Asian Transport Observatory

Slowing, Not yet Falling:

Transport GHG Emissions in Asia and the Pacific

Sudhir Gota & Alvin Mejia
Co-Team Leads
Asian Transport Observatory

From Data to Transport Investment: Asia and the Pacific on the Road to COP31

20th October

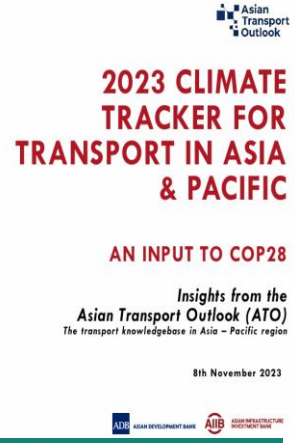
ADB ASIAN DEVELOPMENT BANK

AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK



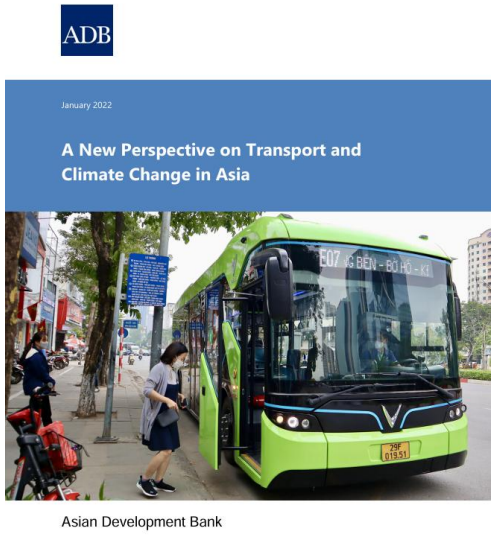

Tracking Transport and Climate Change Indicators in Asia and the Pacific
2000-2020
COP27
November 2022
Asian Transport Outlook
ADB TRANSPORT
Asian Transport Outlook
COP27

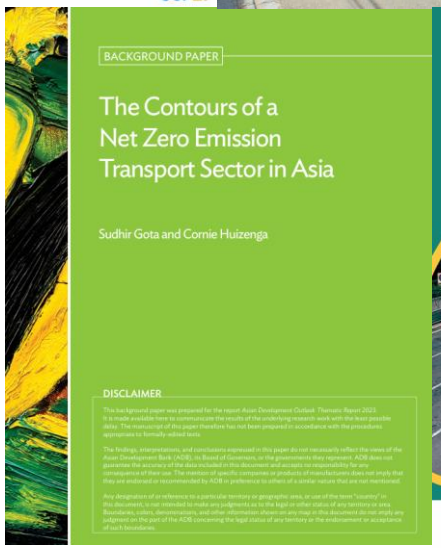


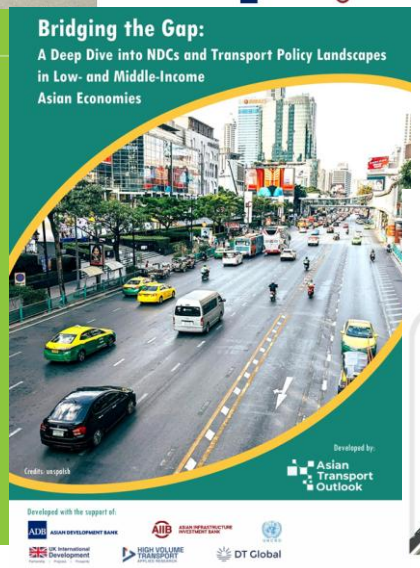

Asian Transport Outlook
2023 CLIMATE TRACKER FOR TRANSPORT IN ASIA & PACIFIC
AN INPUT TO COP28
Insights from the Asian Transport Outlook (ATO)
The transport knowledgebase in Asia – Pacific region
8th November 2023

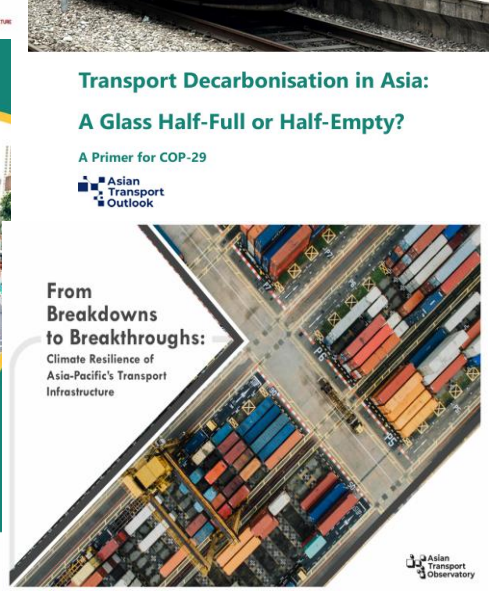


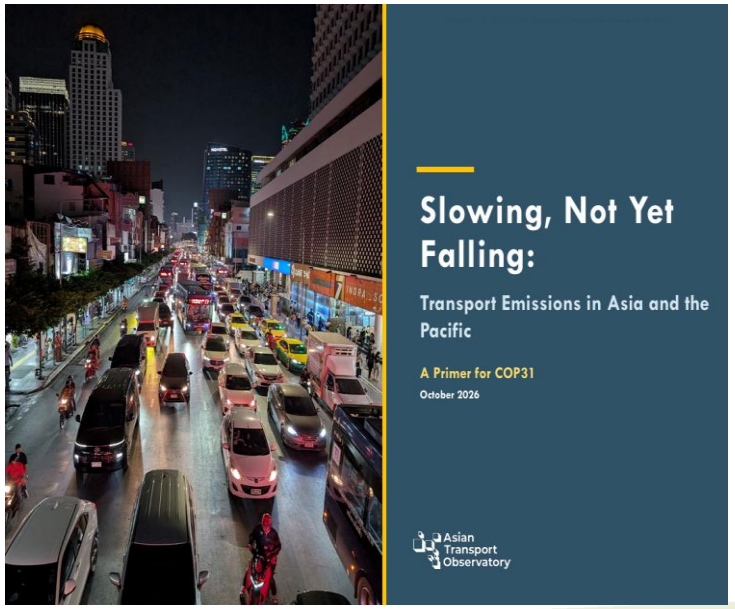

The Two Faces of Progress:
Decarbonizing Asia's Transport Sector
A Primer for COP 30
October 2025
Asian Transport Observatory


ADB
January 2022
A New Perspective on Transport and Climate Change in Asia
Asian Development Bank

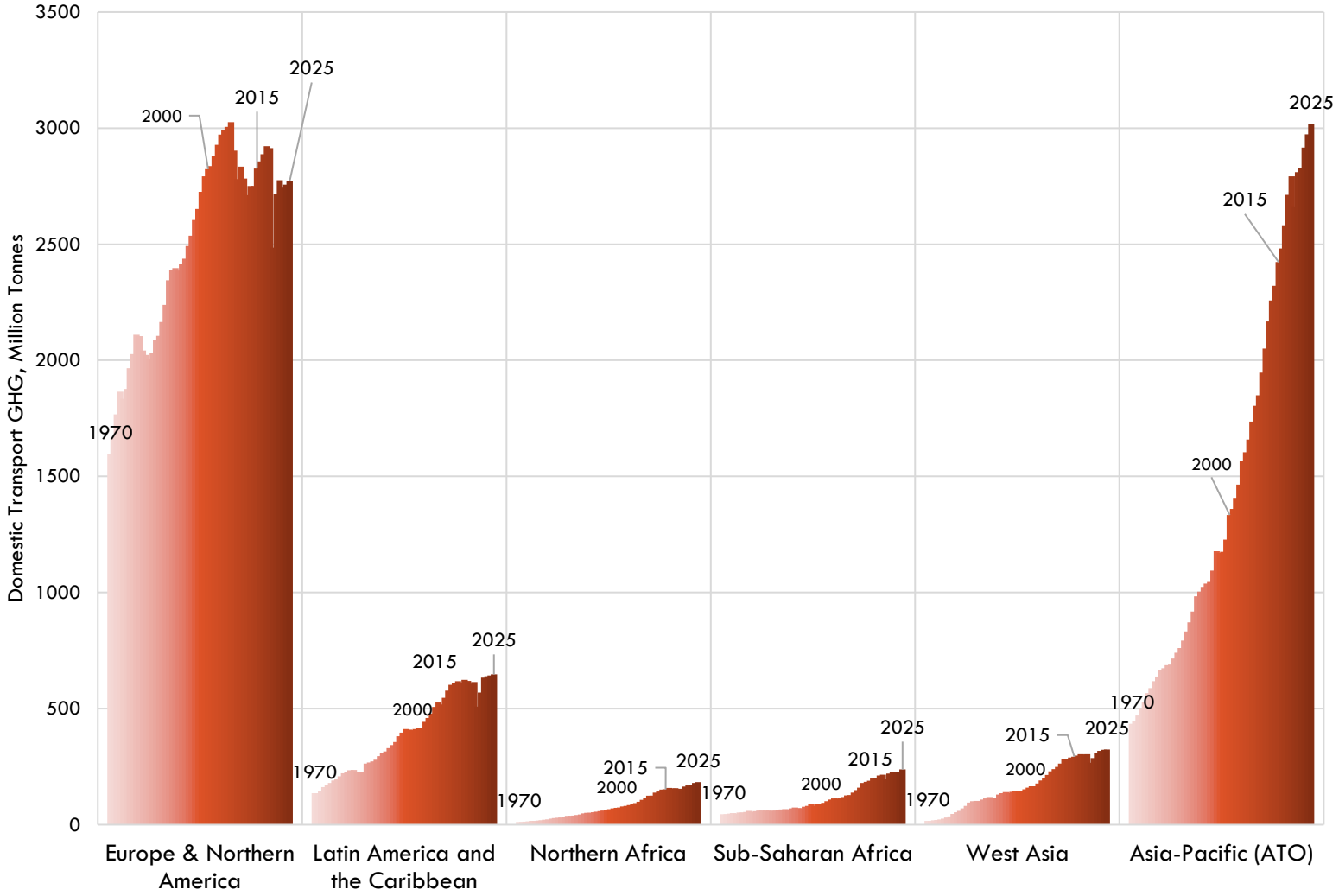

BACKGROUND PAPER
The Contours of a Net Zero Emission Transport Sector in Asia
Sudhir Gota and Cornie Huizenga
DISCLAIMER


Bridging the Gap:
A Deep Dive into NDCs and Transport Policy Landscapes in Low- and Middle-Income Asian Economies
Developed by:
Asian Transport Outlook
Developed with the support of:
DT Global


Transport Decarbonisation in Asia:
A Glass Half-Full or Half-Empty?
A Primer for COP-29
Asian Transport Outlook
From Breakdowns to Breakthroughs:
Climate Resilience of Asia-Pacific's Transport Infrastructure
Asian Transport Observatory


Slowing, Not Yet Falling:
Transport Emissions in Asia and the Pacific
A Primer for COP31
October 2026
Asian Transport Observatory

3 billion tonnes of transport greenhouse gases in 2025



+596 Mt

added by the region after 2015

37% → 42%

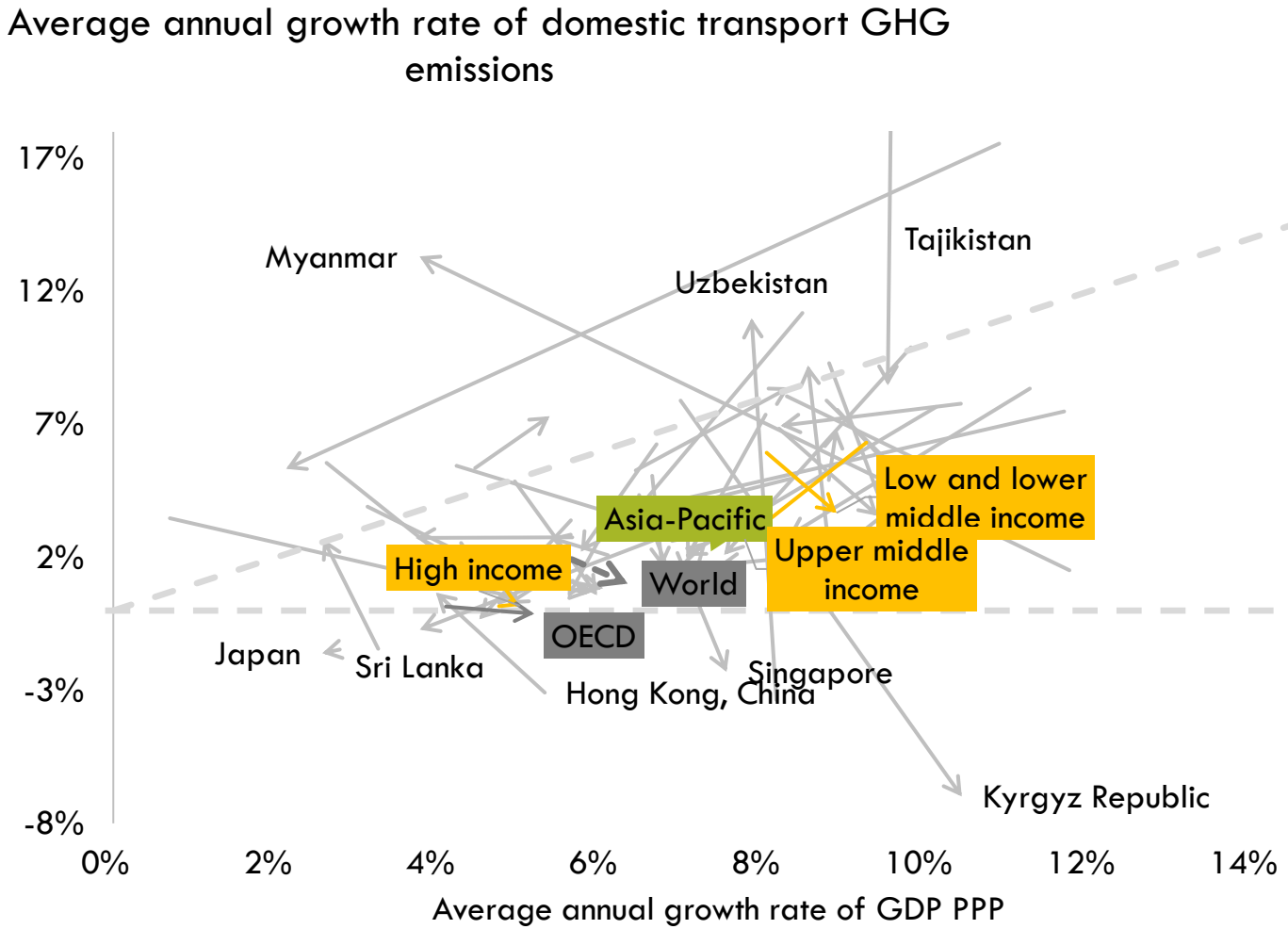
region's share of world transport emissions, 2015 to 2025

2.2% vs 1%

annual growth since Paris: region vs world

ADB ASIAN DEVELOPMENT BANK AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK

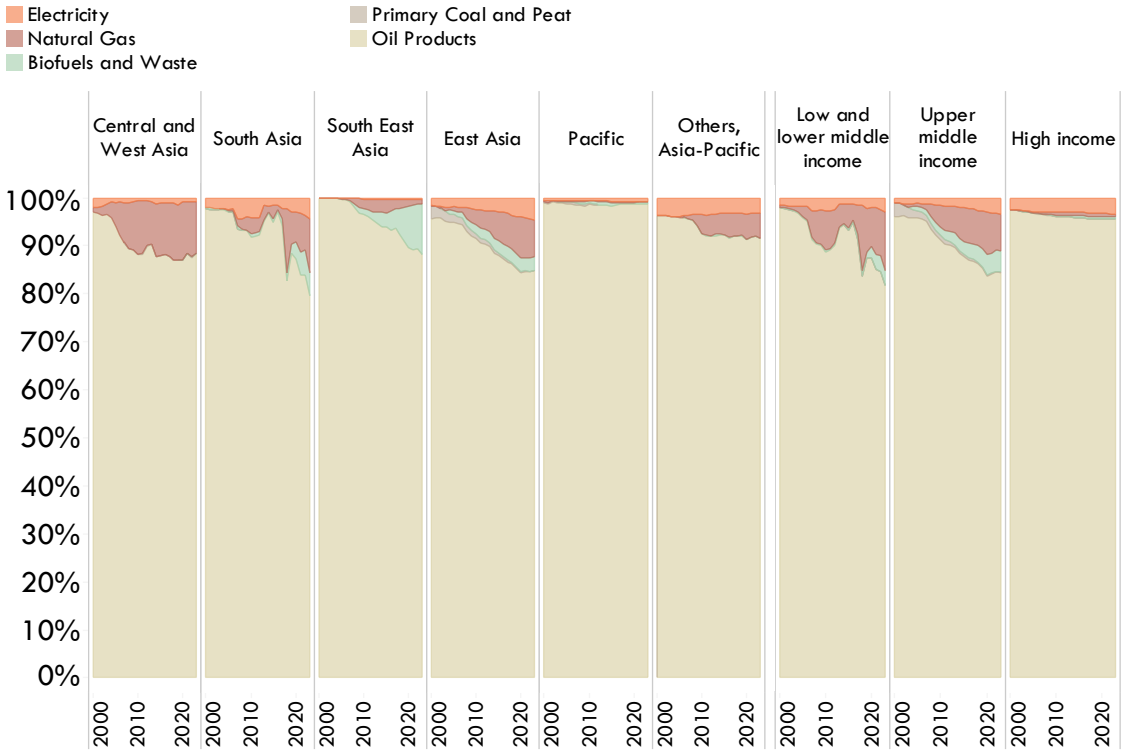
Domestic Transport emissions still rise. They have lost momentum



Status	2000–2015	2015–2025
Absolute: emissions fall	9%	11%
Relative: slower than GDP	67%	73%
Coupled: growing with GDP	24%	16%

Energy Security + Decarbonization

Share in transport energy consumption, % (2000-2023)



Pipeline transport and other transportation is not included

Source: ATO analysis and visualization based on UNDESA Statistics Division (n.d.). *UNSD -- Energy Balance*. UNSTATS. https://unstats.un.org/unsd/energystats/dataPortal/)

Energy mix

6%

of transport energy was renewable in 2023, up from 4%.

Electric mobility

15 times

Total EV trade in Asia and the Pacific increased almost fifteenfold, from $8.7 billion in 2017 to $132.8 billion in 2025.

Grids range from 24 to 1,000 gCO2/kWh, so gains differ.

Biofuels

14.4%

annual growth in Asia's biofuel CO2 emissions since 2015.

Asia's global share rose from 8% to 19% (2015–2025).

Road: the slowdown is led by East Asia

88%

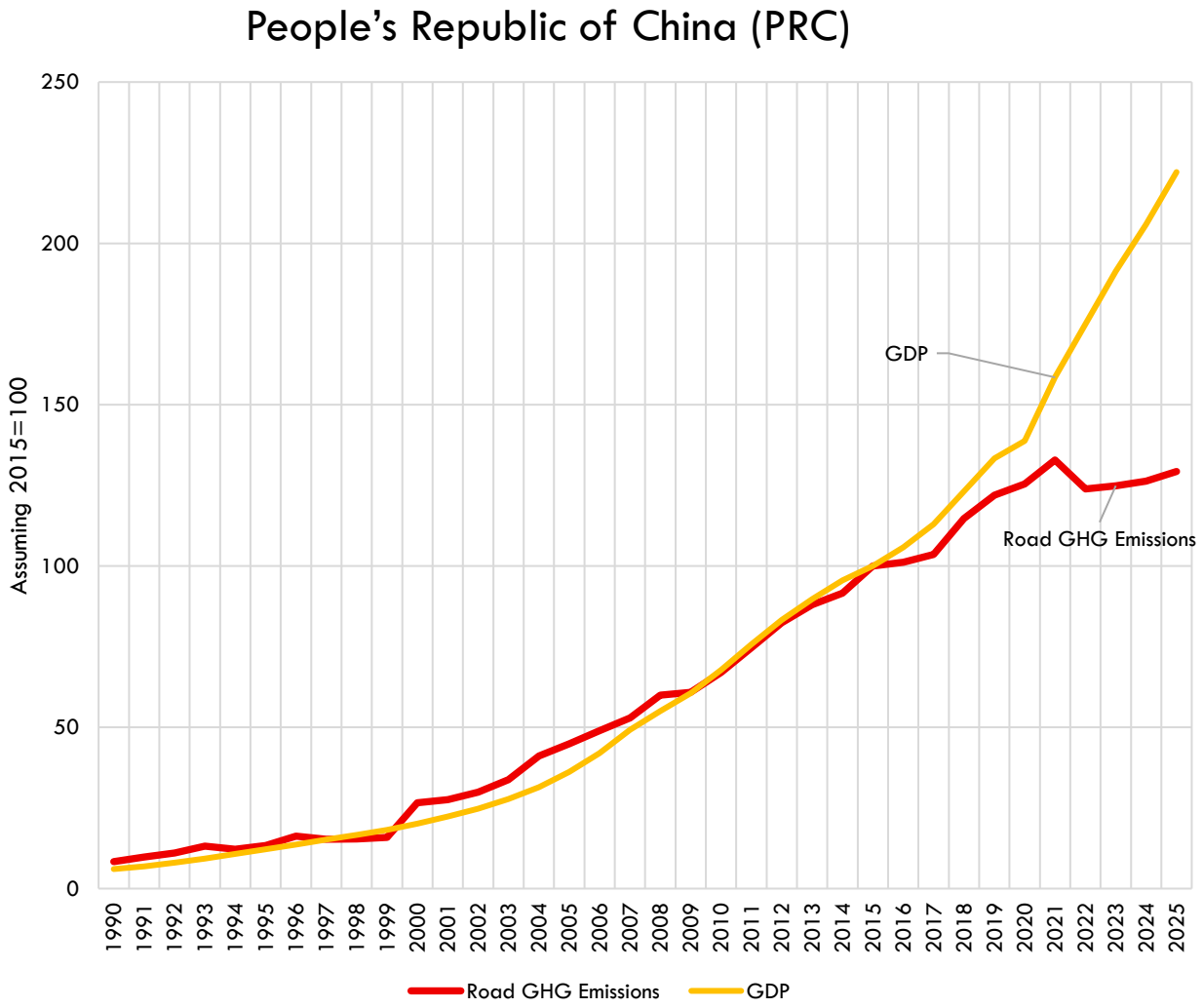
Road's share of Asia's transport emissions in 2025. It was 87% in 2000.

2.1%

Annual growth of road emissions since 2015. It was 4.2% before.

6.7%

Annual growth of the vehicle fleet. Emissions grew far slower.



Rail: expanding fast, emissions rising

2.4%

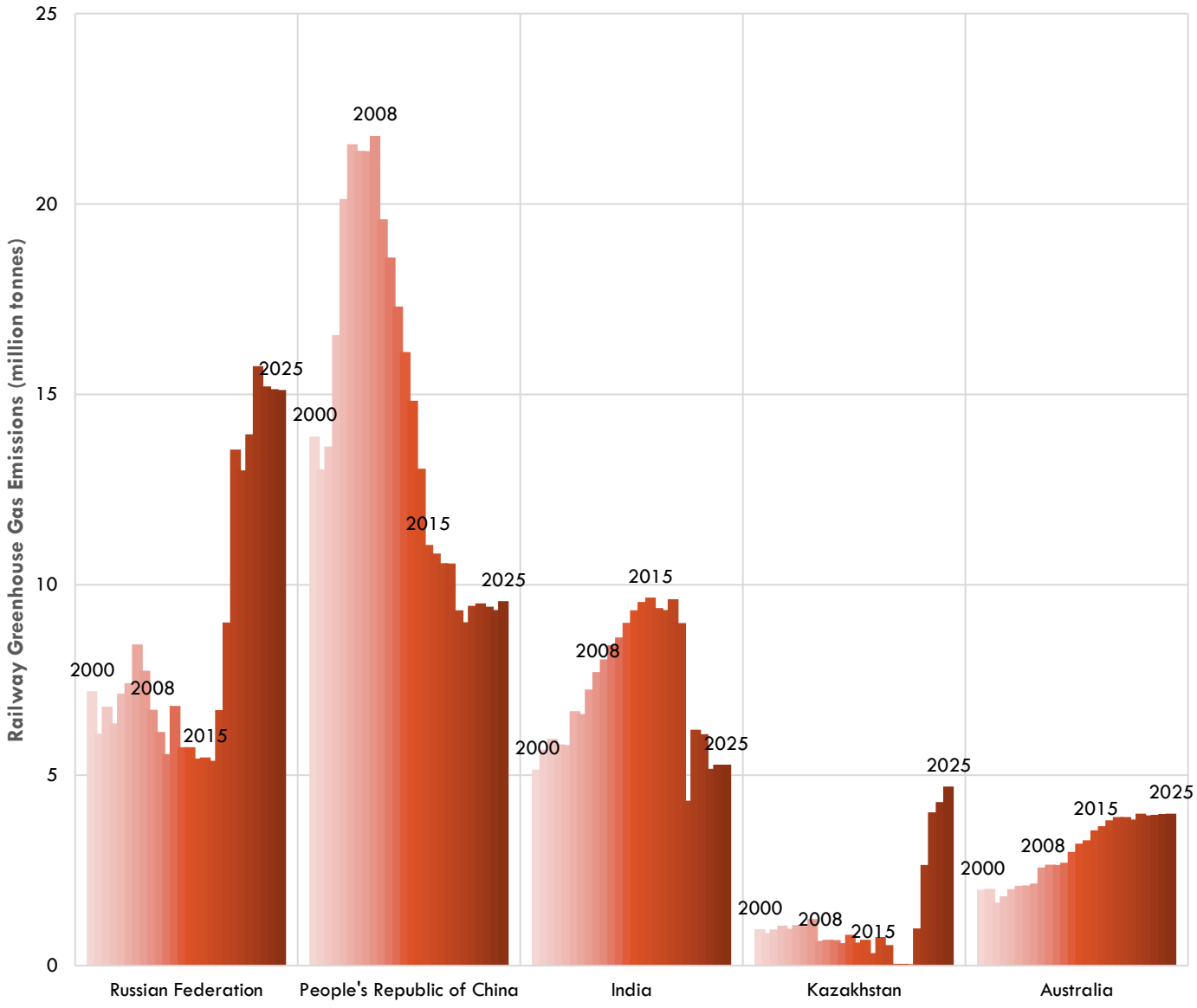
Annual growth of rail emissions since 2015. It was 0.7% in 2000–2015.

56%

Share of tracks electrified in 2023, up from 34% in 2000.

79%

Share of rail CO2 from Russia, PRC, India, Kazakhstan and Australia.



ADB ASIAN DEVELOPMENT BANK

AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK

Domestic Shipping: partly decoupled, highly concentrated

4.1%

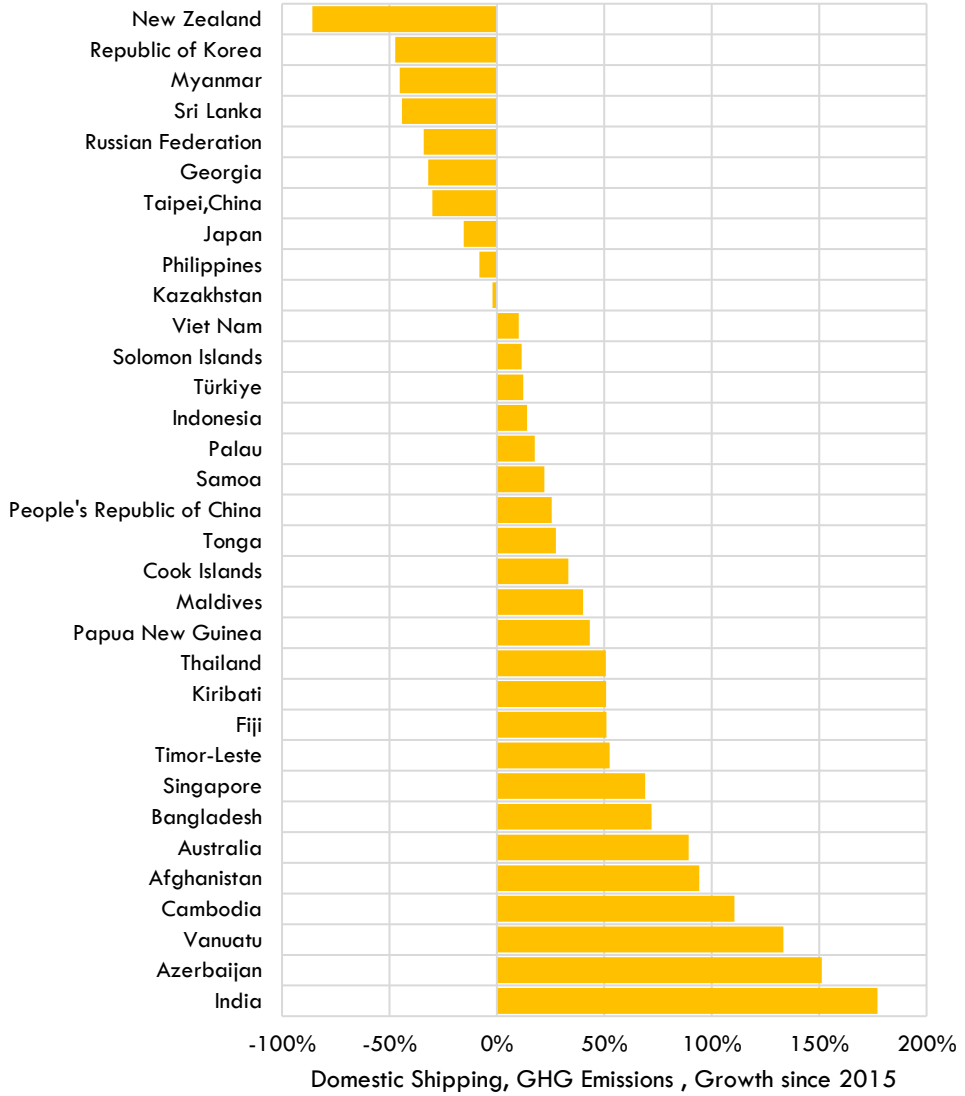
Waterways' share of Asia's transport emissions. The global figure is 2.5%.

2%

Annual growth since 2015. Emissions rose from 102 to 124 million tons.

~2/3

of domestic shipping emissions come from PRC alone.



Domestic Aviation: Small Share, Fastest Growth

0.6%

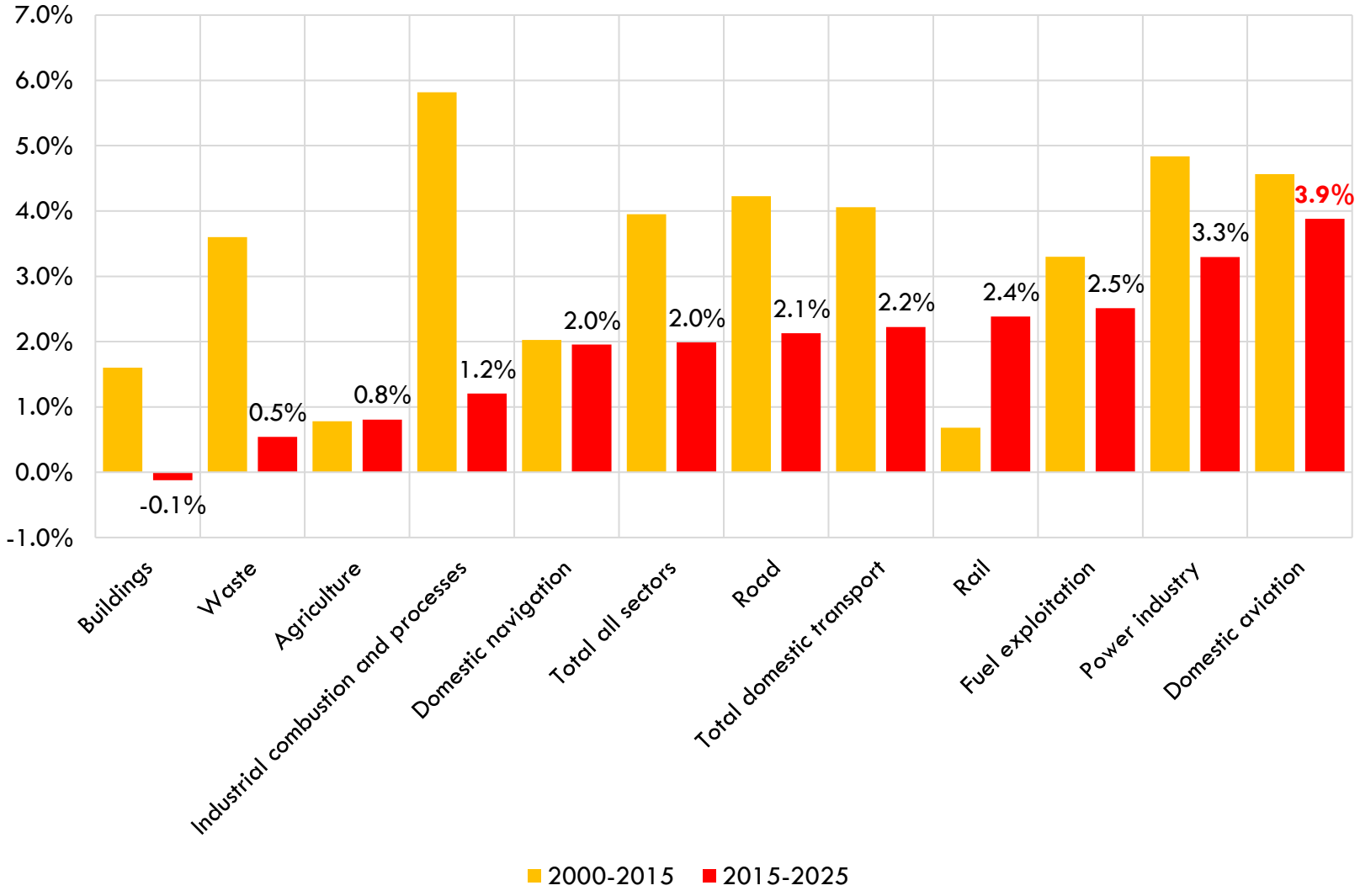
Aviation's share of all Asian emissions, or 6.1% of transport emissions.

3.9%

Annual growth since 2015, down from 4.6%. No other sector grows faster.

44%

Asia's share of global domestic aviation emissions, up from 20% in 2000.



Urban transport: private vehicles gain ground

207

of 224 sampled cities saw private vehicle use rise between 2018 and 2023.

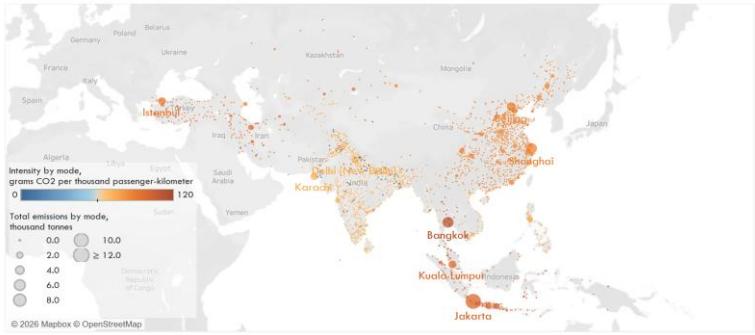
1.4bn

urban residents in Asia have no access to public transport.

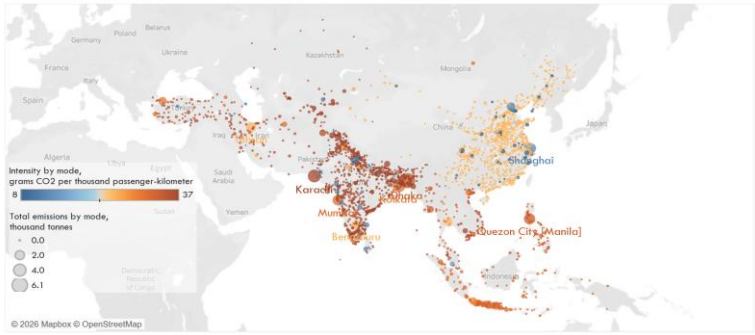
+26% (BAU)

Projected rise in urban passenger CO2 by 2035: 294 to 371 million tons.

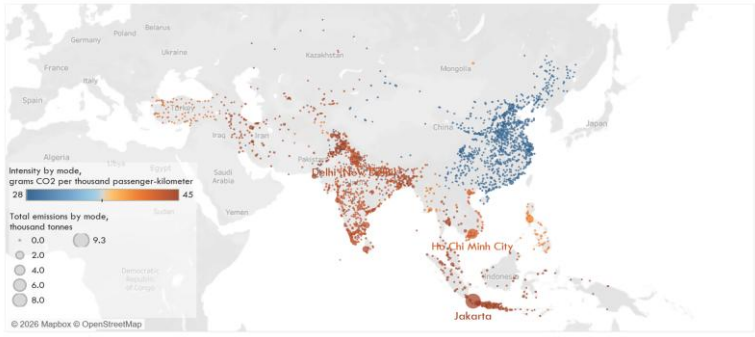
Car CO2 emissions



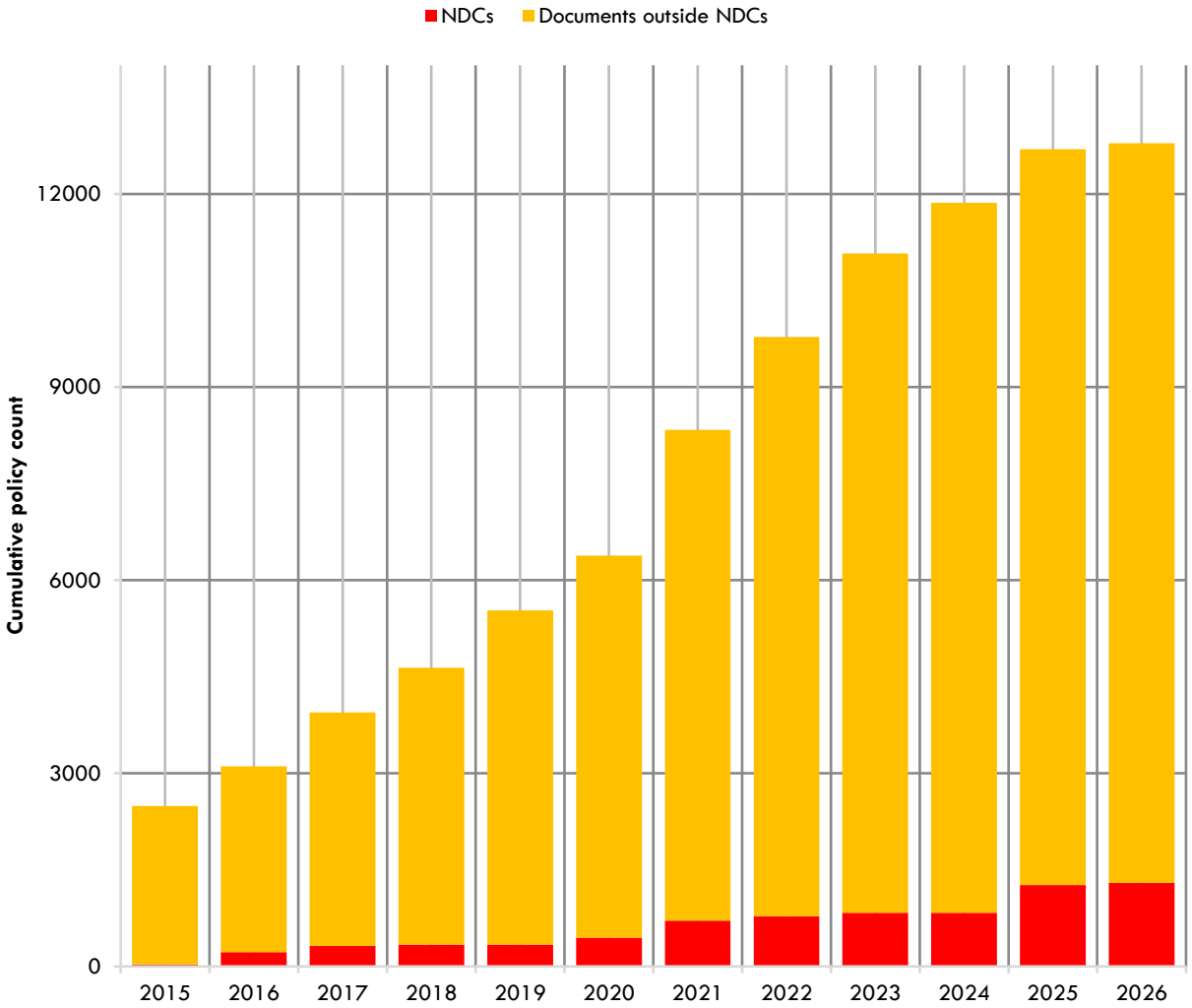
Bus CO2 emissions

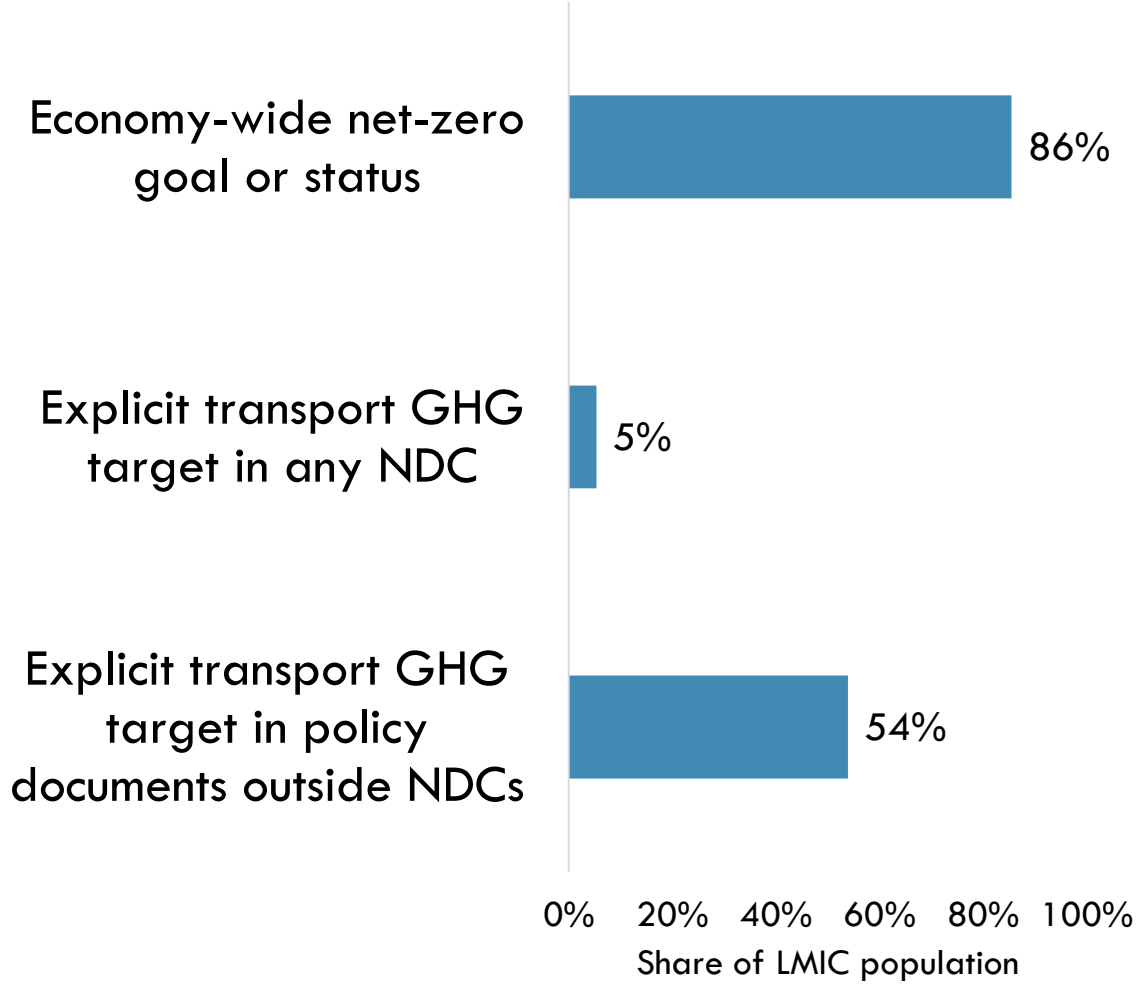


Motorcycle CO2 emissions

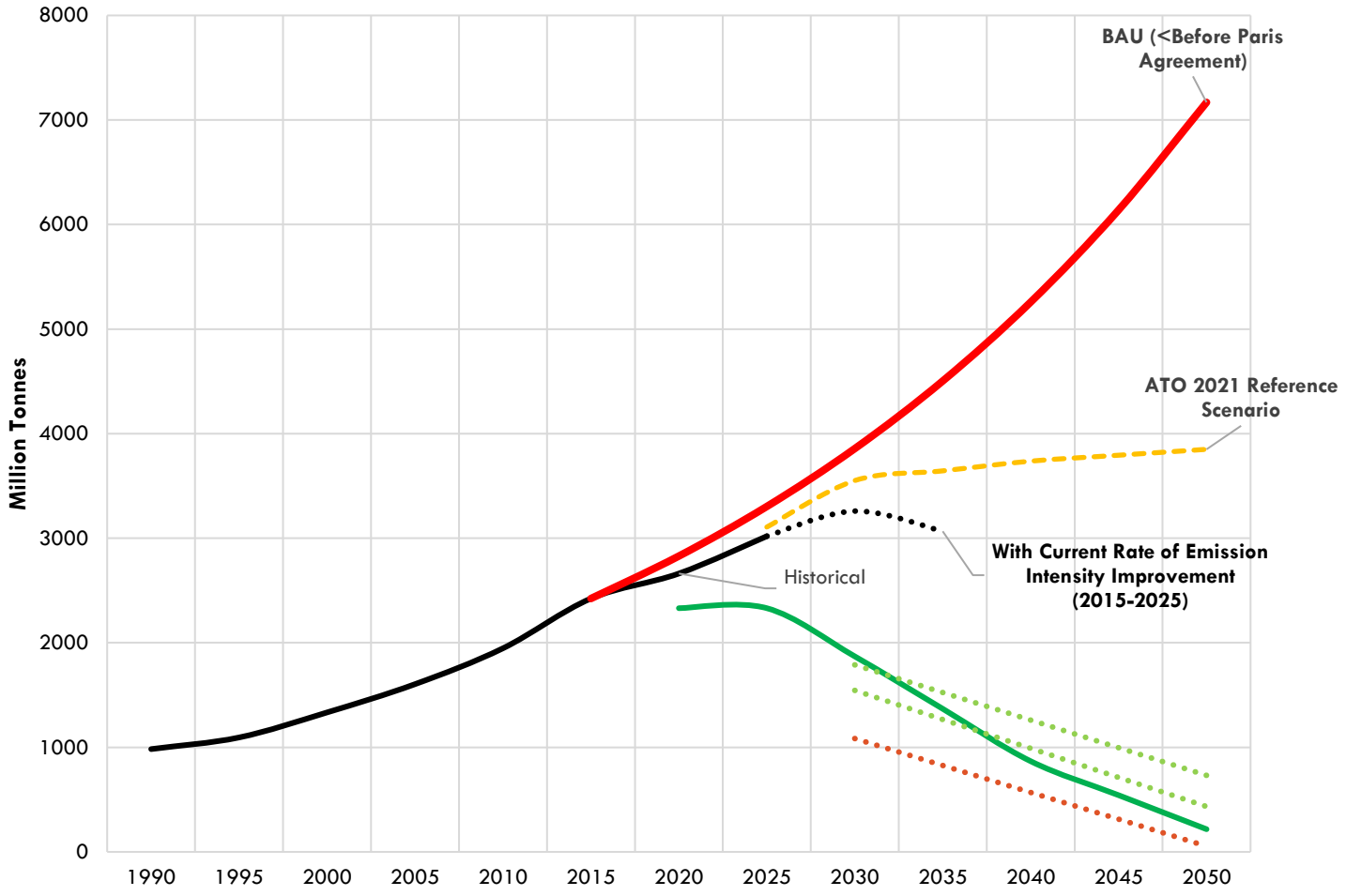


The transport roadmap is still being written outside the formal climate pledges





Outlook: a peak in the early 2030s, not before 2030



With current emission intensity,

East Asia

Peak before 2030

South and Southeast Asia

Peak near 2031, still 40%+ above 2015

Pacific

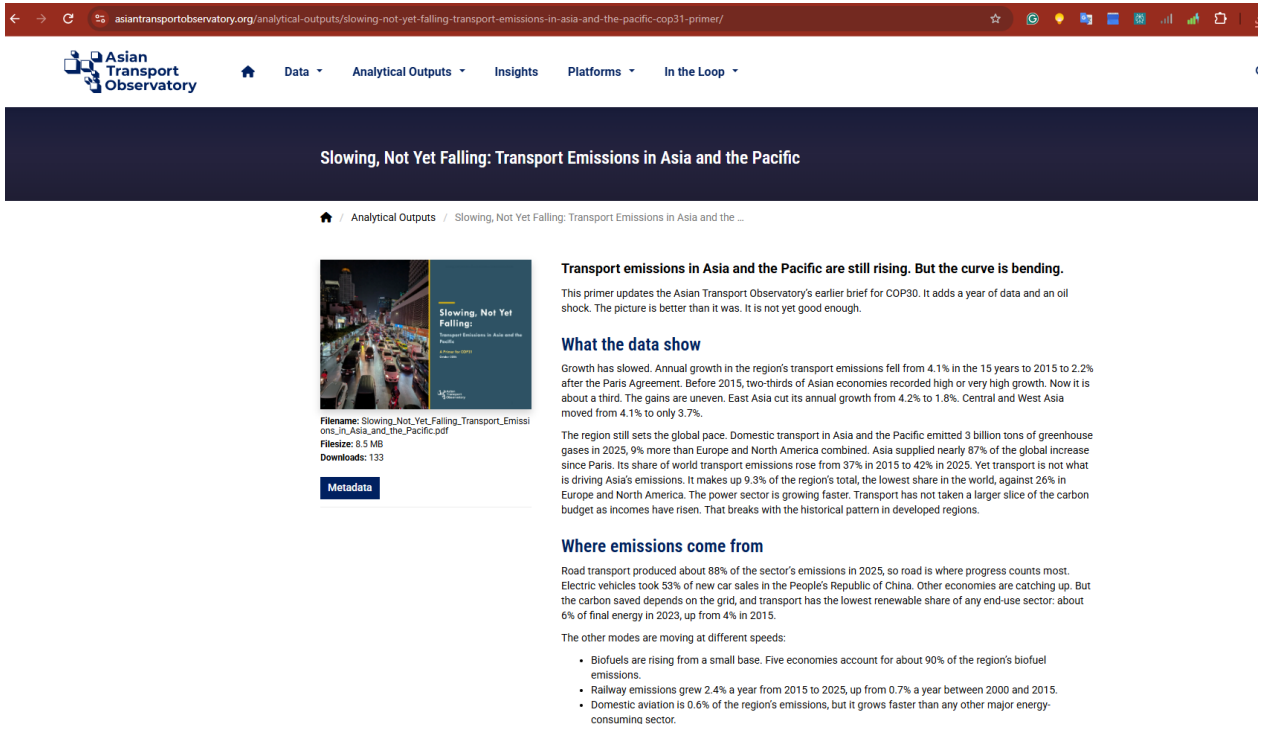
Below its 2015 level by 2035

Central and West Asia

83% above 2015 by 2035. No peak

Demand = 2-4 times by 2050.
Asia could add about half of the rise.

Thank You



ADB ASIAN DEVELOPMENT BANK

AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK