Transport and Climate: Navigating the Path to Net-Zero Carbon Emission

Insights from the Asian Transport Outlook (ATO):
The Transport observatory for the Asia – Pacific region

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1 November 2024

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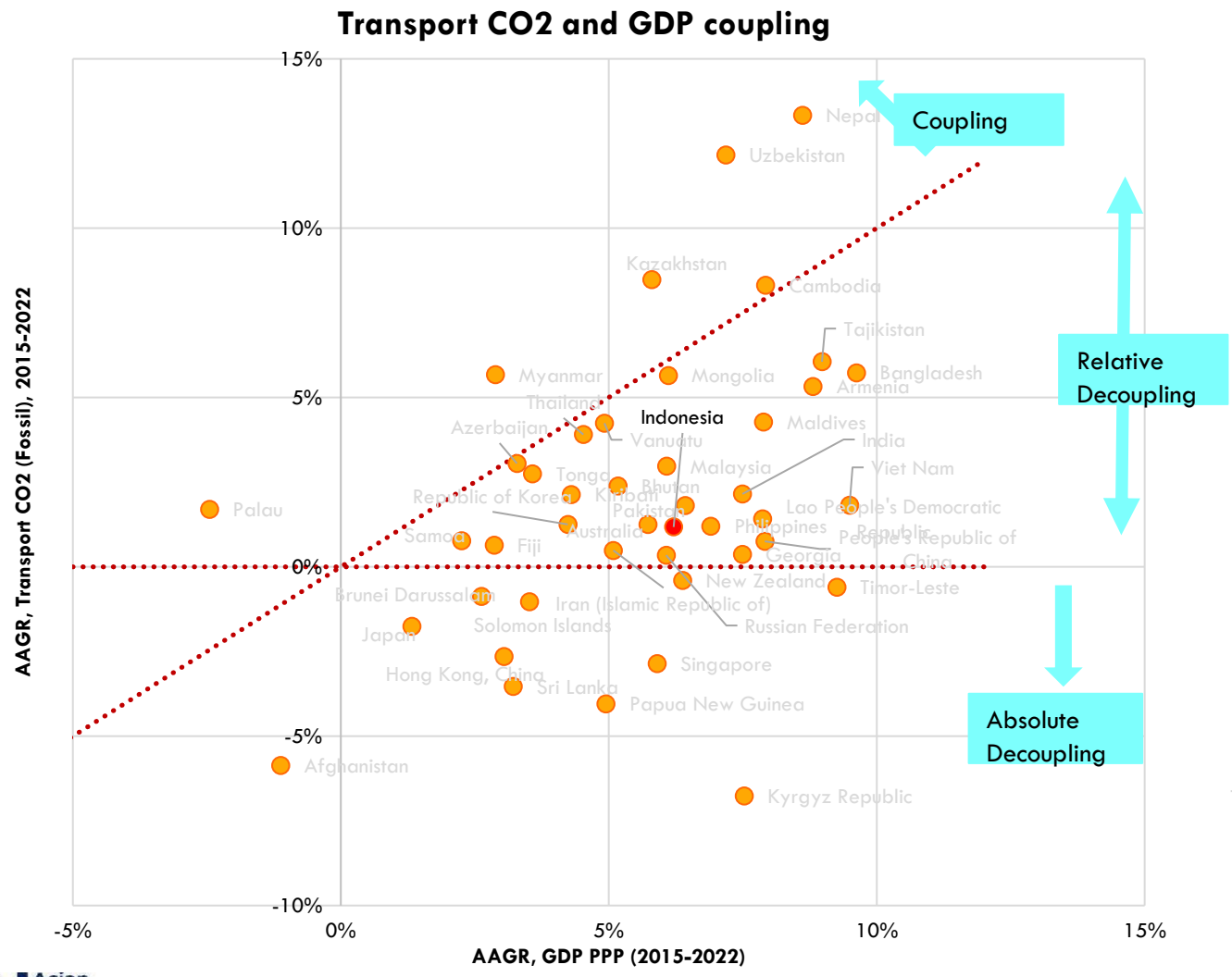
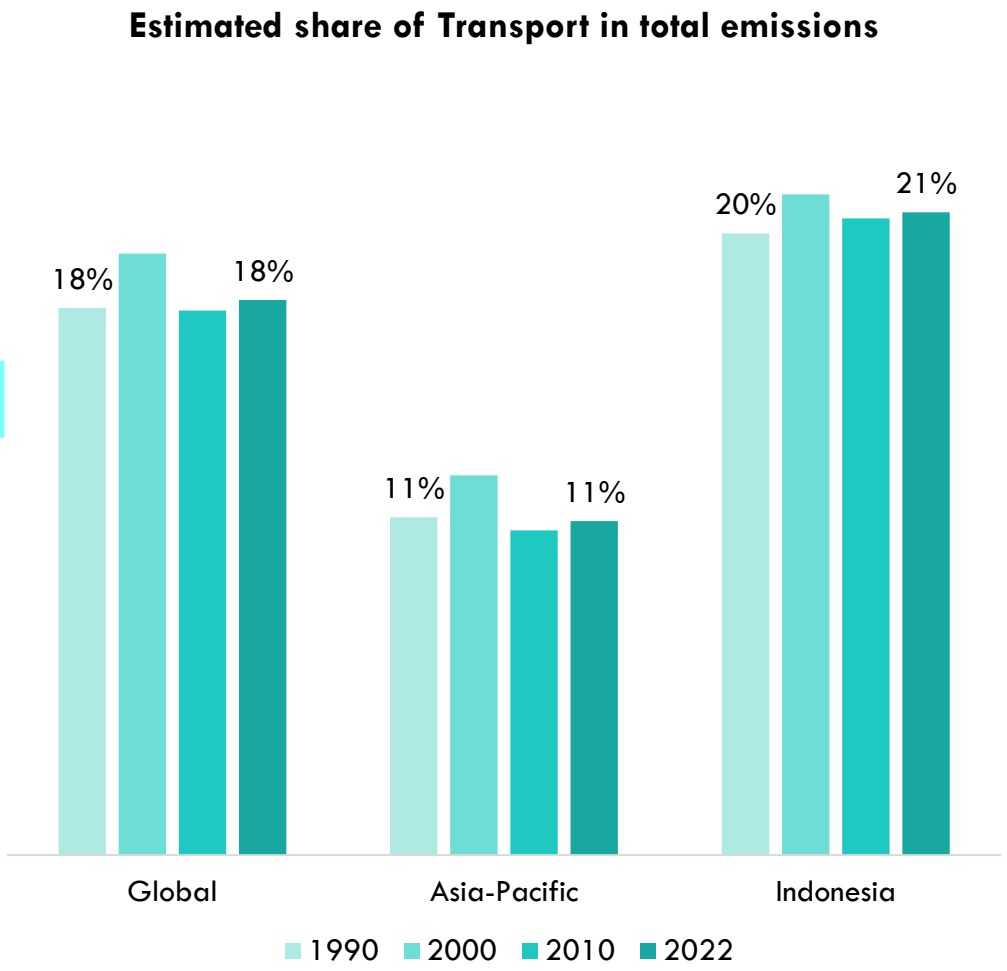
Transport: A key driver of fossil CO_2 emissions

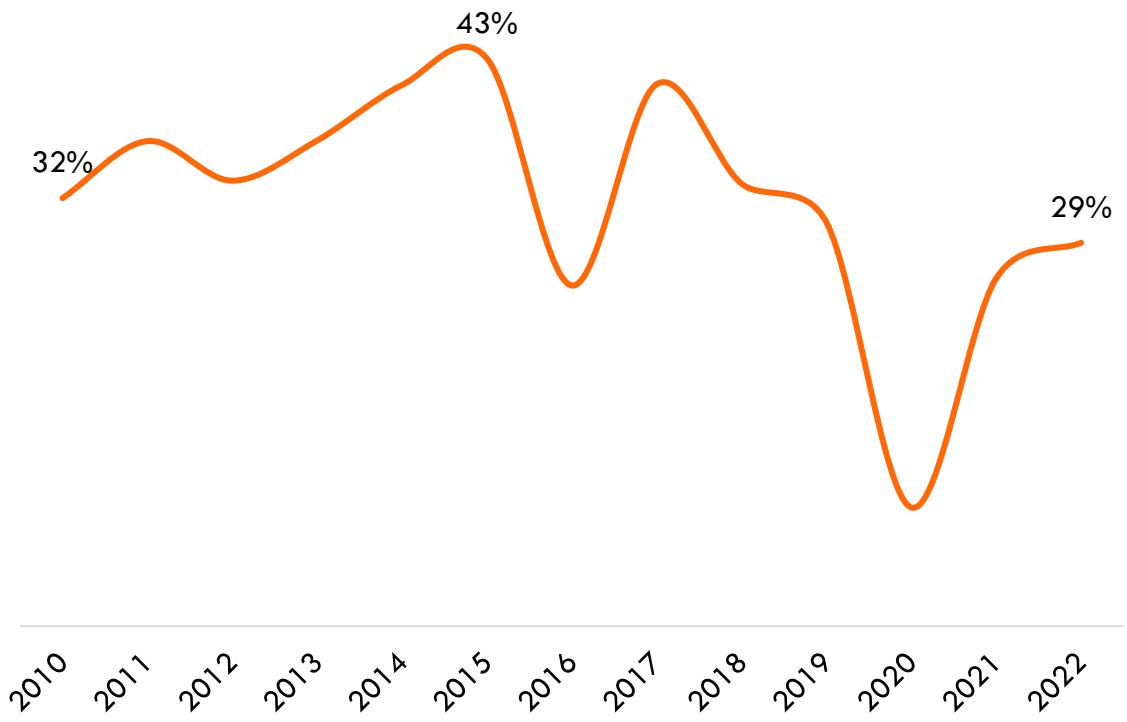




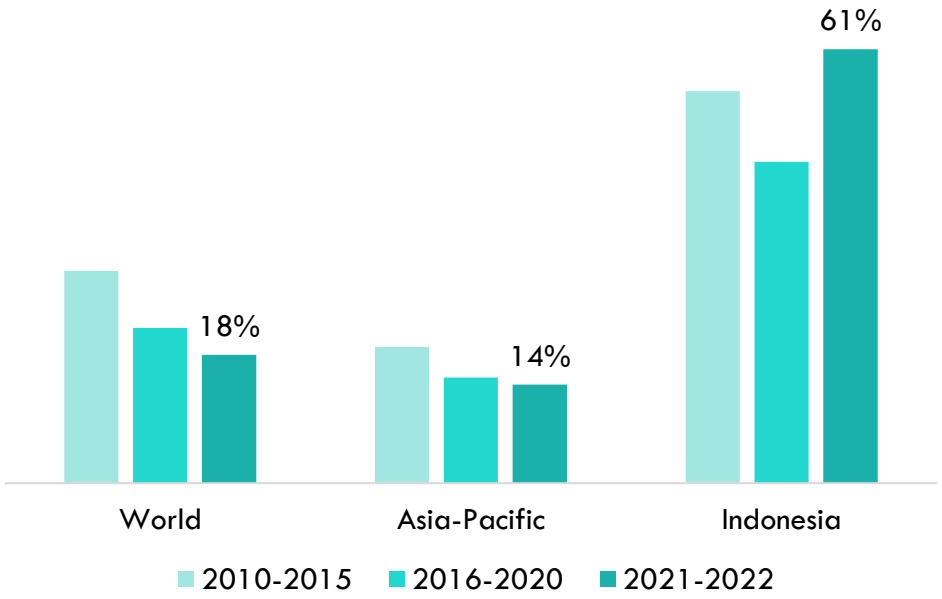
Asian Transport Outlook

Transport fossil fuel subsidies - Indonesia's evolving role

Share of Indonesia in Asia - Pacific transport fossil subsidies



Share of Transport fossil fuel subsidies in total



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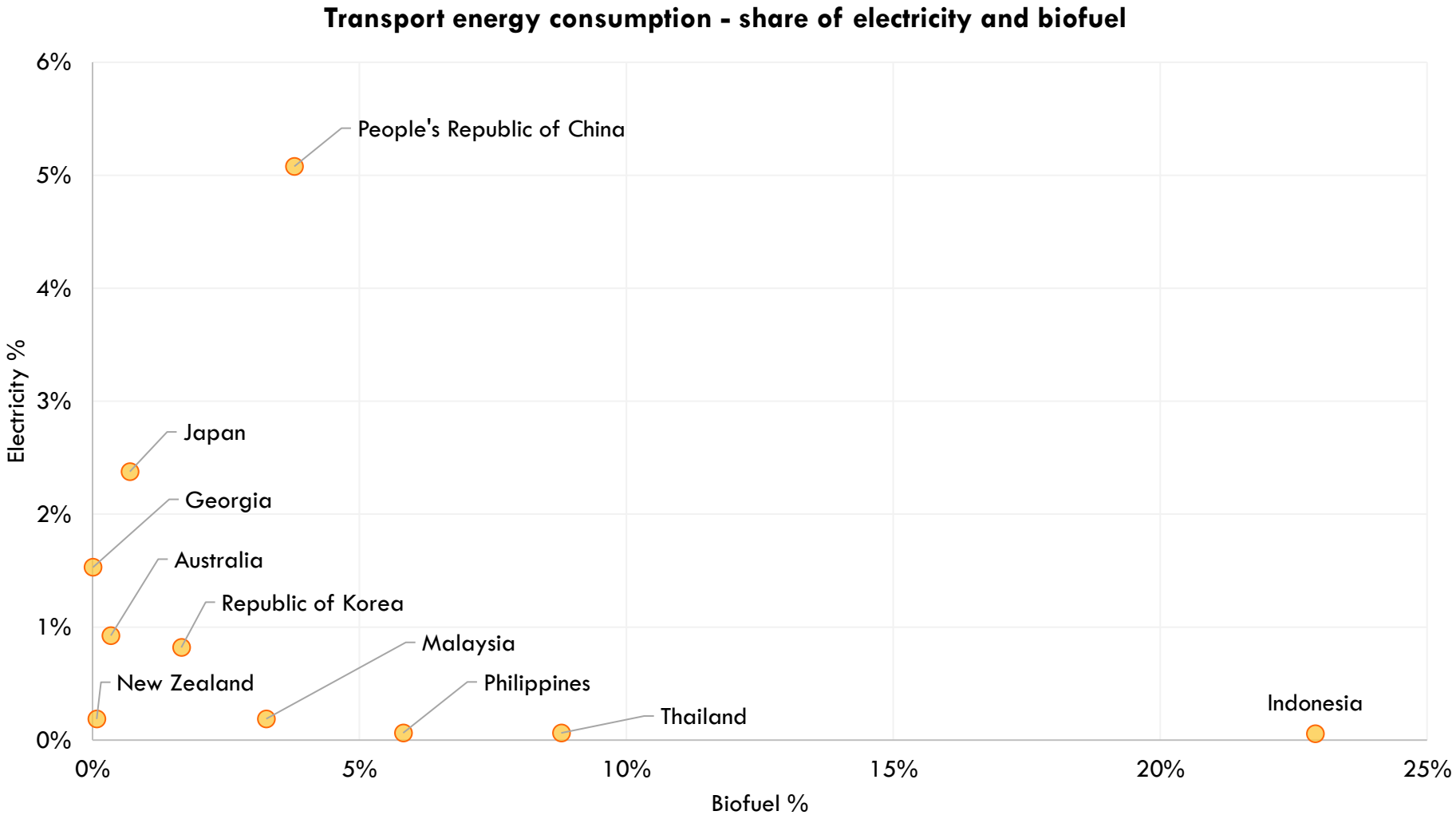
Slow Renewable Uptake in Asia-Pacific Transport



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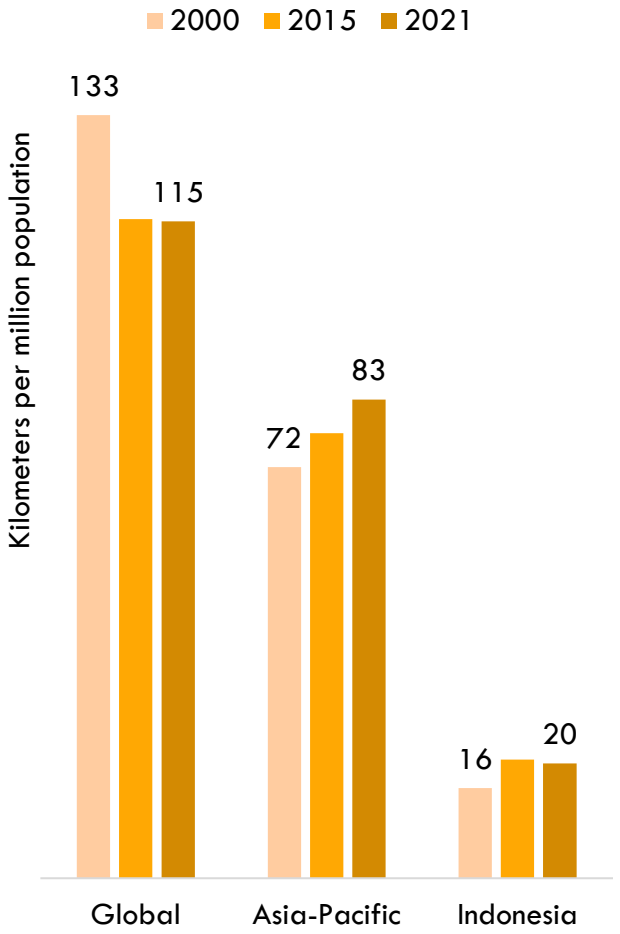
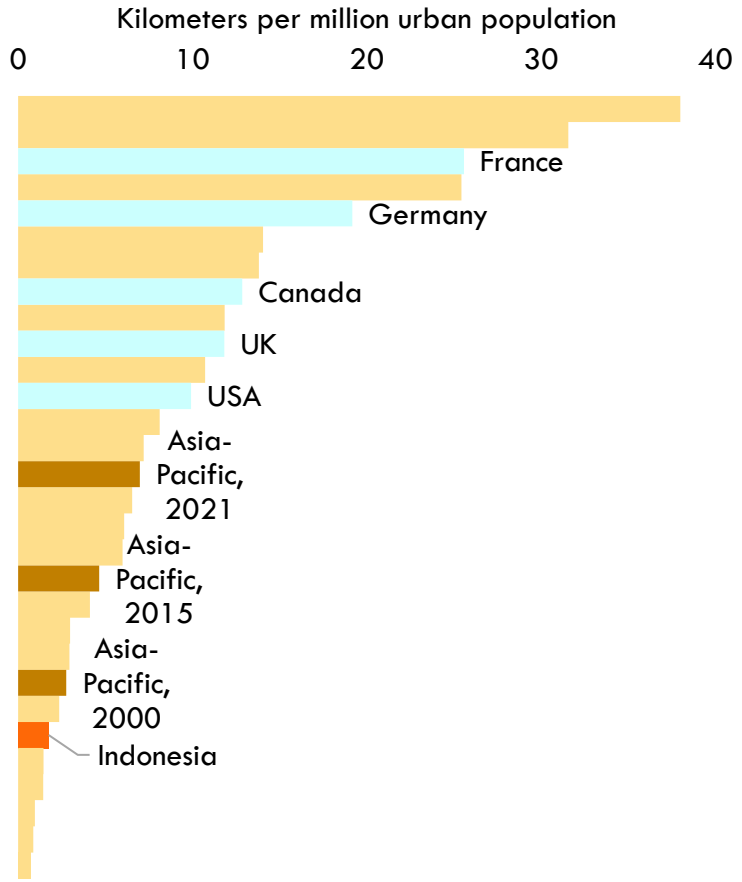
Transport infrastructure gap

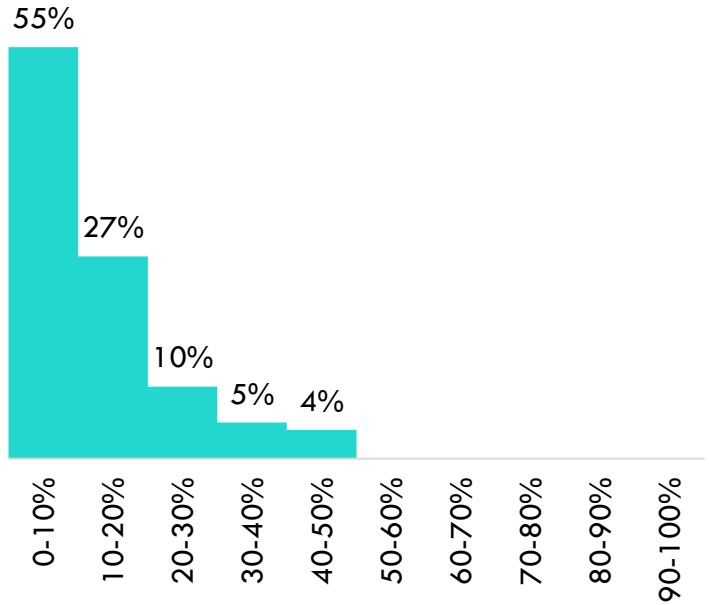
Rail Infrastructure Availability per capita



Rapid urban transit (BRT, LRT, metro) availability, 2021



Share of cities by level of access to public transport (out of 104 cities)



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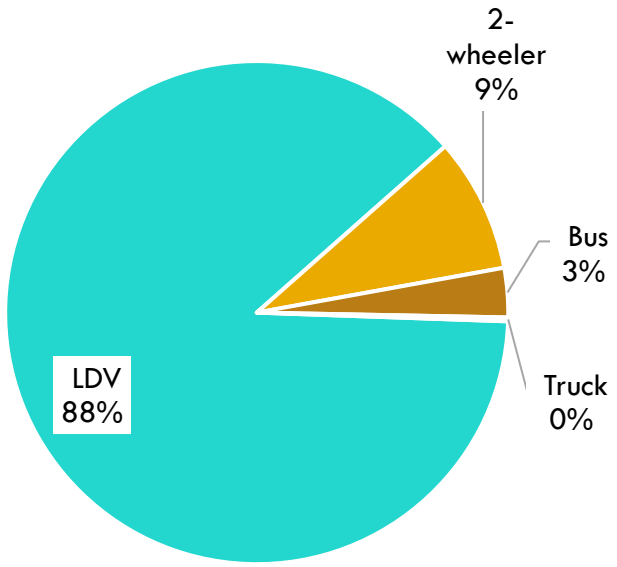
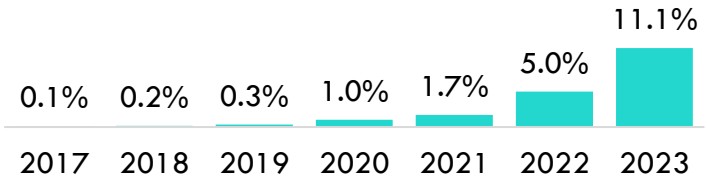
Road to electrification is being paved

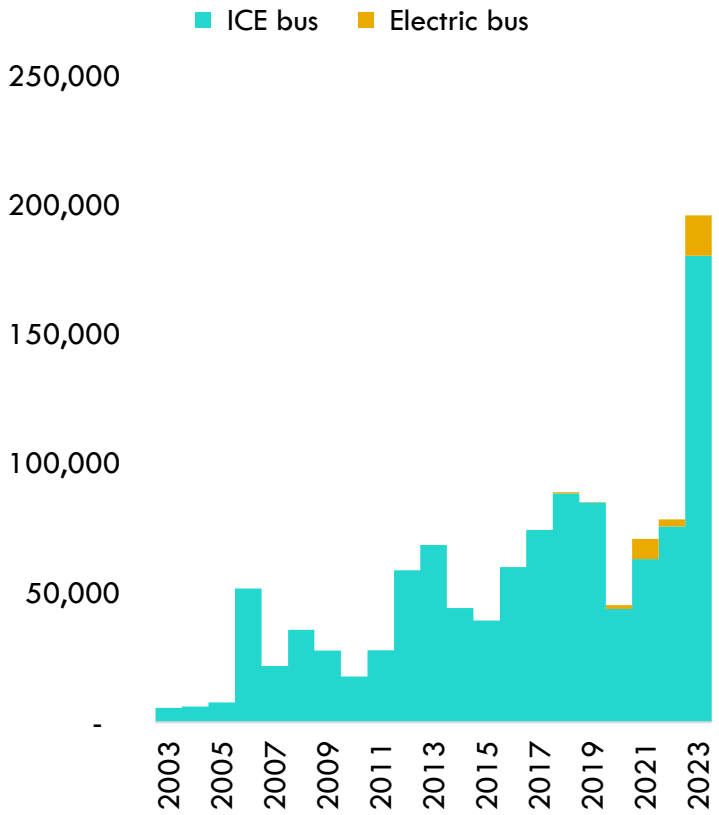
Electric road vehicle import share by type (2017-2023)



Electric road vehicle share in total road vehicle import value trend



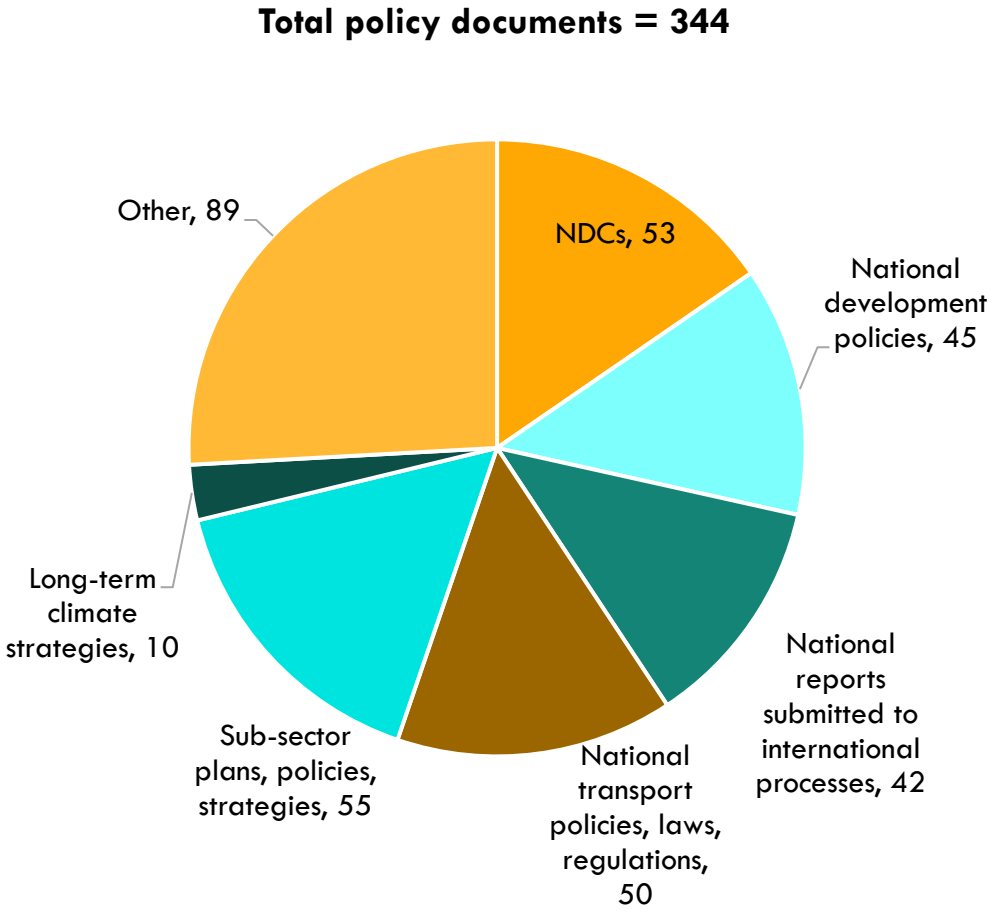
Bus import value, thousand USD



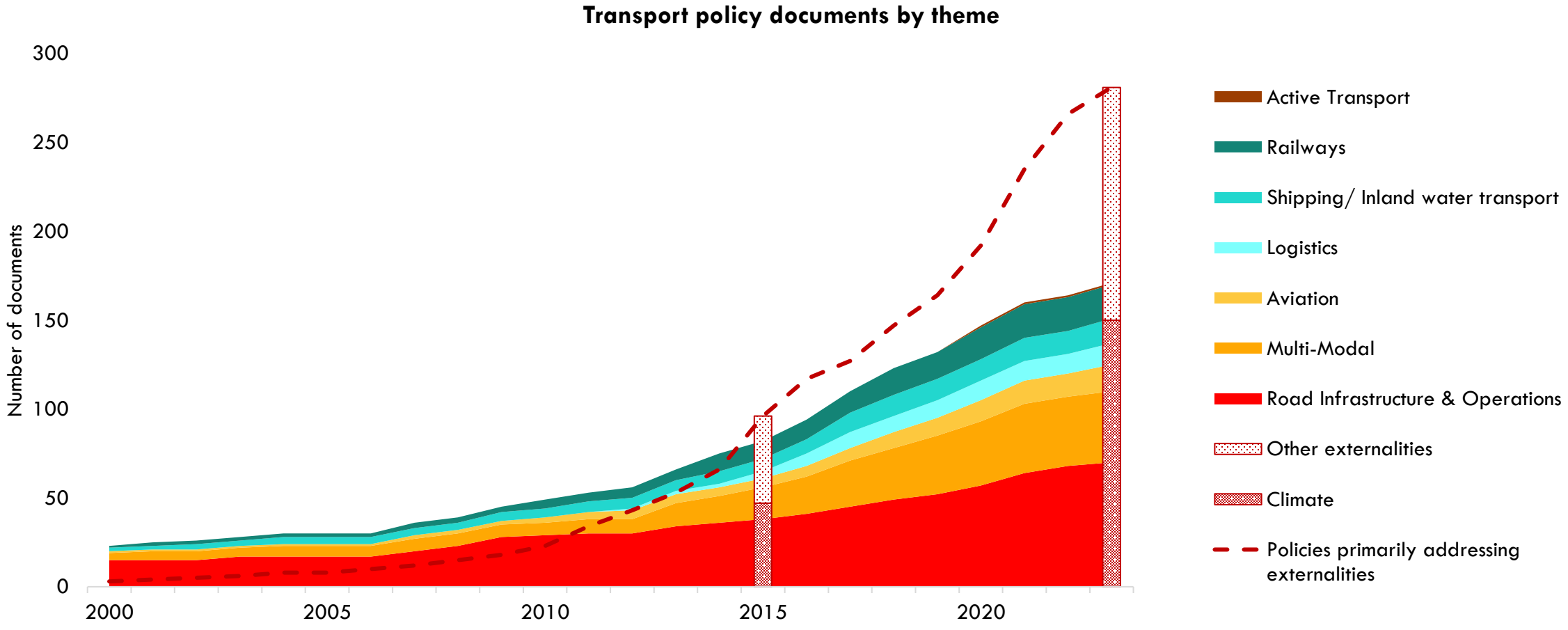
Asian Transport Outlook

Unpacking the Transport Policy Landscape in Asia: Insights from ATO's 25 Policy Trackers

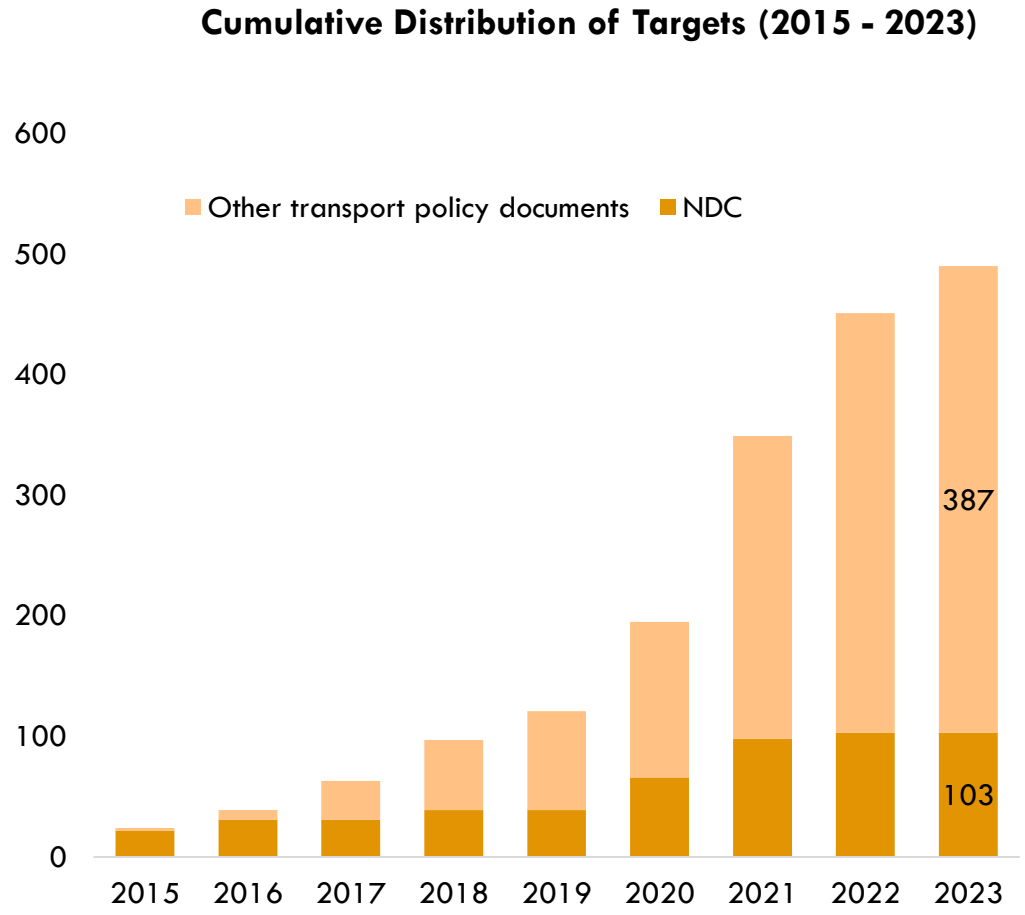
Azerbaijan
Bangladesh
Bhutan
Cambodia
Indonesia
Kazakhstan
Kyrgyz Republic
Lao PDR
Malaysia
Maldives
Marshall Islands
Mongolia
Myanmar
Nepal
Pakistan
Papua New Guinea
Philippines
Solomon Islands
Sri Lanka
Tajikistan
Thailand
Timor-leste
Uzbekistan
Vanuatu
Viet Nam

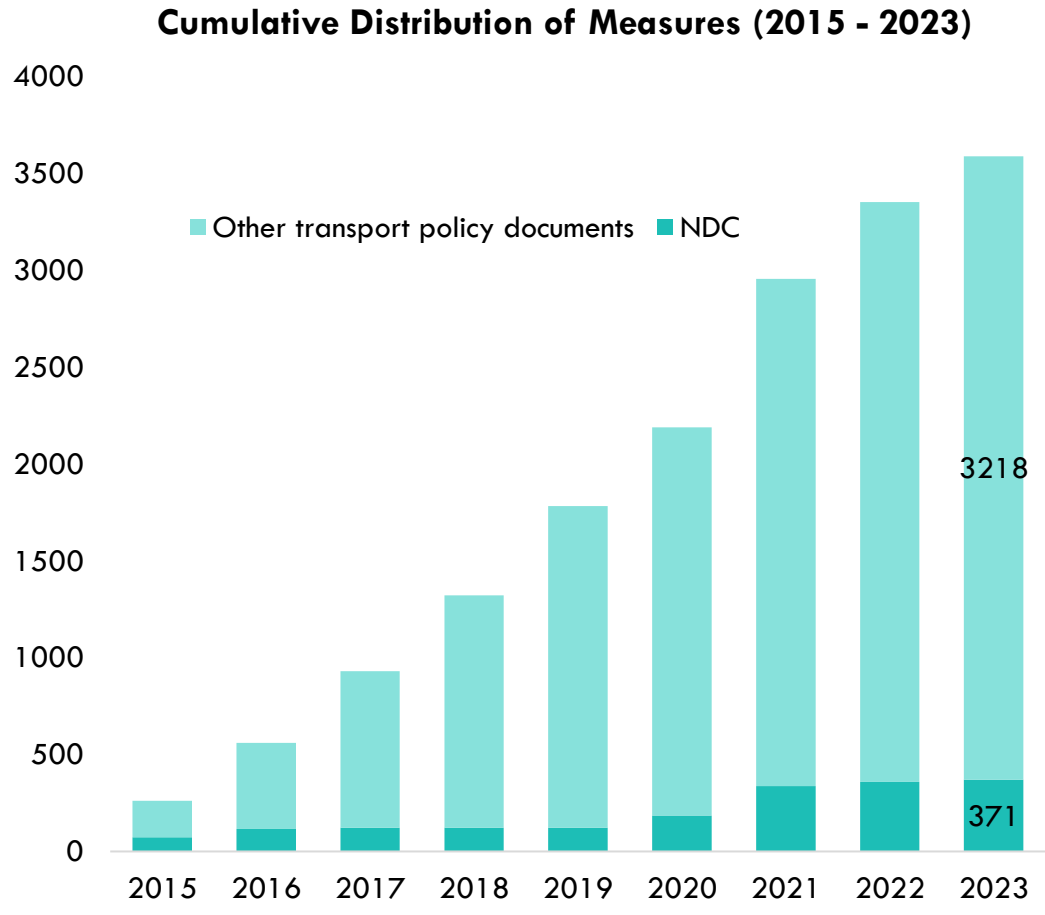


Incremental progress in the integration of climate considerations into wider Transport policies

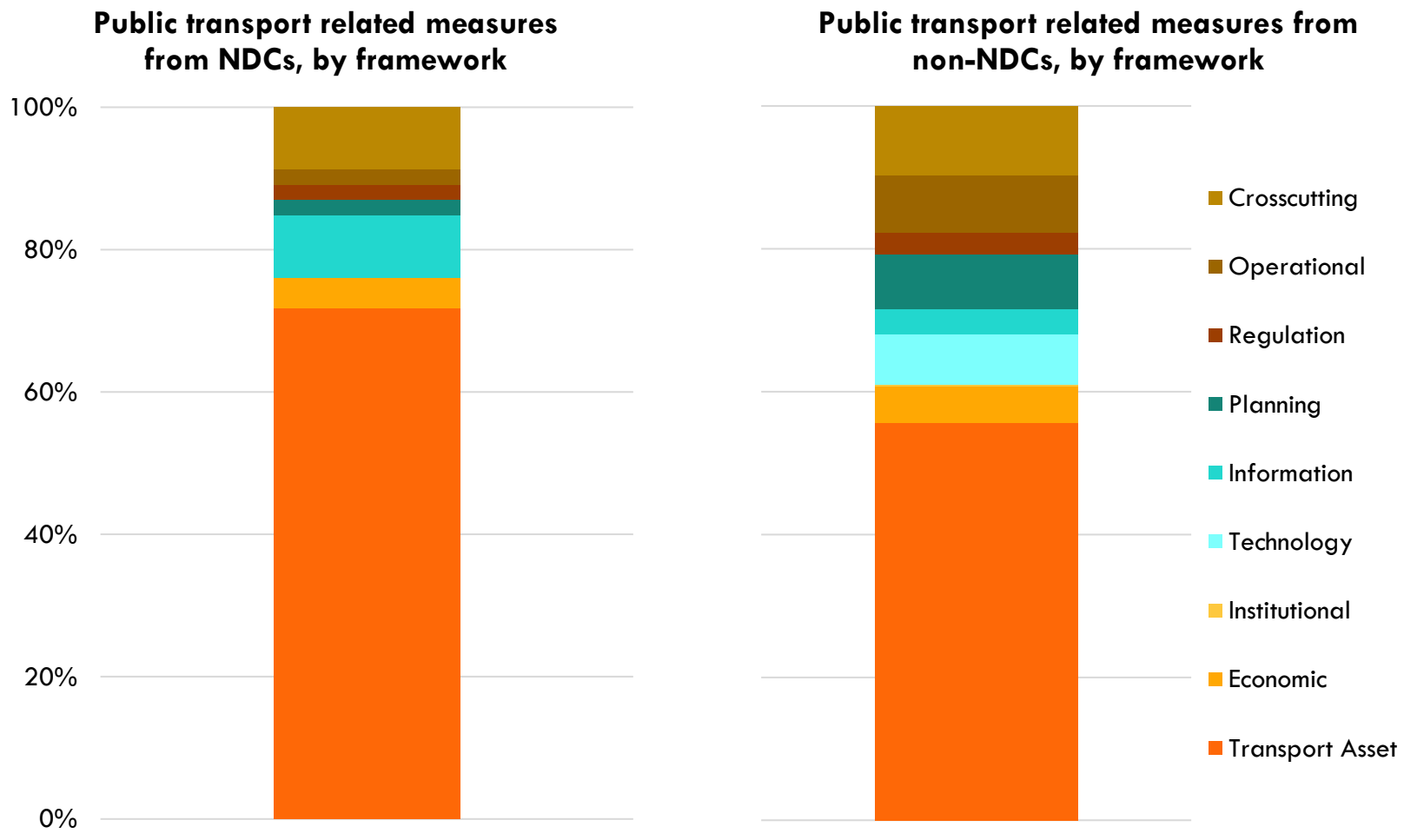


NDCs fall short on Transport ambitions

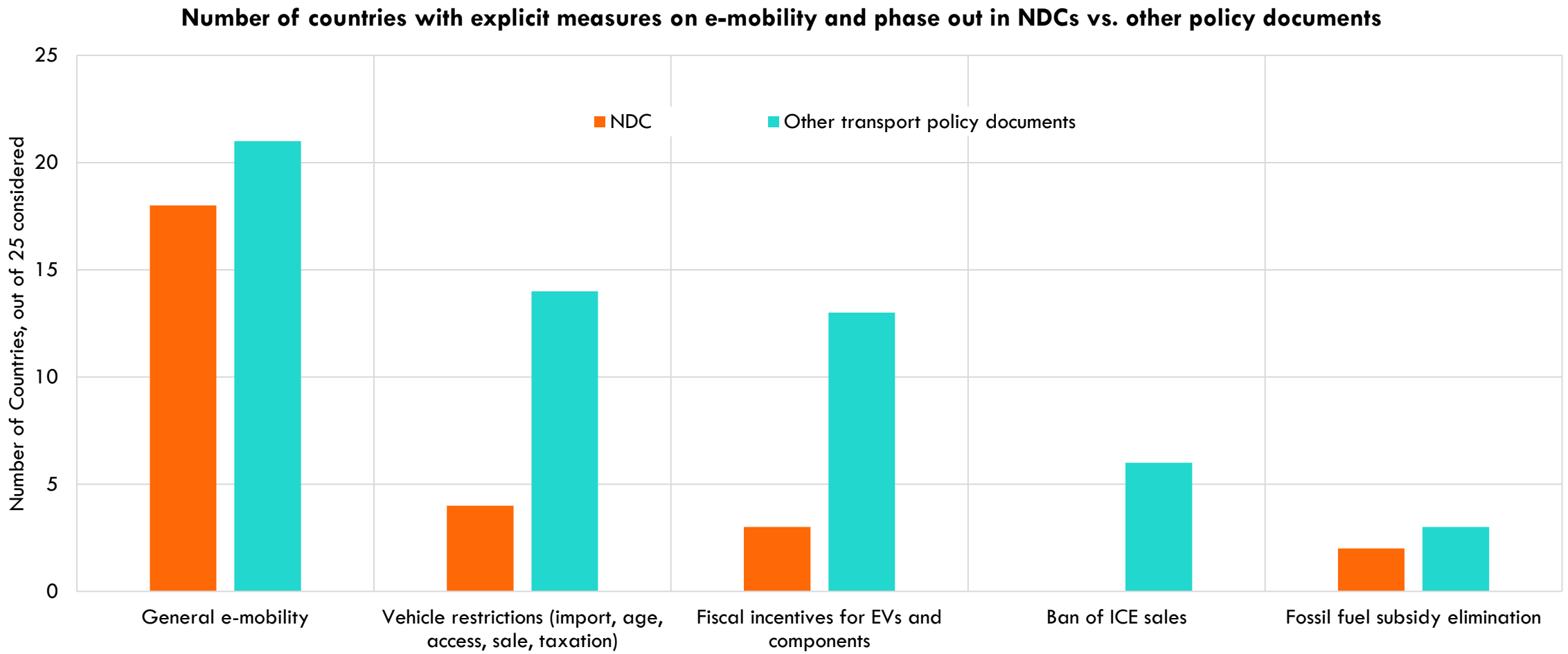




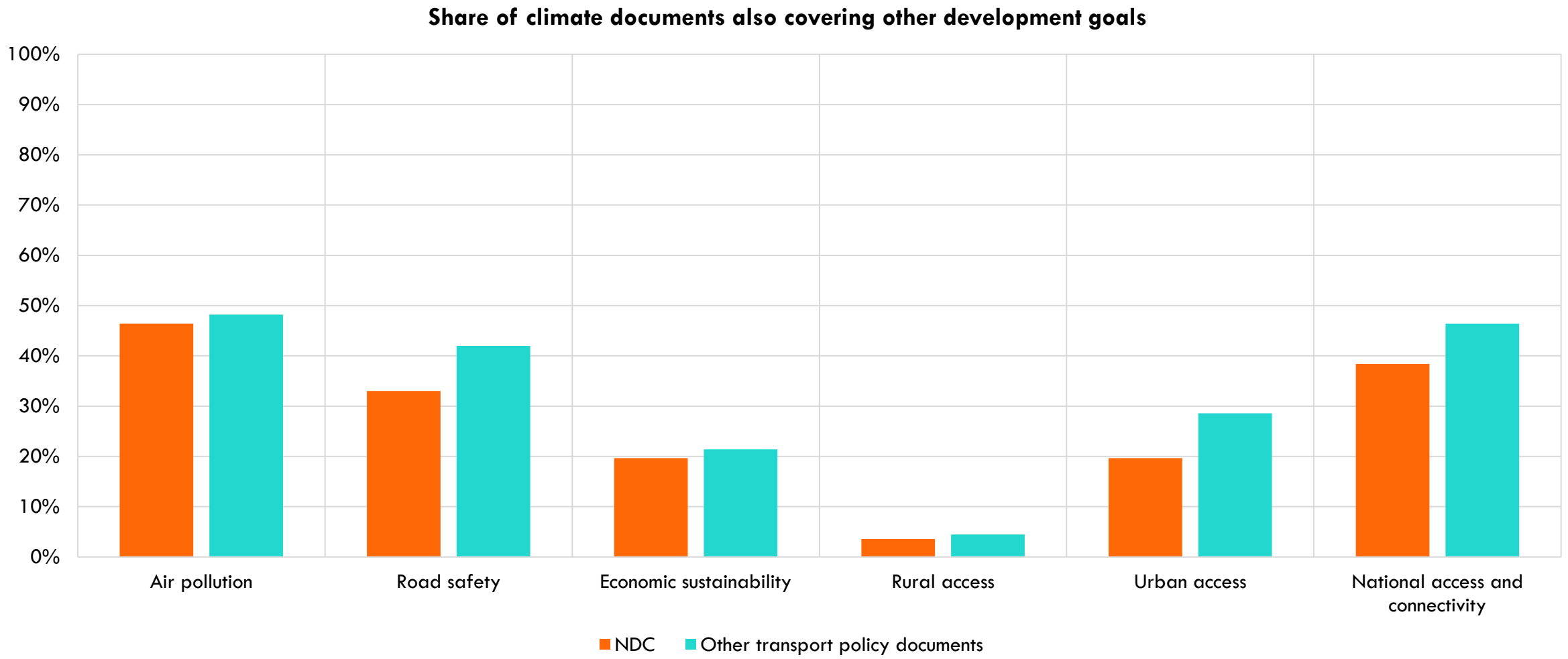
Addressing the Public Transit gap



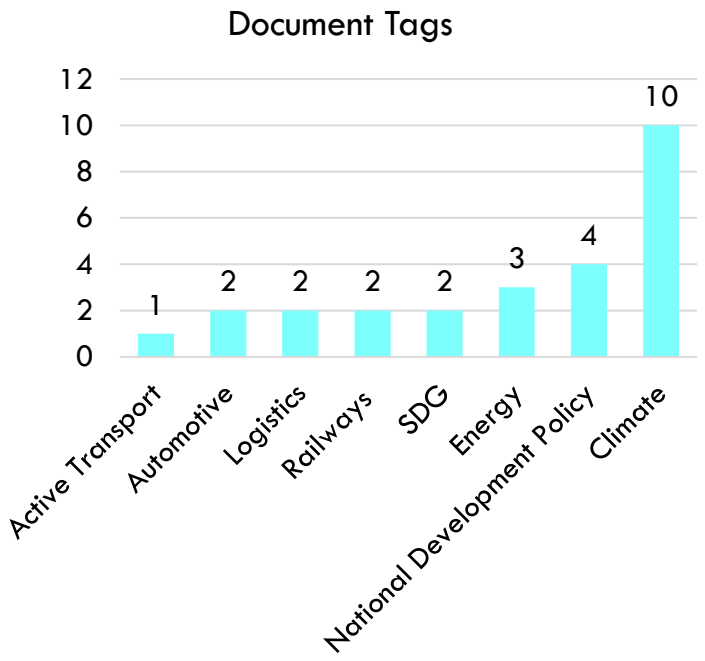
Promoting Electric vehicles and reducing fossil fuel dependency



Need for integrated development priorities



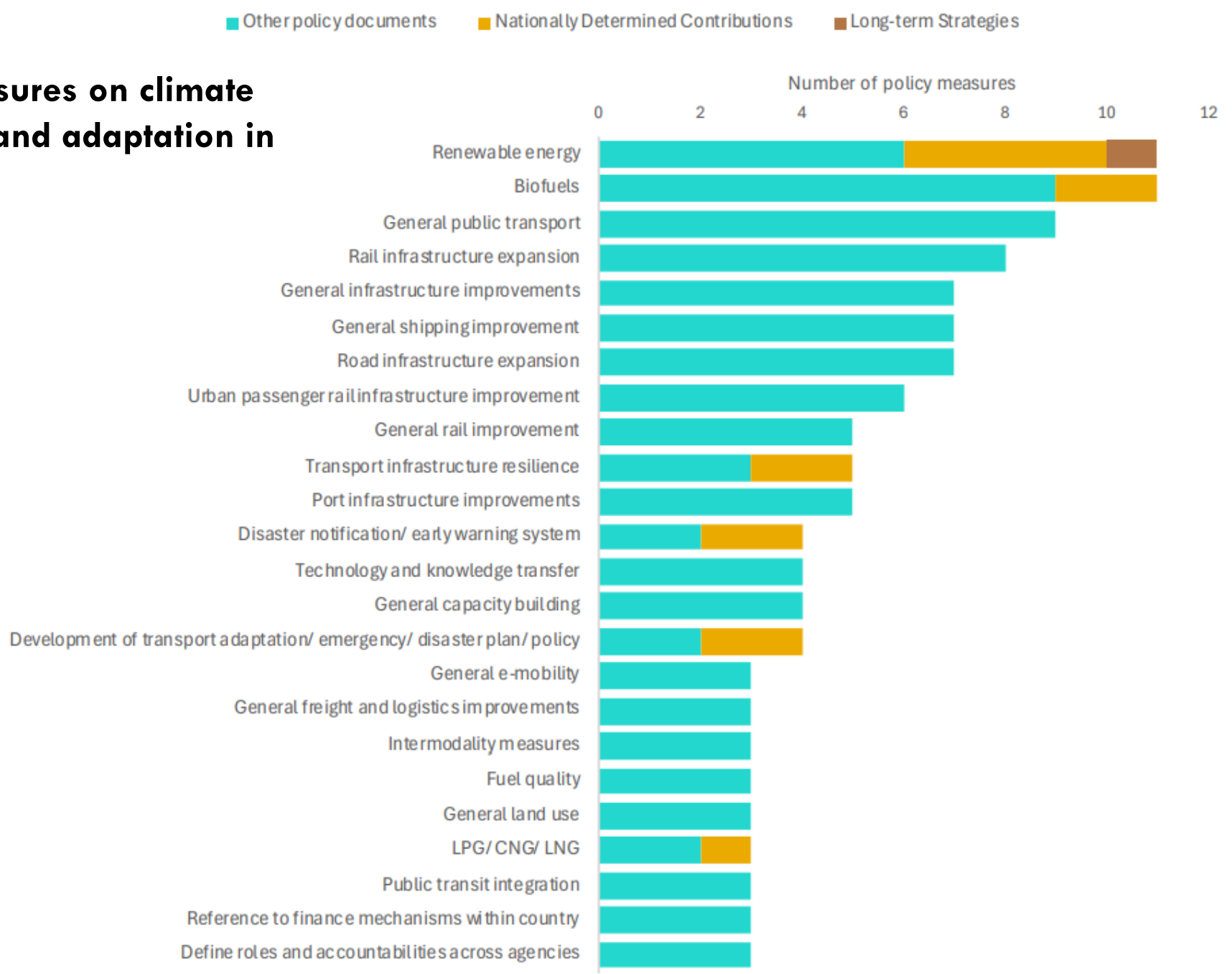
TRANSPORT POLICY DOCUMENTS



- **26** documents identified for Indonesia

Name of the Document	Year	Document Type
Long-Term National Development Plan of 2005-2025	2007	National Development Policy
Supply Utilization and Trading Procedure of Biofuel as Alternate Fuel (Regulation of the Minister of Energy and Mineral Resources No. 32/2008 of 2008)	2008	Transport Laws/ Regulations
Presidential Regulation No. 61 of 2011 on the National Action Plan on Greenhouse Gas Emission Reduction	2011	Other Transport-related Policy
National Logistics System Blueprint	2012	Transport Subsector Policy
Technology Needs Assessment for Climate Change Mitigations 2012	2012	International/ Regional Processes
Development of National Logistics System Framework	2013	Transport Subsector Policy
Government Regulation No. 79/2014 of 2014 Concerning the National Energy Policy	2014	Other Transport-related Policy
Intended Nationally Determined Contribution	2016	Nationally Determined Contributions
Indonesia's Low Carbon Development	2017	National Development Policy
Visi Indonesia 2045	2017	National Development Policy
National Railways Master Plan	2018	Transport Subsector Policy
Government Policy on Future Automotive Development	2019	Transport Subsector Policy
Presidential Regulation No. 55 of 2019 on Acceleration of Battery Electric Vehicles Program for Road Transportation	2019	Transport Subsector Policy
Roadmap of SDGs Indonesia: A Highlight	2019	International/ Regional Processes
Ministry of National Development Planning Strategic Plan	2020	National Development Policy
National Medium Term Development Plan 2020-2024	2020	National Development Policy
National Vision of Non-Motorized Transport Infrastructure	2020	Transport Subsector Policy
Strategic Plan for the Railway Sector 2020-2024	2020	Transport Subsector Policy
Indonesia Long-Term Strategy for Low Carbon and Climate Resilience 2050	2021	National Development Policy
Indonesia Third Biennial Update Report	2021	International/ Regional Processes
Mitigation Action Outline on Truck Fleet Modernization Scheme in Indonesia	2021	Transport Subsector Policy
Presidential Regulation No. 98 of 2021 on the Implementation of Carbon Pricing to Achieve the Nationally Determined Contribution Target and Control over Greenhouse Gas Emissions in the National Development	2021	Other Transport-related Policy
Updated Nationally Determined Contribution	2021	Nationally Determined Contributions
Voluntary National Review 2021	2021	International/ Regional Processes
Indonesia's Adaptation Communication	2022	International/ Regional Processes
Indonesia Blue Economy Roadmap	2023	National Development Policy

Priority policy measures on climate change mitigation and adaptation in transport (top 25)



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List of Climate change mitigation policy measures adopted by Indonesia

88 types

Define roles and accountabilities across agencies	Design standards for sidewalks and bicycle paths	Development of other transport-related plan/ policy	Emissions trading and carbon pricing	Energy efficient vehicle purchase incentives	Fuel quality	General aviation improvements	General capacity building	General education and behavior change	General e-mobility	General freight and logistics improvements
General infrastructure improvements	General land use	General parking measures	General public transport	General rail improvement	General shipping improvement	General transport asset management	General transport institutional reform	Intelligent transport systems (ITS)	Involvement of subnational government for transport activities	Local production, services, contracting etc.
Logistics hub	LPG/ CNG/ LNG	Rail infrastructure expansion	Reference to finance mechanisms within country	Reporting, transparency, feedback mechanism	Road infrastructure expansion	Stakeholder Involvement	Economy-wide emissions target	Technical standards for general transport infrastructure	Technology and knowledge transfer	Traffic management
Transport law	Urban passenger rail infrastructure improvement	Vehicle efficiency standards	Vehicle import inspections	Vehicle inspection and maintenance	Vehicle labelling	Vehicle restrictions (import, age, access, sale, taxation)	Vehicle scrappage scheme	Vehicle taxes	Accreditation of vehicle inspection centers	Biofuels
BRT	Data modelling improvements	Development of climate change/ low carbon plan/ policy	Development of national development plan/ policy	Ecodriving	EV charging infrastructure	EV manufacturing	Fiscal incentives for EVs and components	Fossil fuel subsidy elimination	Freight rail infrastructure improvement	Fuel tax
General alternative fuels	General economic instruments	General innovations and digitalization	General transport demand management	General transport finance	High-speed rail (HSR)	Hydrogen	Intermodality measures	Investment required for specific projects	Port electrification	Port infrastructure improvements
Programs to reduce emissions in logistics	Public transit integration	Reduction of transport/ logistics costs	Renewable energy	Road charging and tolls	Road-side vehicle technical checks	Ship efficiency improvements	Technical standards for rail infrastructure	Technologies on transport asset management	Transit-oriented development (TOD)	Transport asset condition assessment
Travel time improvement	Vehicle air pollution emission standards	Vehicle manufacturing	Ban of ICE sales	Accreditation of driver training agencies	Air traffic management	Aircraft fleet renovation	Jet fuel policies	Local authorities have the power to modify national speed limits	Low-emission vehicle zones	Express lanes/ public transport priority

Low-Emission and Zero-Emission Vehicles: Promoting the use of electric, hydrogen, or hybrid vehicles reduces reliance on fossil fuels and lowers greenhouse gas emissions. Policy actions can involve subsidies for EV purchases, incentives for manufacturers, and investments in charging infrastructure.

Fuel Efficiency Standards and Technologies: Setting stringent fuel efficiency standards for conventional vehicles helps reduce emissions from fossil fuel-powered transport. Additionally, encouraging technological innovations, like lightweight materials or aerodynamic improvements, can improve vehicle efficiency.

Public and Active Transport: Enhancing public transport systems (e.g., buses, trams, trains) and promoting active transport modes (walking, cycling) reduce the need for personal vehicle use. Investments in cycling lanes, pedestrian infrastructure, and affordable, reliable public transit options are central to this approach.

Urban Planning and Transit-Oriented Development (TOD): Integrating transport with land use planning can help reduce travel distances and encourage sustainable transport modes. TOD policies promote higher-density development around public transit hubs, facilitating access and reducing car dependency.

Shared Mobility and New Mobility Services: Policies that support shared mobility options like carpooling, bike-sharing, and ride-hailing services reduce the total number of vehicles on the road, contributing to lower emissions per capita.

Freight and Logistics Optimization: Improving efficiency in freight transport (e.g., optimizing routes, consolidating loads) and promoting rail or low-emission shipping options can significantly reduce emissions. Supporting green freight programs and using smart technologies for real-time tracking are popular measures.

Pricing and Economic Incentives: Carbon pricing, road pricing, fuel taxes, and congestion charges are economic tools to discourage fossil fuel use and fund sustainable alternatives. These incentives make low-carbon choices more financially attractive to consumers and businesses.

Research, Development, and Innovation (R&D): Supporting R&D in areas like alternative fuels (e.g., biofuels, e-fuels) and vehicle technologies (e.g., autonomous vehicles) can facilitate long-term climate solutions in transport.

Institutional Capacity and Governance: Building strong institutions to oversee and implement these policies is crucial. Governance structures that coordinate between national, regional, and local authorities can ensure a cohesive approach to transport decarbonization.

Transport and Climate Profile

https://asiantransportoutlook.com/documents/204/Indonesia-transport-and-climate-policy.pdf

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

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