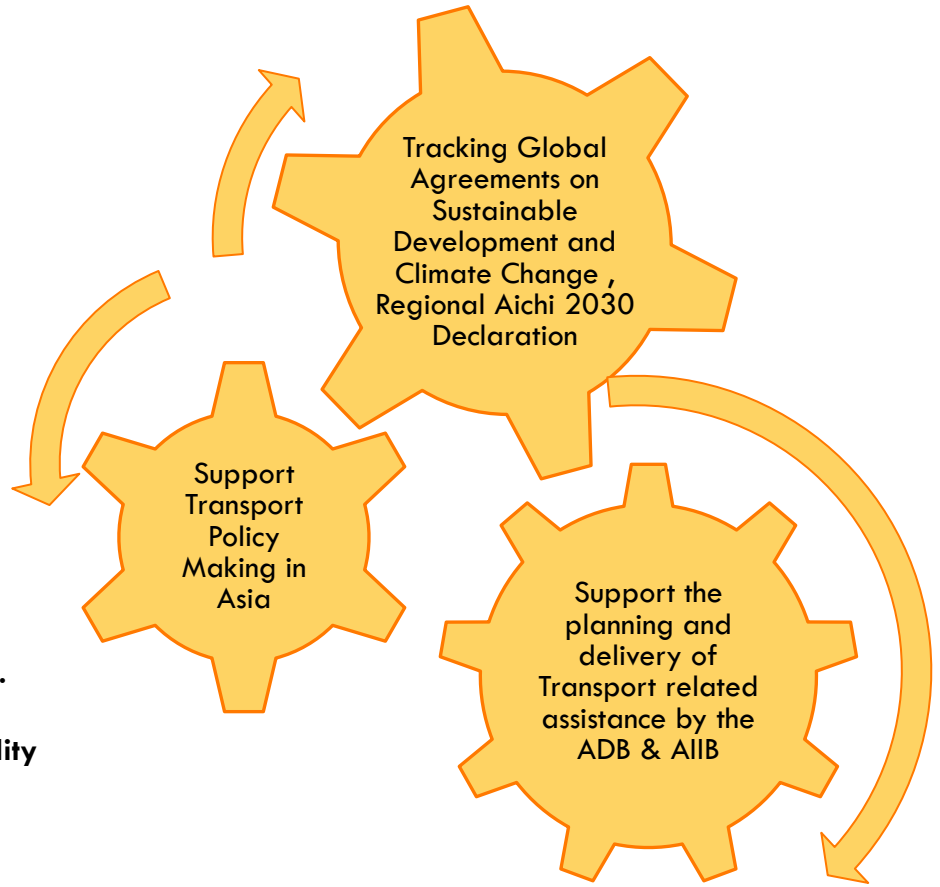
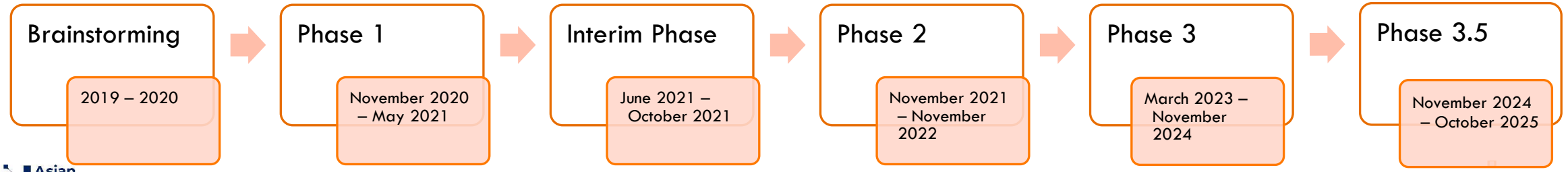
51 Economies (ADB Members + Russia and Iran)

460 Urban Centers (412 Asia-Pacific, 48 International)

46 Urban Centers with a detailed review * To be increased to 50



The Asian Transport Outlook (ATO) is an ADB-led initiative promoting sustainable transport in Asia. With comprehensive databases covering national, urban, and project-level data, ATO informs investment and policy decisions. It supports ADB and AIIB in aligning infrastructure with sustainability goals, monitors progress on the Aichi 2030 Declaration, and fosters collaborations with local and international organizations to enhance knowledge and capacity in the transport sector.



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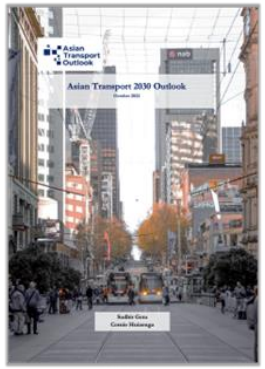
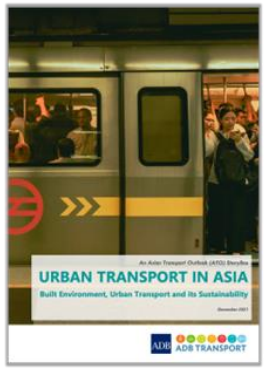
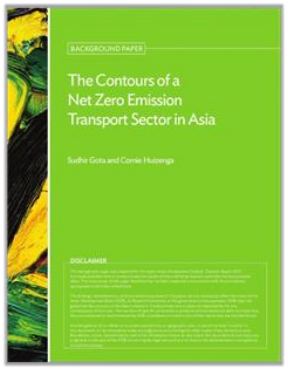
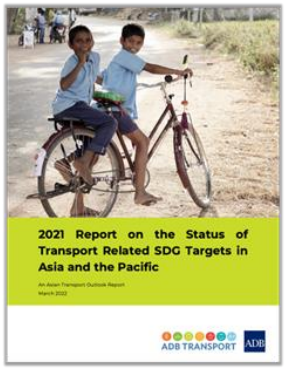
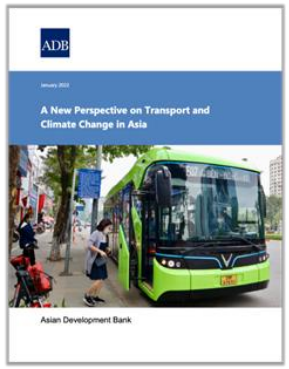




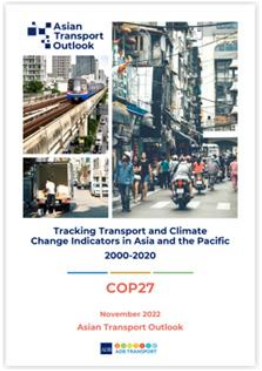












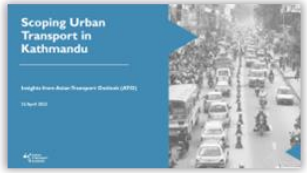








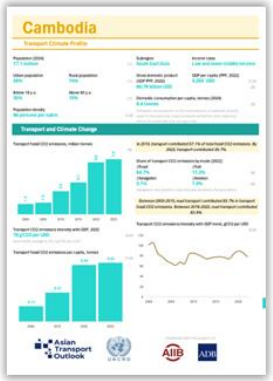








SDG Profiles
(39 countries)



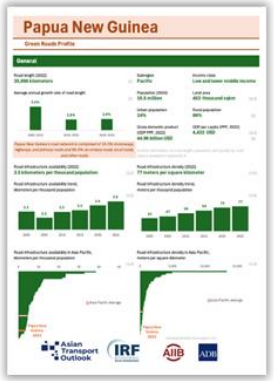
Transport Climate Profiles
(23 countries)



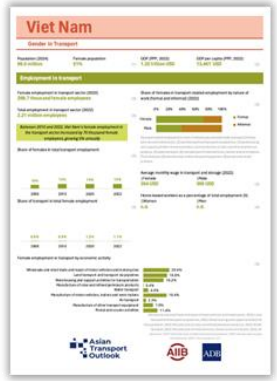
Road Safety Profiles
(24 countries)



E-mobility Profiles
(10 countries)



Green Roads Profiles
(23 countries)



Gender Profiles
(20 countries)

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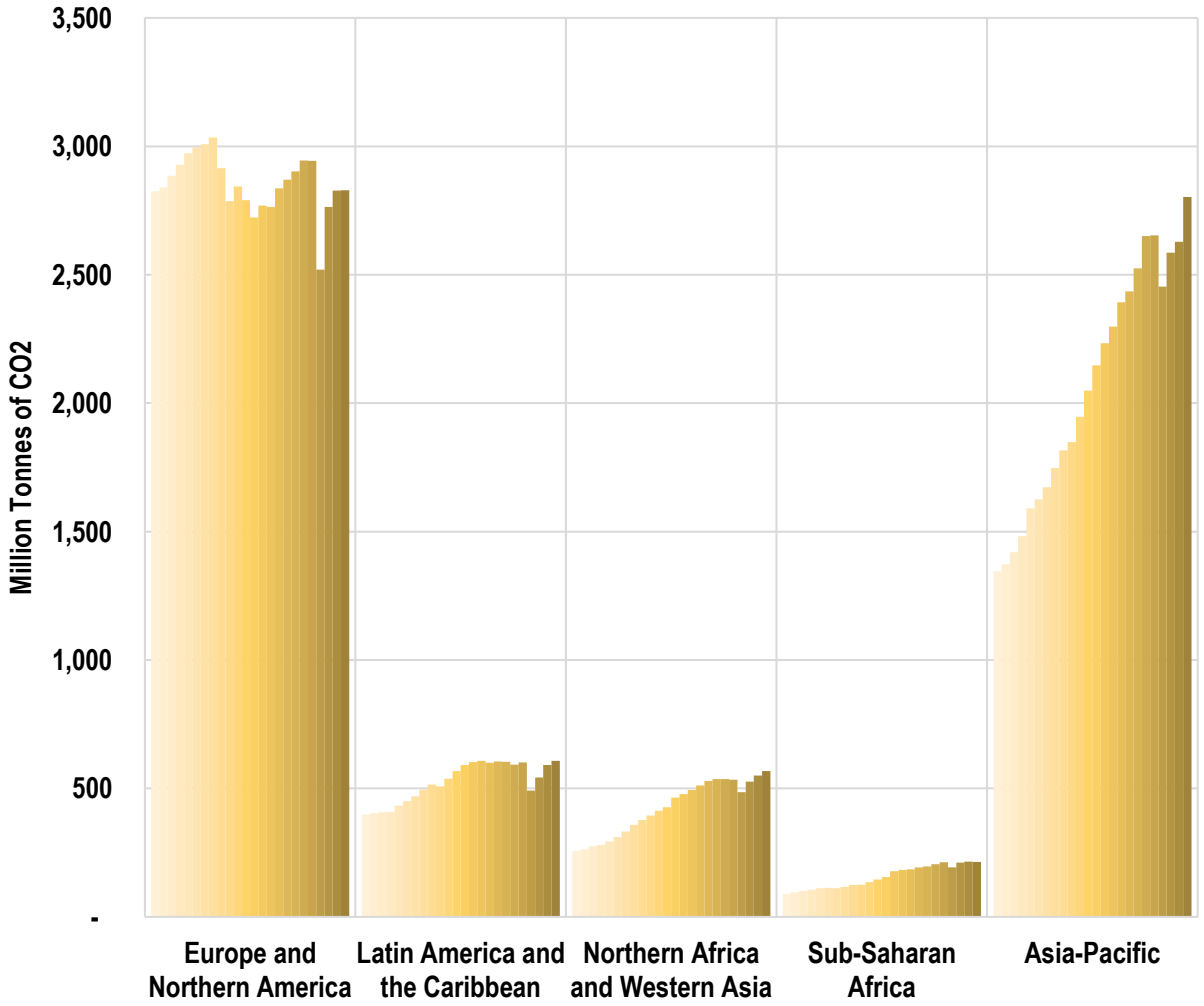
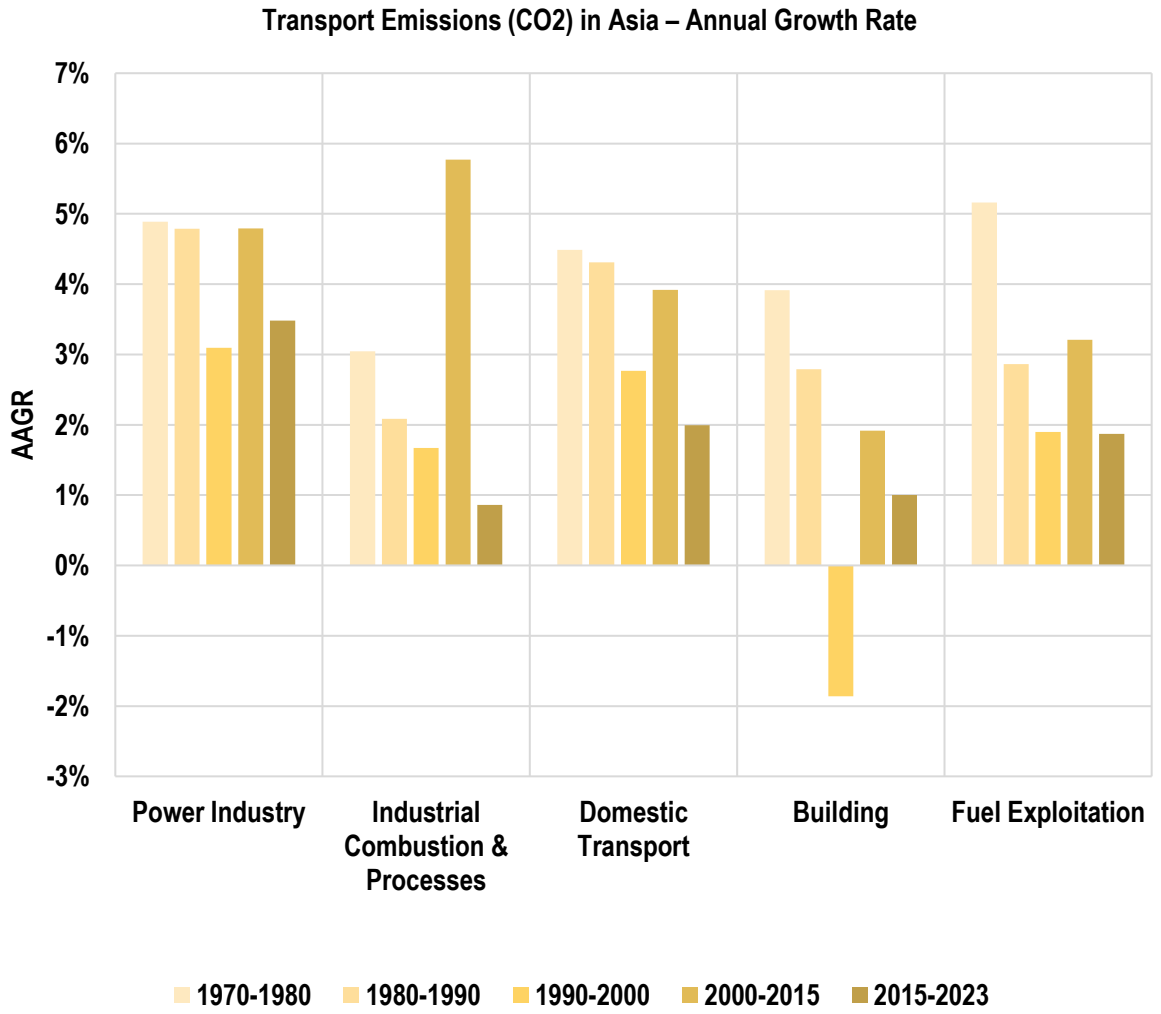
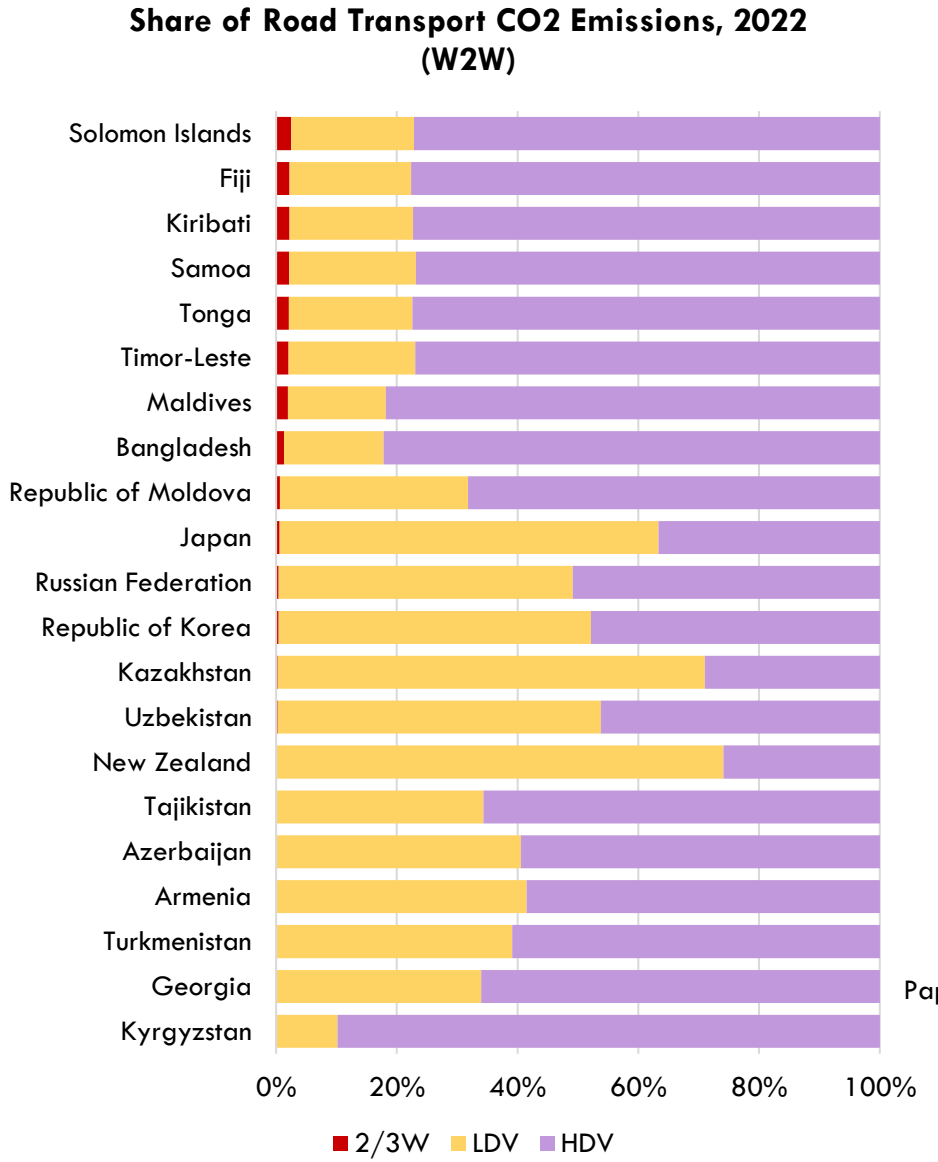
IMPORTANCE OF ASIA – TRANSPORT EMISSIONS

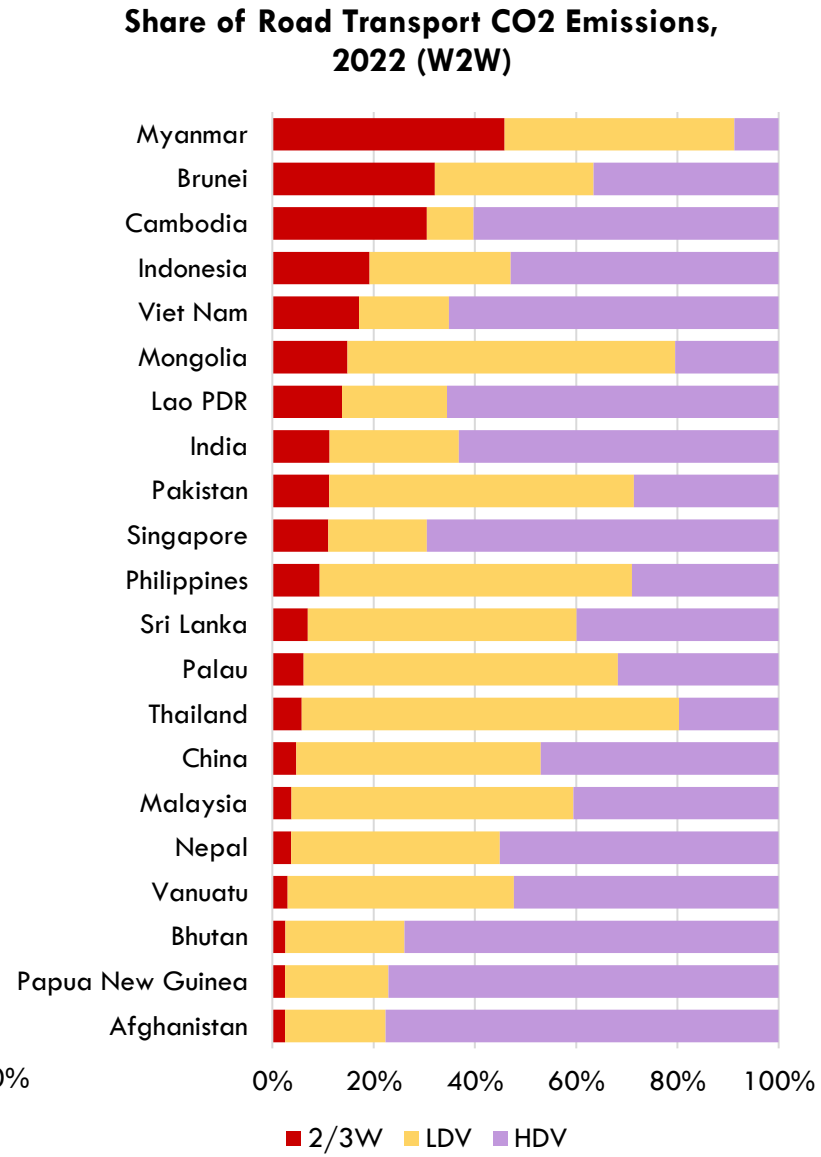




Source: EDGAR, 2024

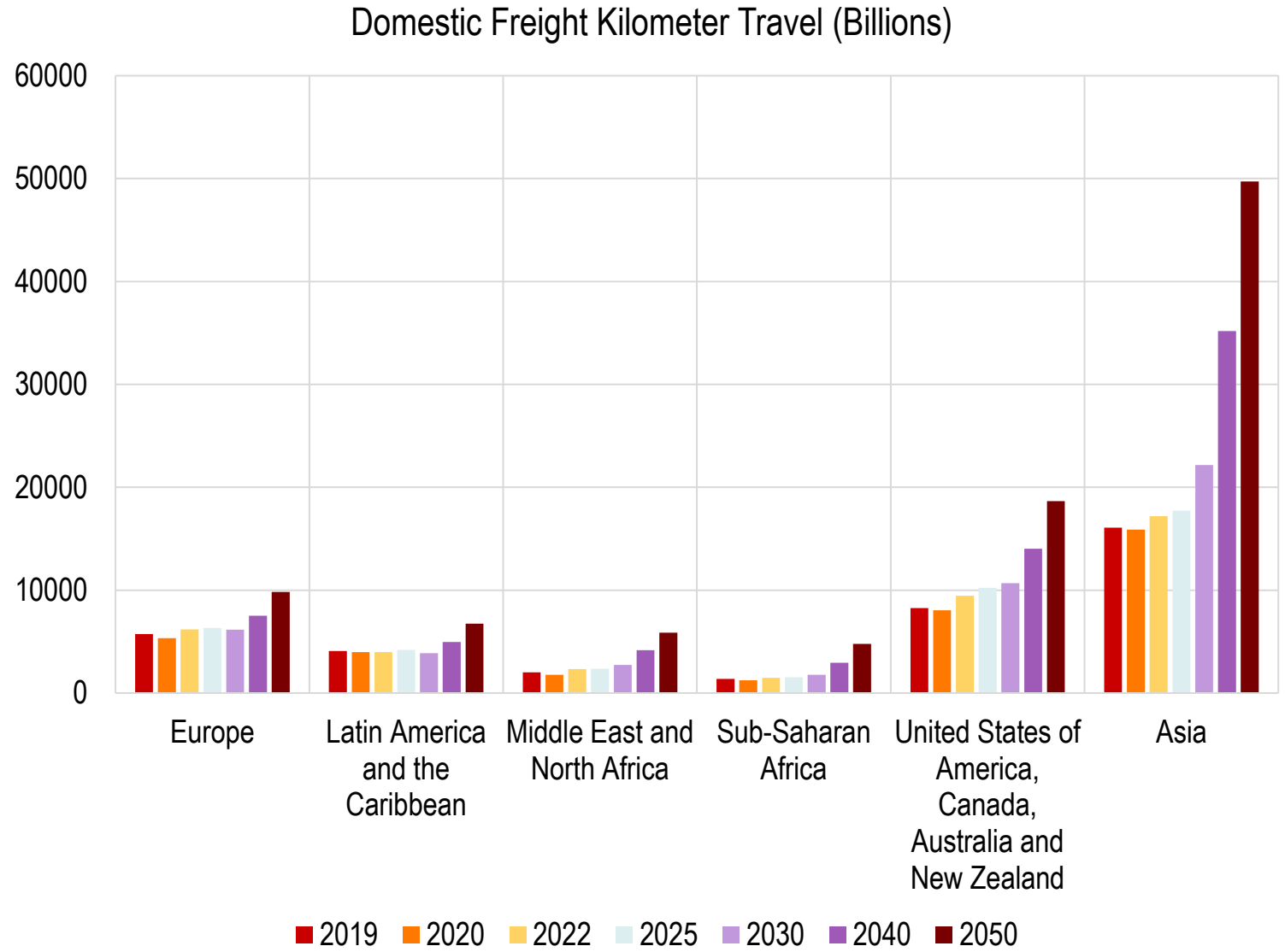
IMPORTANCE OF FREIGHT IN ASIA'S GHG PROFILE

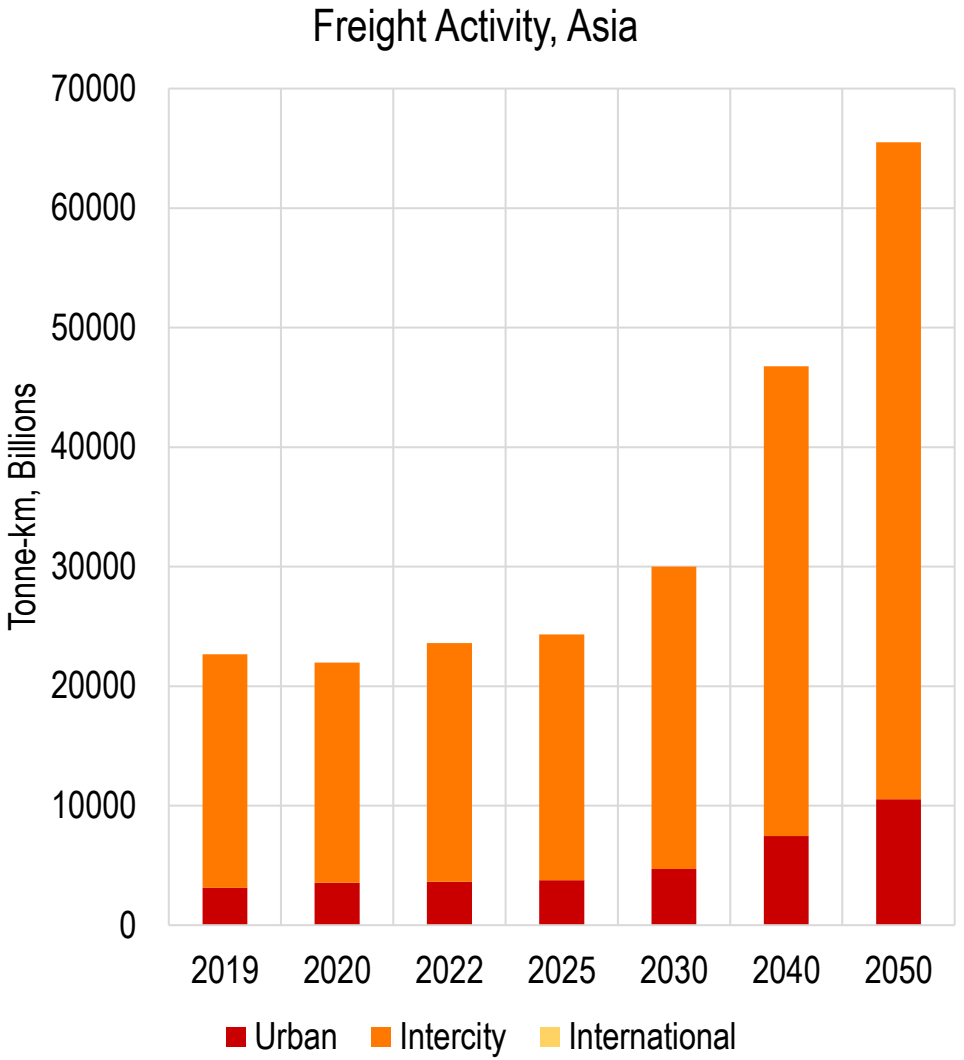




Source: ICCT-2023

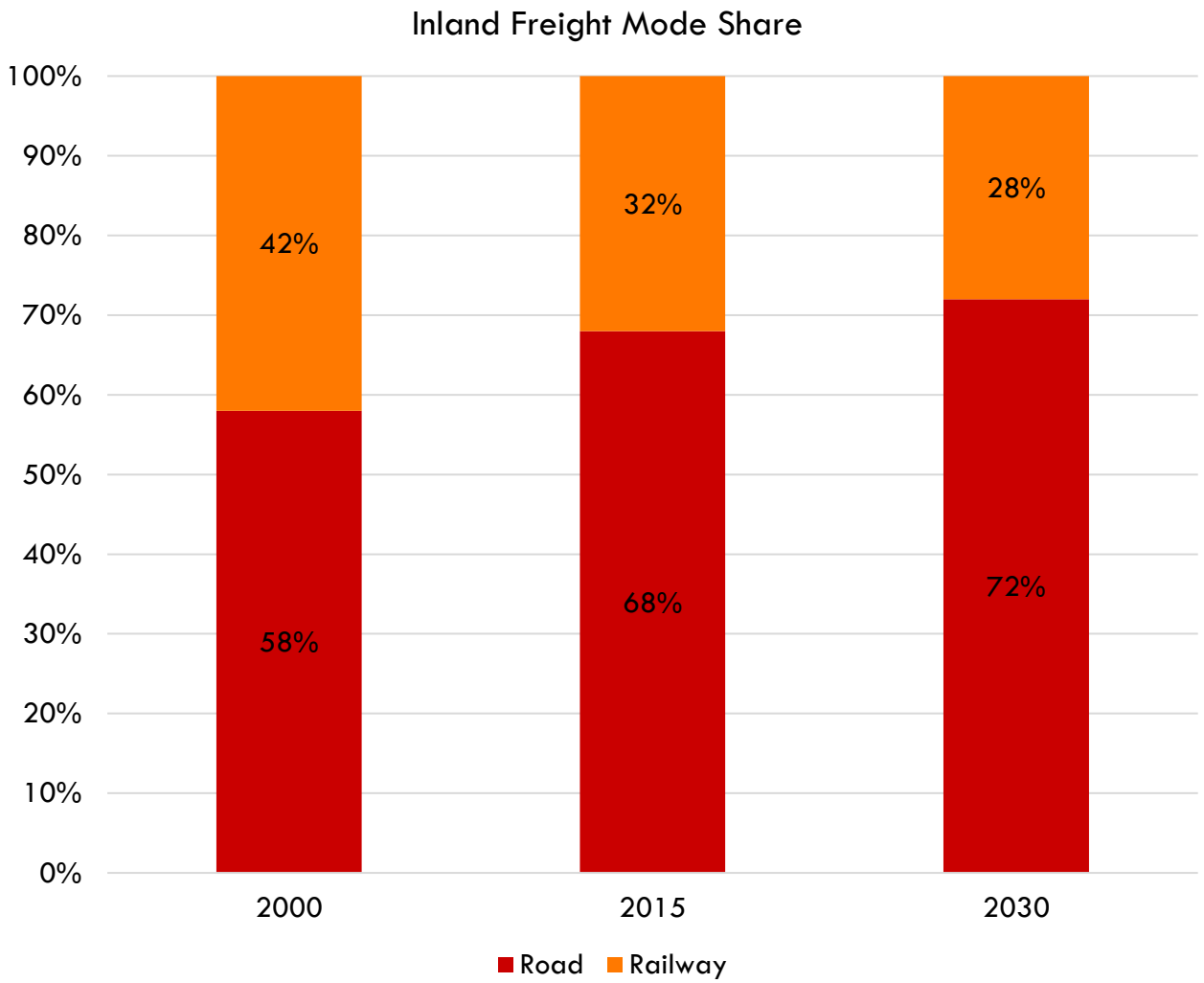
ASIA'S FREIGHT SECTOR – MAGNITUDE AND GROWTH

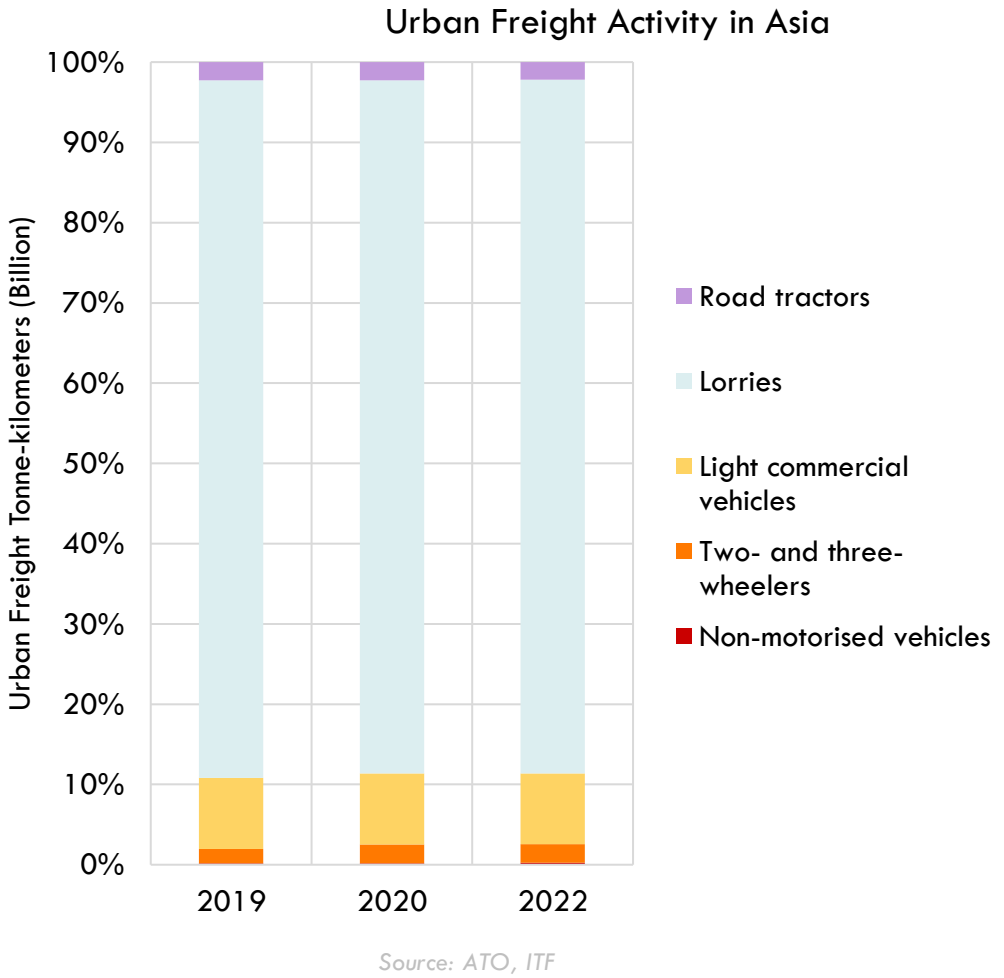




Source: ITF Outlook 2023

MODAL SHARES





Source: ATO, ITF

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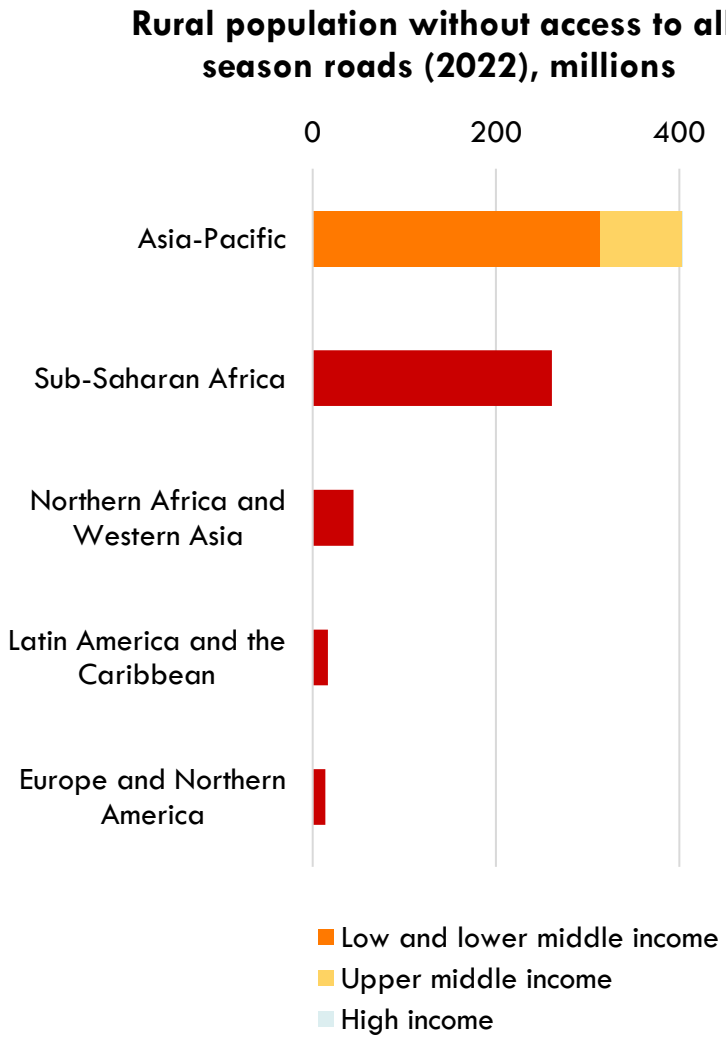
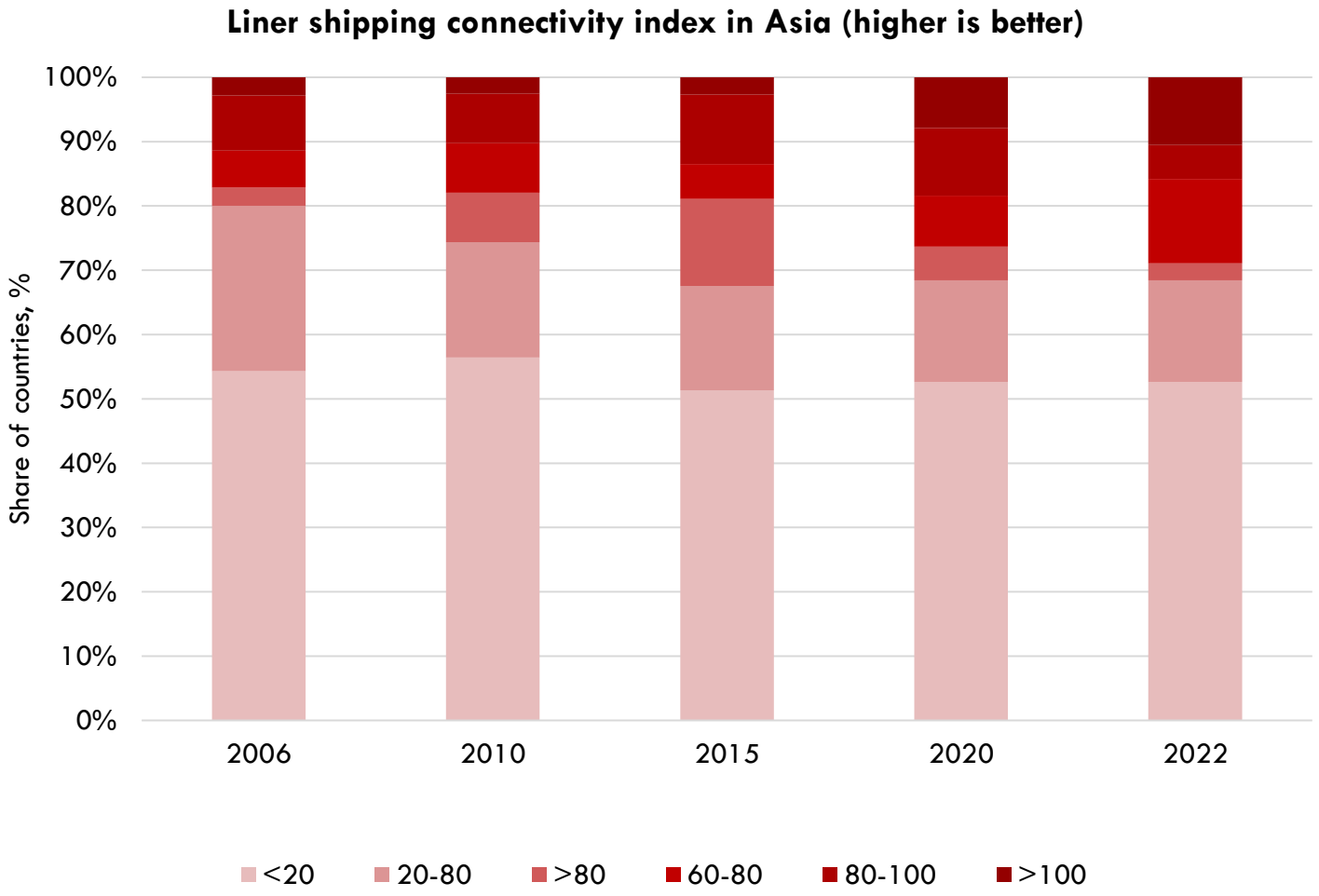
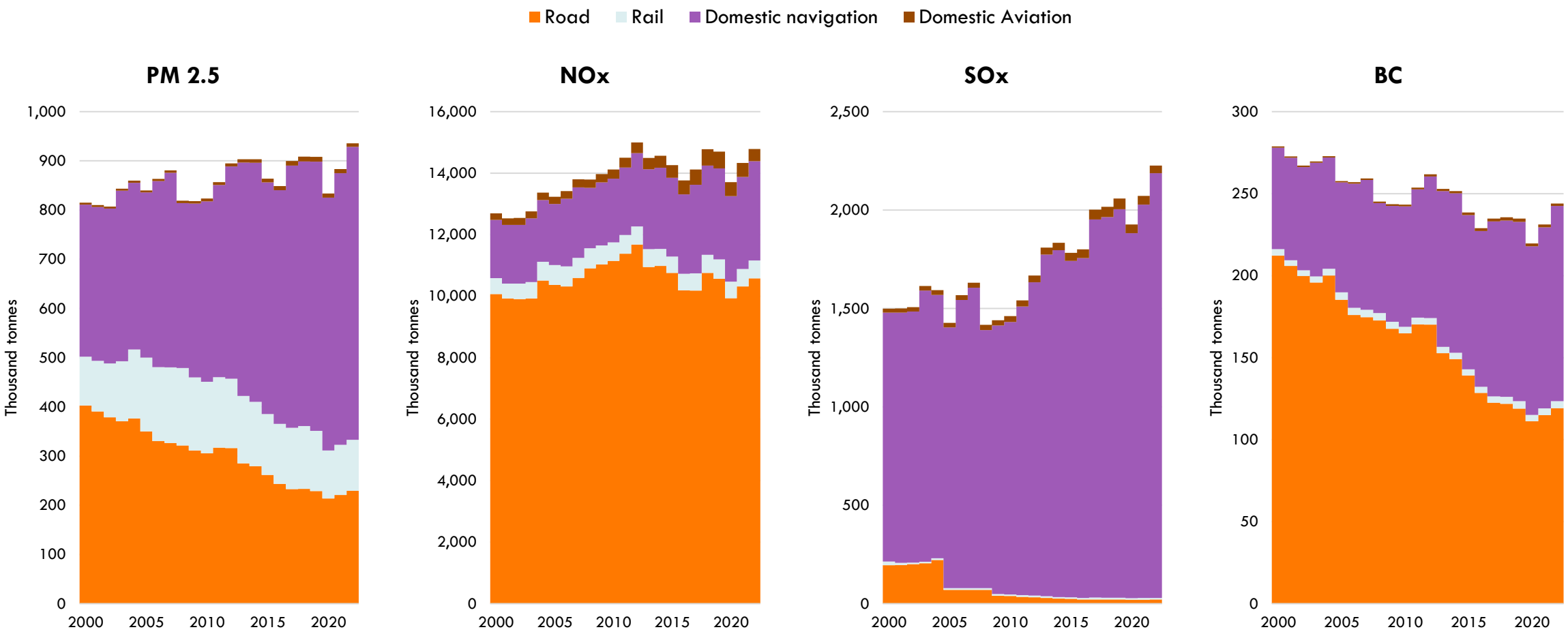
LIMITED ACCESS AND CONNECTIVITY





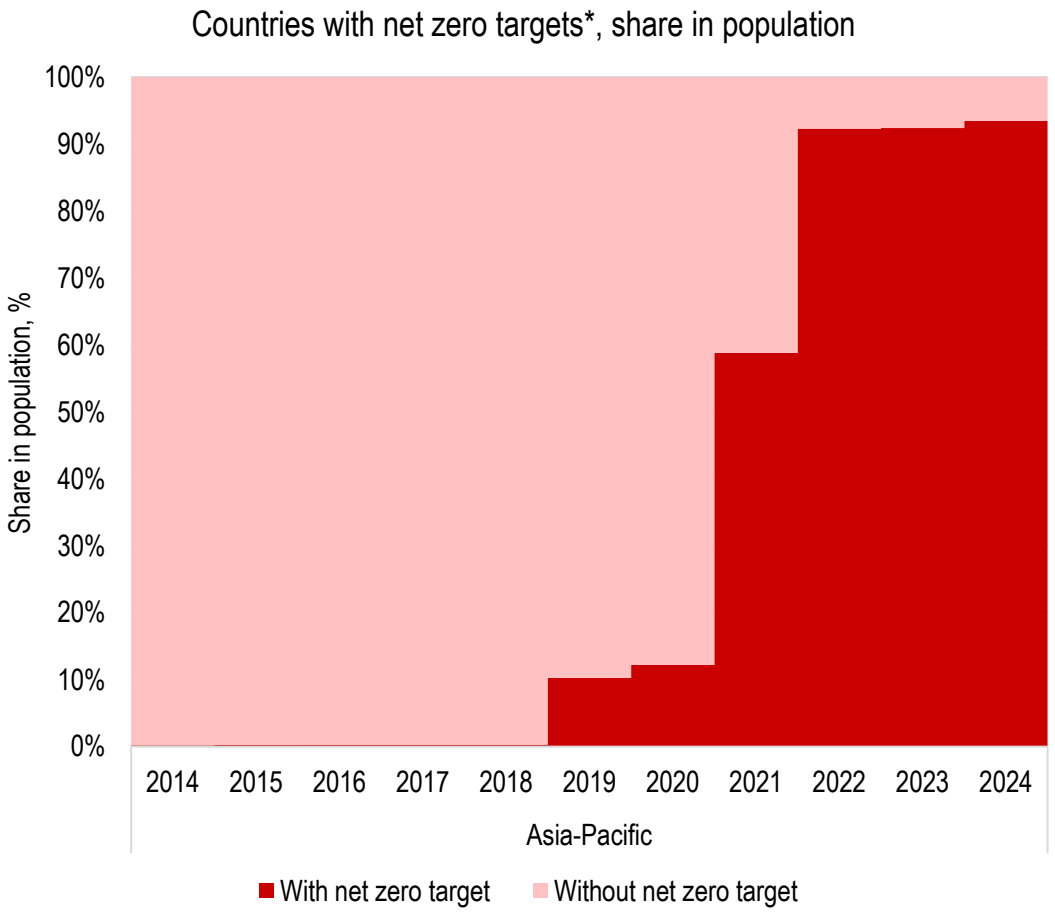
Source: SDSN, UIC, IRF, UNSD, UNCTAD

FREIGHT VEHICLES IS A SIGNIFICANT SOURCE FOR TRANSPORT AIR POLLUTION



Source: EDGAR, 2023

NEED TO TRANSLATE TO TIMELY AND AMBITIOUS SECTORAL TARGETS



Country	NDC		
	Economy-wide emissions	Transport GHG emission	Indirect transport targets
Azerbaijan	2030		
Bangladesh	2030	2030	Modal shift, transport energy consumption
Bhutan		2030	Vehicle related
Cambodia	2030	2030	
Indonesia	2030		
Kazakhstan	2030		
Kyrgyz Republic	2025, 2030, 2050		
Lao PDR	2030		Biofuels, E-mobility
Malaysia	2030		
Maldives	2030		
Marshall Islands	2025, 2030, 2035	2025, 2030	2025, 2030, 2035
Mongolia	2030	2030	E-mobility
Myanmar	2030		
Nepal			E-mobility, public transport, railway electrification
Pakistan	2030		E-mobility
Papua New Guinea			
Philippines	2030		
Solomon Islands	2025, 2030, 2050		
Sri Lanka	2030	2030	Vehicles scrappage scheme
Tajikistan	2030		
Thailand	2030	2030	
Timor-Leste			
Uzbekistan	2030		E-mobility, LPG/ CNG/ LNG
Vanuatu	2030		Biofuels, E-mobility, Ship, Vehicle efficiency standards
Viet Nam	2030		

"Current NDCs and transport policies often need more ambitious long-term targets for emissions reduction in the transport sector."

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FREIGHT DECARBONIZATION AND RESILIENCE RELATED POLICIES

Freight-related climate change mitigation measures



Freight-related climate change adaptation measures



Countries considered – Bangladesh , Bhutan, Indonesia, Kazakhstan, Lao People's Democratic Republic, Malaysia, Maldives, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Timor-Leste, Uzbekistan & Viet Nam

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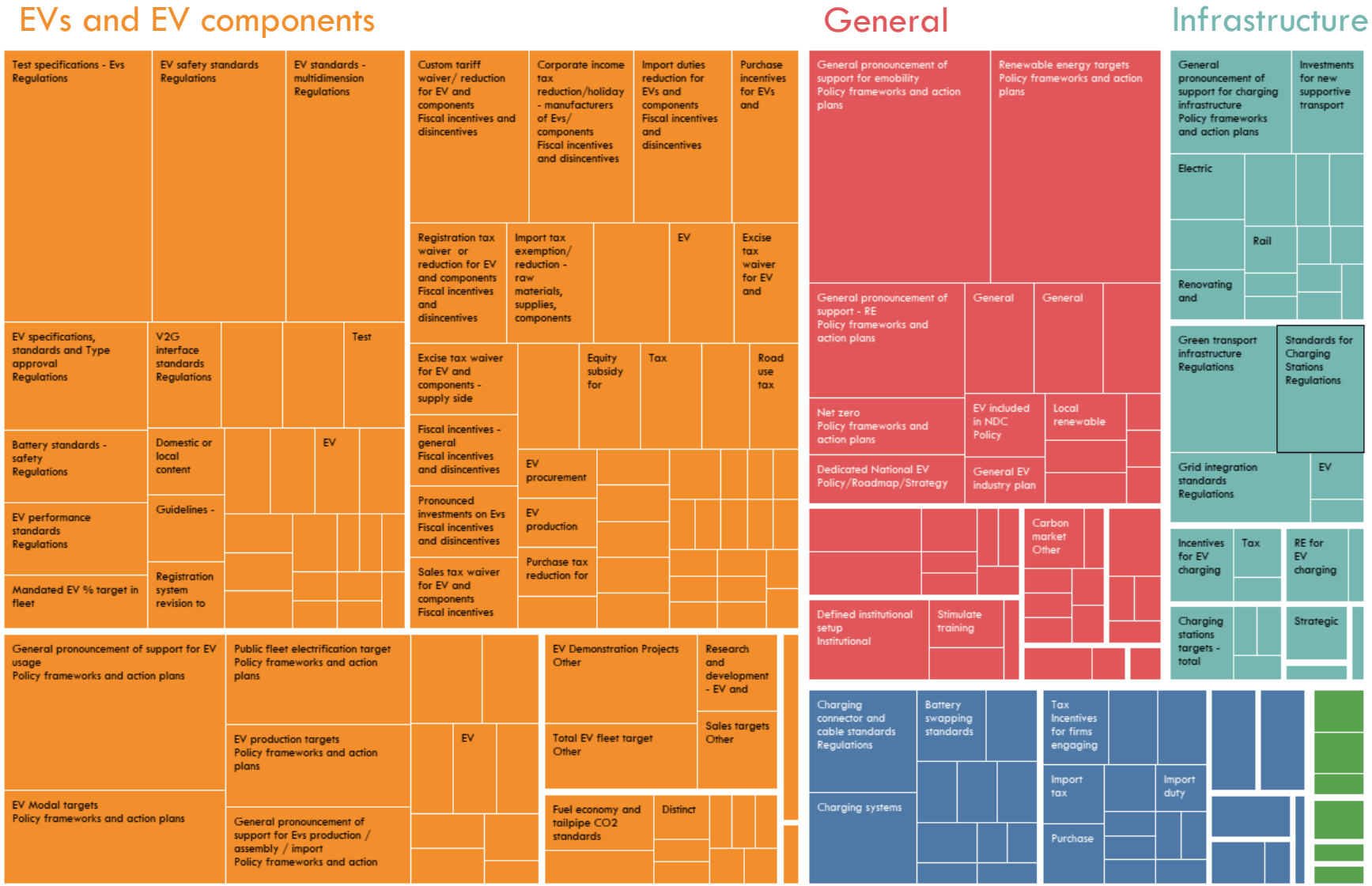
Source: National Policies

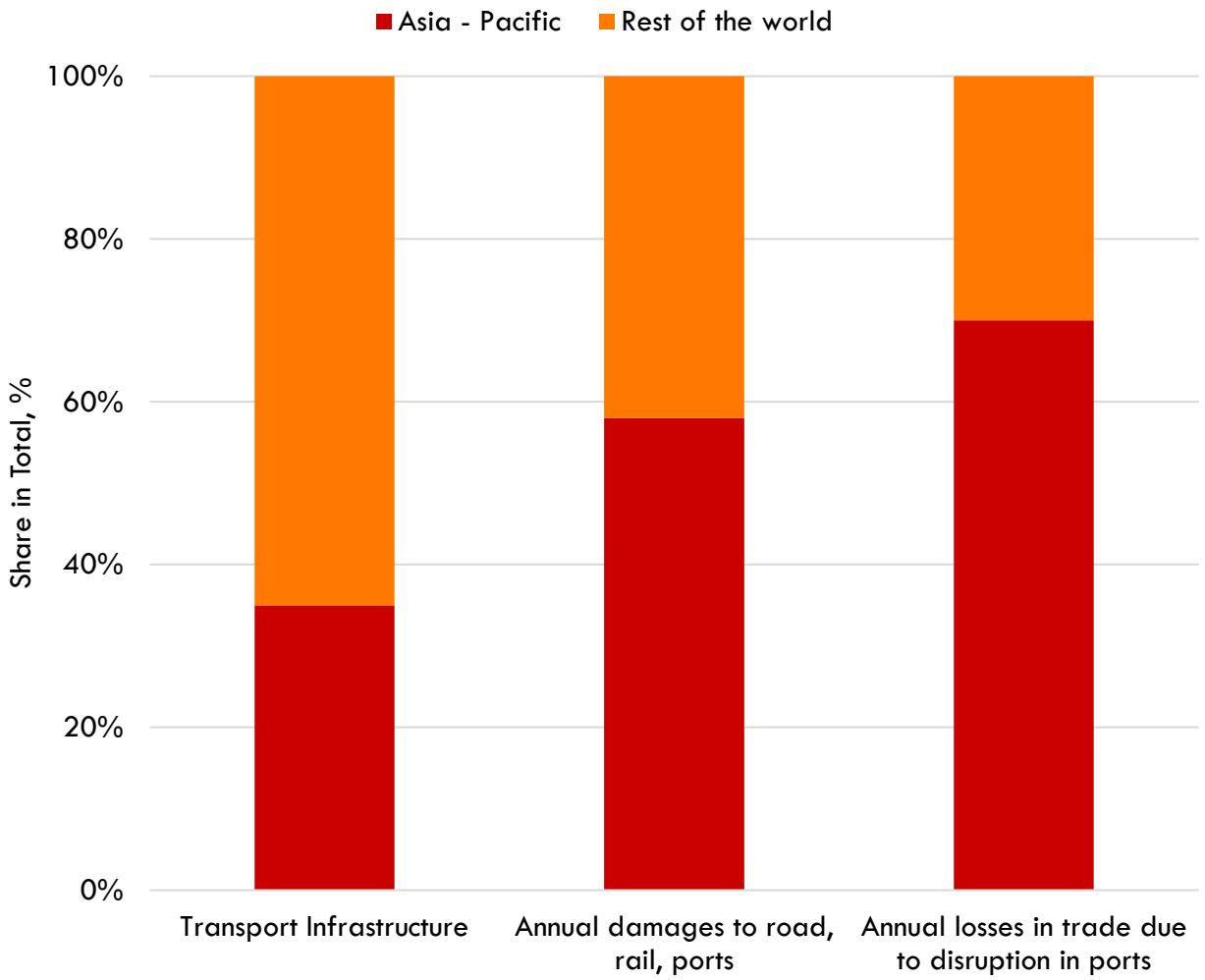
E-MOBILITY POLICY MEASURES LANDSCAPE



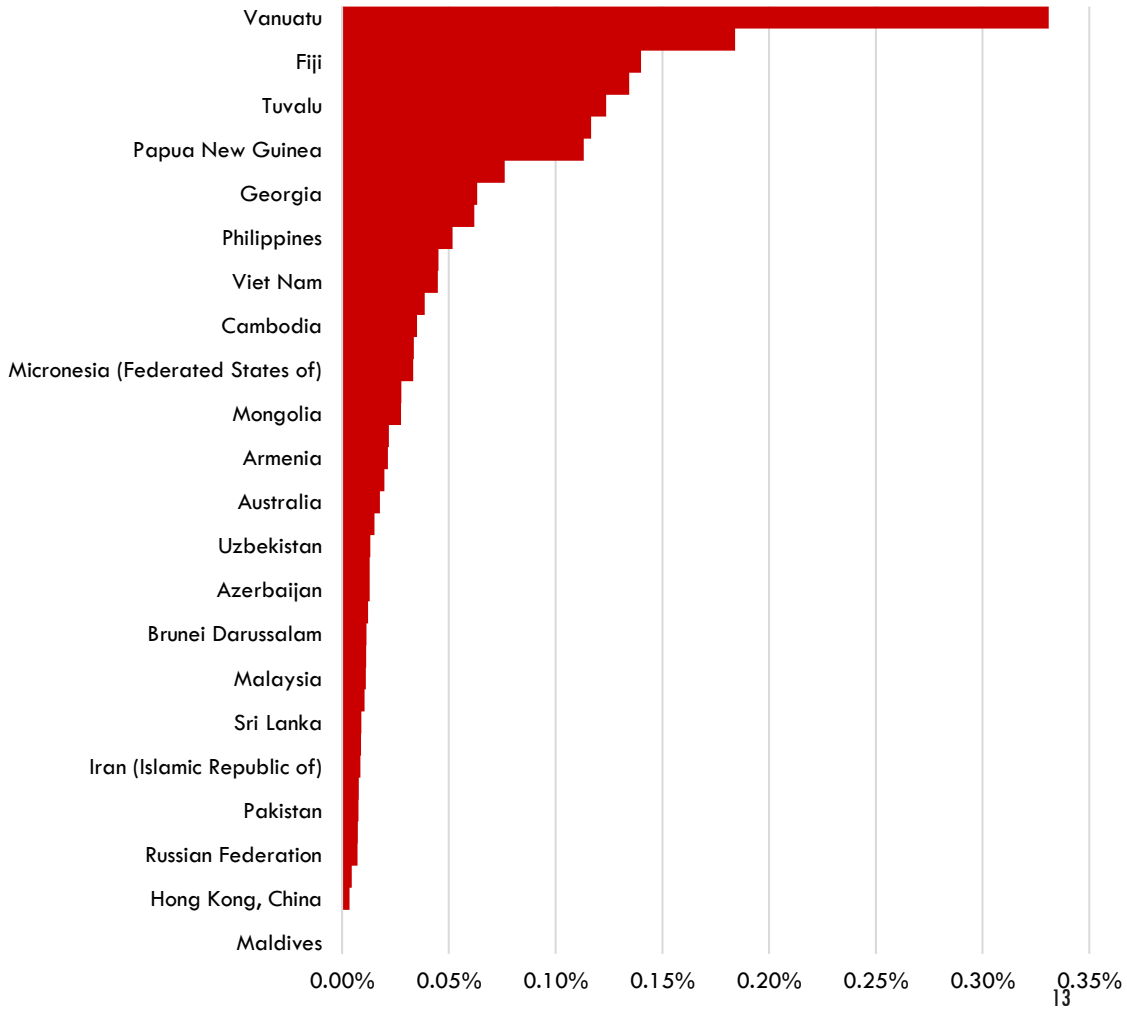
Urban Freight Electrification remains a low hanging fruit

DISPROPORTIONATE IMPACTS OF CLIMATE AND NATURAL HAZARDS - ASIA

Share of Asia-Pacific in transport infrastructure and potential damages to surface infrastructure due to hazards



Annual damages to road, rail, and ports as a share of GDP



Source: Kokos Et al.

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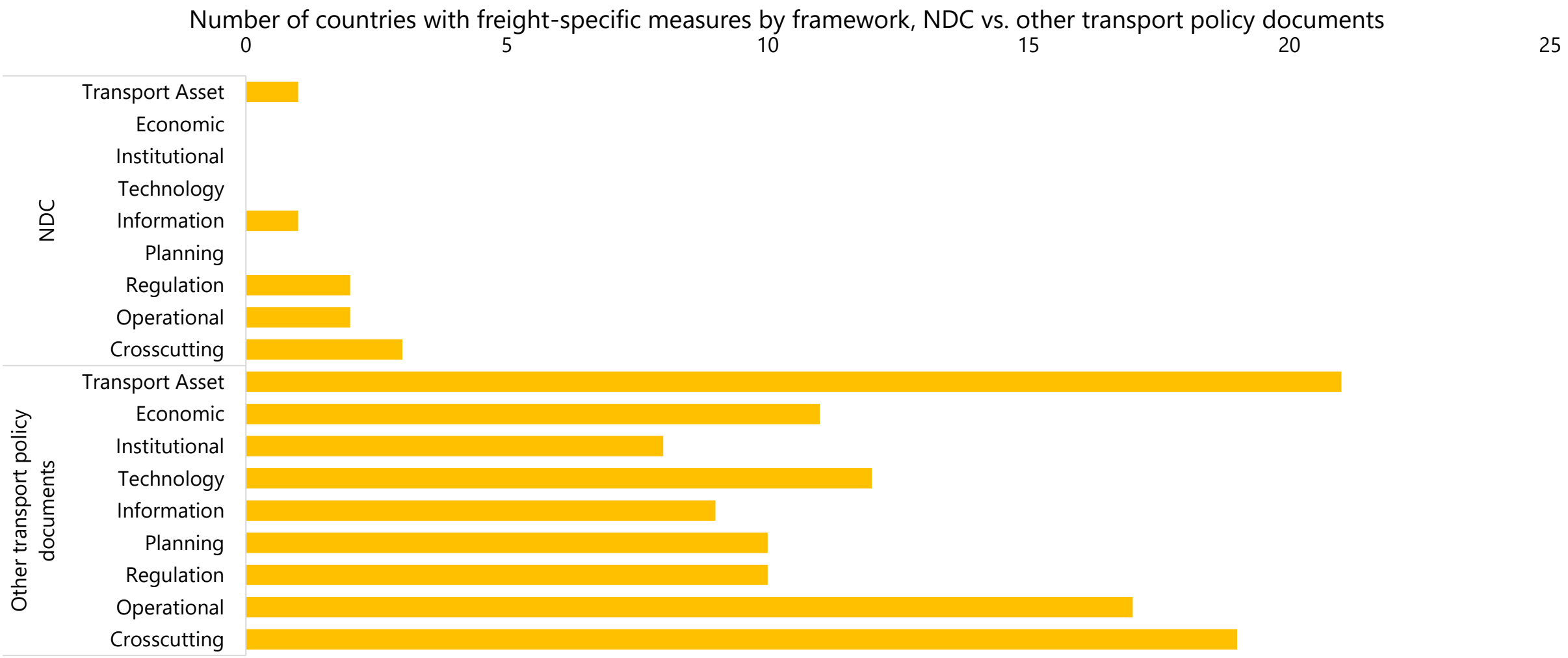
FREIGHT DECARBONIZATION: A CLIMATE BLIND SPOT AMIDST RAPID GROWTH



"Urgent action is needed to decarbonize the freight and logistics sector, which currently remains a significant source of emissions"

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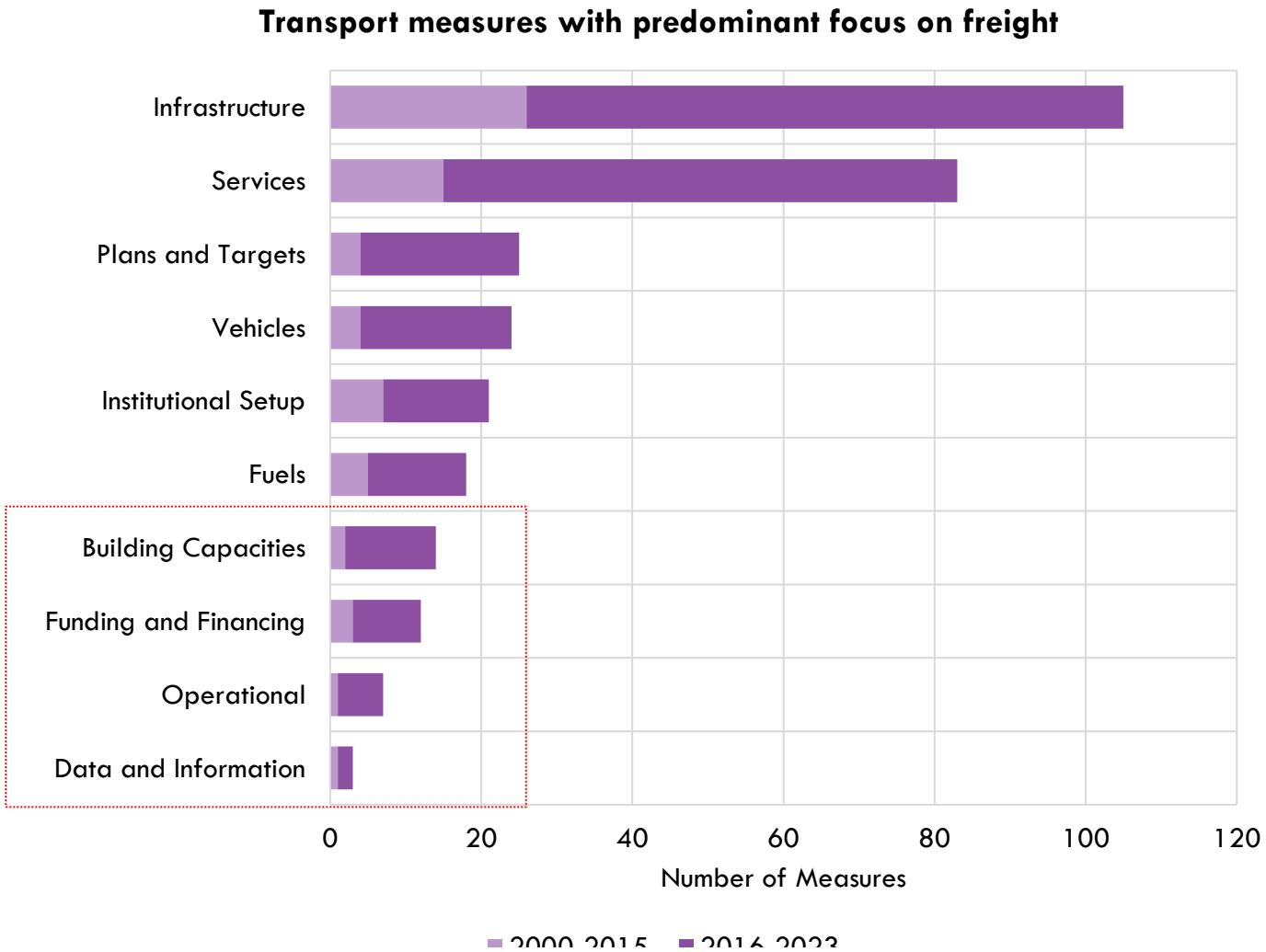
POLICY INSTRUMENTS



Countries considered – Bangladesh , Bhutan, Indonesia, Kazakhstan, Lao People's Democratic Republic, Malaysia, Maldives, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Timor-Leste, Uzbekistan & Viet Nam

NEED TO ENHANCE POLICY AMBITION

Country	Document	Policy measure
Bhutan	NDC	•Low emission freight transport system for heavy and commercial trucks and freight trains
	Selected policy measures from other transport policy documents	•Develop logistics policy •Develop inland container depots or dry ports including railway links together with supporting facilities such as customs, immigration, quarantine etc. at the border crossings •Introduce low emission freight trucks including EV trucks •Land use planning to develop land use controls to ensure urban renewal near Freight Terminal is compatible with the terminal's operations •Optimize freight vehicles loading, improve utilization, reduce vehicle kilometre travelled
Cambodia	NDC	•Shift long distance freight movement from trucks to train
	Selected policy measures from other transport policy documents	•Prepare a logistic system master plan to serve as an efficient, reliable and highly competitive platform for trade facilitation •The MPWT has proposed to shift long distance freight movement by 40% and 75% from trucks to, train by 2030 and 2050 •Promoting the implementation of agreements on cross-border transport along the Cambodian-Thai Railways •Promoting investment in logistics centres, warehouse, container terminal and dry port
Sri Lanka	NDC	•Switch back to rail from road transport
	Selected policy measures from other transport policy documents	•A key focus of the Strategy is on reforming the logistics ecosystem by adjusting key regulations such as the Sri Lanka Port Authority Act, Electronic Transactions Act and Commercial Hub Regulations in order to increase the sophistication and quality of services •Relocation of freight & container yards closer to express way entry points & railway •Use train for freight transport •Development of new business models to enhance freight transport by railways in consultation with relevant public and private agencies
Thailand	NDC	•Promote road-to-rail modal shift for both freight and passenger transport
	Selected policy measures from other transport policy documents	•Adopt intelligent logistics management systems which will increase efficiency by increasing the use of freight distribution networks, reducing the number of empty truck journeys while simultaneously shifting to more efficient and low-emission transport modalities •Promote the transportation of both domestic and international goods to use rail and water transportation •Establishment of a distribution centre •Upgrading standards of transportation management by trucks to support Enhancing energy efficiency and reducing greenhouse gas emissions
Viet Nam	NDC	•Restructure freight towards a reduction in the share of road transport in exchange for an increase in the share of transportation via rail and inland waterways;
	Selected policy measures from other transport policy documents	•Promote the transition of freight transport from roads to railways, waterways and coastal transport •Reduce the proportion of empty runs of vehicles, reduce congestion of goods in transportation activities and logistics service supply chains •Establishing a network of multi-level distribution centres (inland ports, warehouses, cargo yards) and freight collection and collection routes in major cities and key economic regions

KEY TAKEAWAYS



Implementing green transport corridors requires a multifaceted approach involving policy and regulatory frameworks, modal shift and efficiency improvements, technology and innovation, infrastructure development, and reguional collaboration and capacity building.



Addressing challenges such as the lack of harmonized policies, infrastructure deficiencies, data deficiency, and limited capacity of stakeholders – supporting elements critical - is crucial for the successful implementation of **Zero Emissions Freight Corridors .**



Collaboration between governments, the private sector, and civil society across supply chains is essential to leverage resources, expertise, and achieve sustainability goals.



Zero Emissions Green Corridors should be integrated into broader transport and climate change policies to ensure a holistic approach to reducing emissions in the freight sector.

"ATO translates data into insights, policies, and investments"

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