

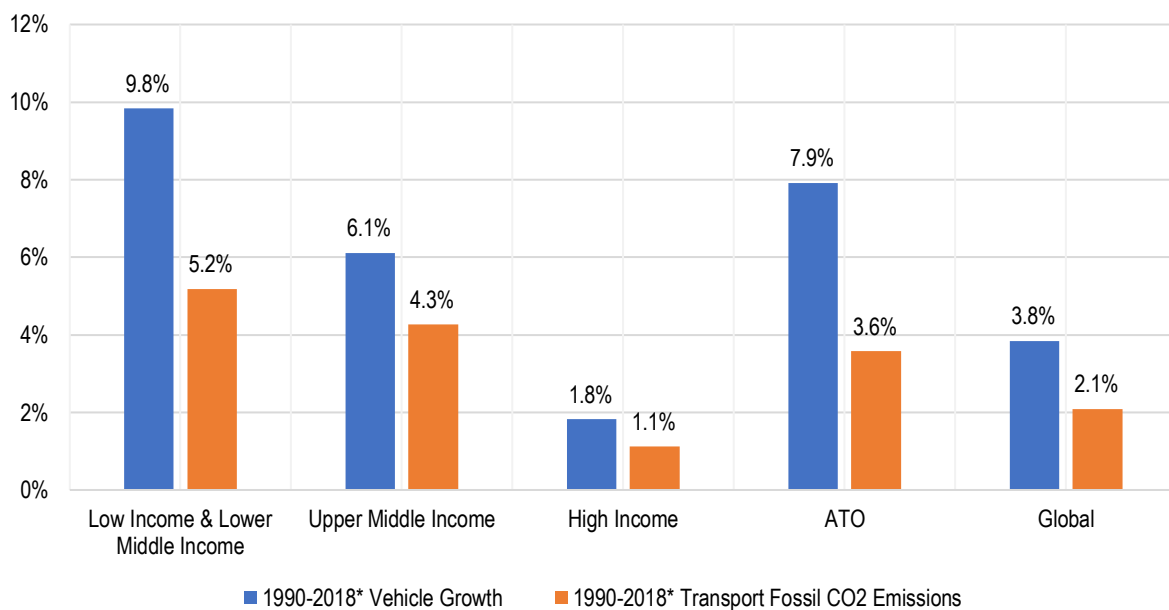
# Asian Transport Outlook (ATO)

## What is the status of Transport Sector CO<sub>2</sub> Emissions in Asia?

According to assessment reports by the Intergovernmental Panel on Climate Change, climate change can undermine sustainable development. The Sustainable Development Goals call for urgent action to halt climate change and to deal with its impacts and is integral to successfully achieve all other Sustainable Development Goals (SDGs). Further, the 2015 Paris Agreement on climate change establishes the ambition of keeping global temperature increases to "well below 2 degrees" Celsius above pre-industrial levels to avoid the worst consequences of climate change.

In 2018, the transport sector in the ATO economies was responsible for 13% of total direct CO<sub>2</sub> emissions from fuel combustion. In comparison, the transport sector share is about 24% of the total CO<sub>2</sub> emissions from fuel combustion globally. Since 1990, the transport fossil fuel CO<sub>2</sub> emissions increased at an annual rate of 5.2%, 4.3%, 1.1% for low and lower middle - income, upper middle-income and high-income ATO economies (Fig. 1). Overall, the CO<sub>2</sub> emissions increased between 1990 and 2018 at an annual rate of 3.6%, which is more than the increase in global emissions (2.1%). This significant increase in transport CO<sub>2</sub> emissions in the ATO economies resembles the rapid motorisation growth in the ATO economies.

**Figure 1: Vehicle Growth Rates and Transport Fossil Fuel CO<sub>2</sub> Emissions, 1990-2018**

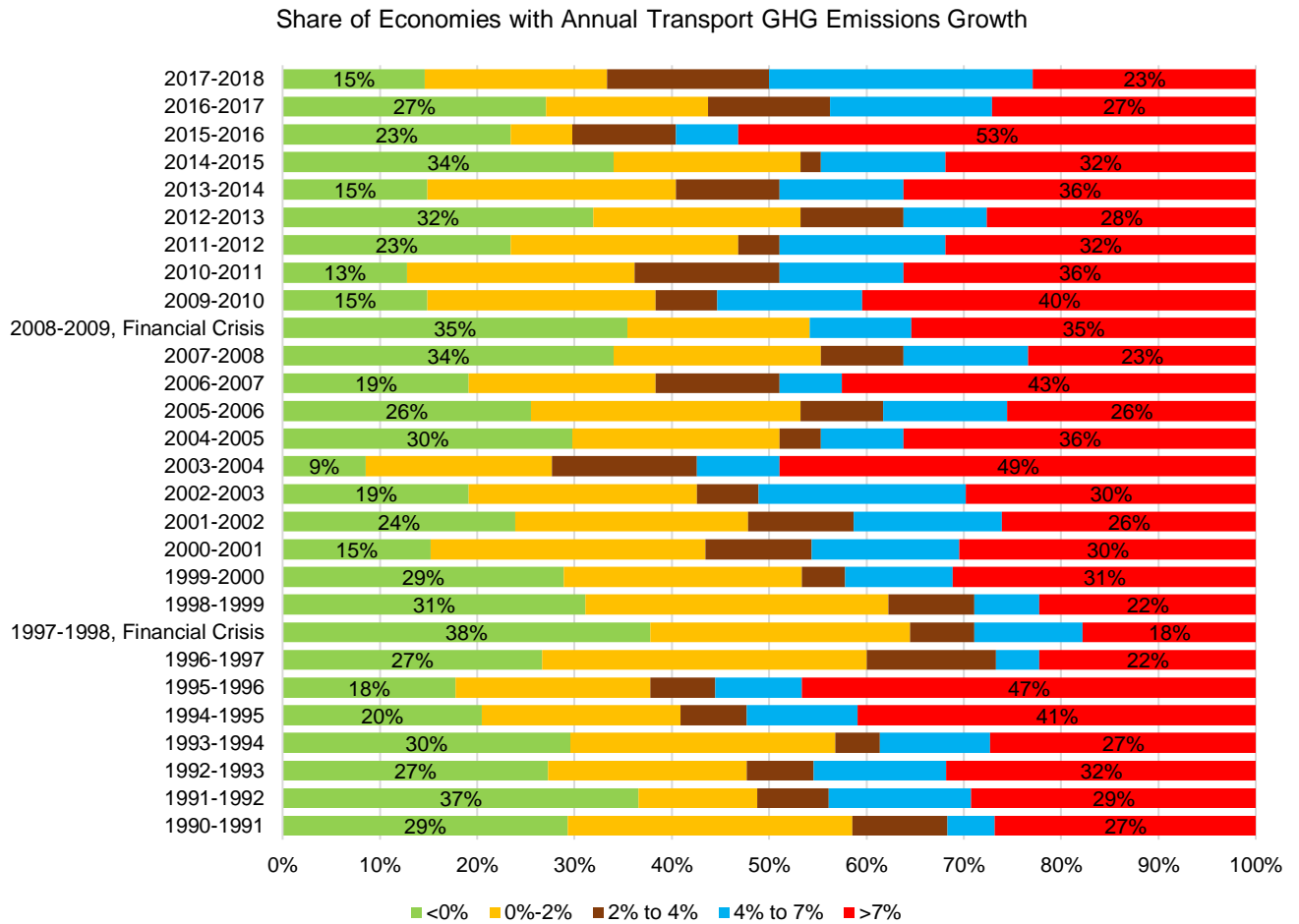


Source: <https://edgar.jrc.ec.europa.eu/overview.php?v=50 AP> and Country Statistical Yearbooks.

ATO Data Used: TAS-VEP-021, CLC-VRE-045

Since 2000, while some, especially high-income ATO economies have reduced air pollutant emissions, the transport CO<sub>2</sub> emissions have continued to rise in the majority of ATO economies (except in Hong Kong , Japan, Palau and Uzbekistan) (Fig. 2).

**Figure 2: Share of Economies with Annual Transport GHG Emissions Growth**

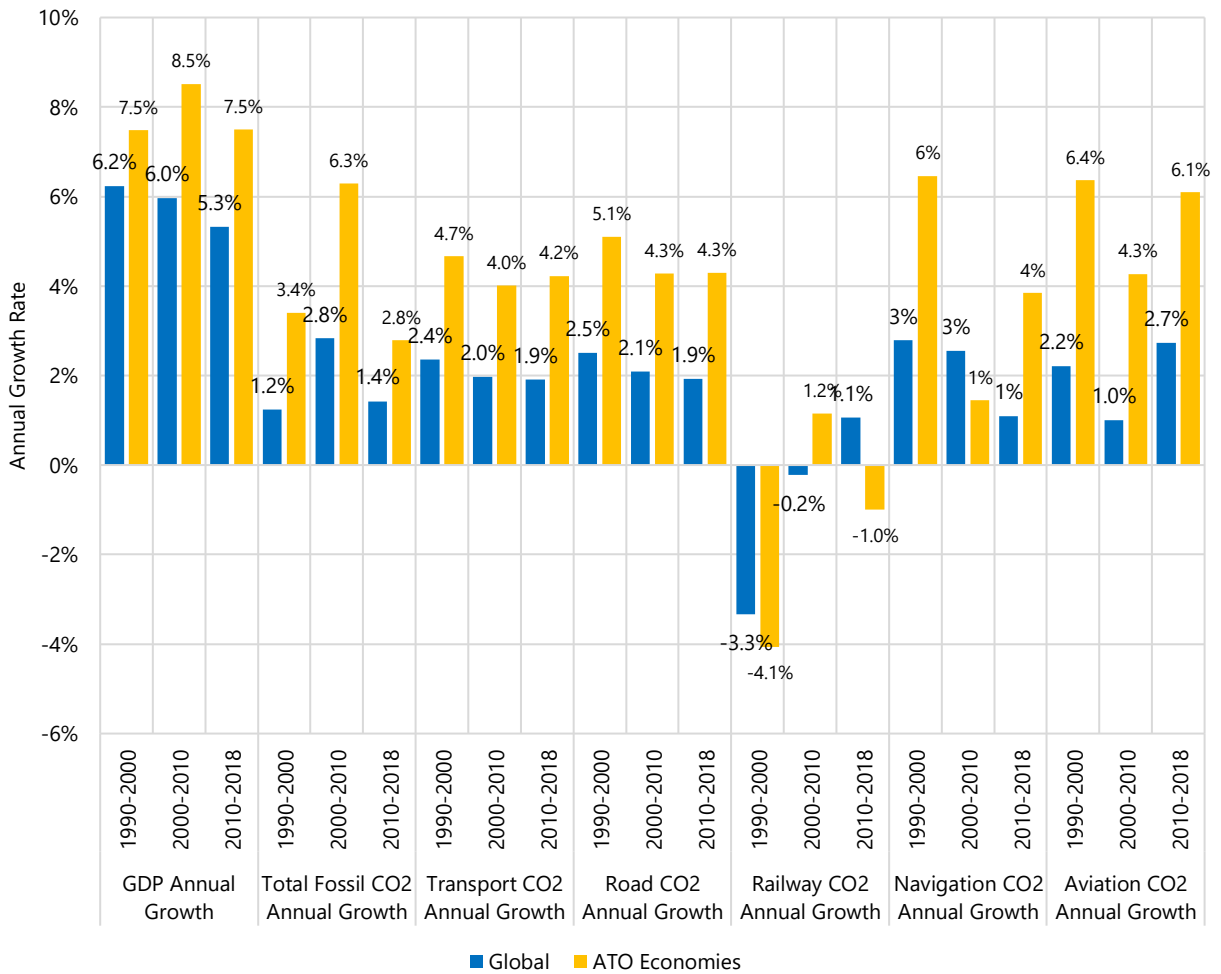


Source: [https://www.climatewatchdata.org/ghg-emissions?end\\_year=2018&sectors=transportation&source=CAIT&start\\_year=1990](https://www.climatewatchdata.org/ghg-emissions?end_year=2018&sectors=transportation&source=CAIT&start_year=1990)

ATO Data used: CLC-VRE-048(2)

The majority of fossil CO<sub>2</sub> emissions in the transport sector is linked to the road transport sector, with a share of about 89% in 2018. Railways, domestic navigation and aviation have a share of 1.8%, 4.5% and 5.2%, respectively. Since 1990, road transport, domestic navigation and domestic aviation transport fossil fuel emissions have increased at an annual rate of 3.9%, 2.7% and 3.2%. (Fig. 3.) The only exception in this pattern are the railway fossil CO<sub>2</sub> emissions, which since 1990 have reduced at an average annual rate of 2%.

**Figure 3: Average Annual Growth in GDP, Total Fossil CO2 Emissions, Transport CO2 Emissions, Road CO2 Emissions, Railway CO2 Emissions, Navigation CO2 Emissions and Aviation CO2 Emissions, Global and ATO Economies, 1990-2018.**



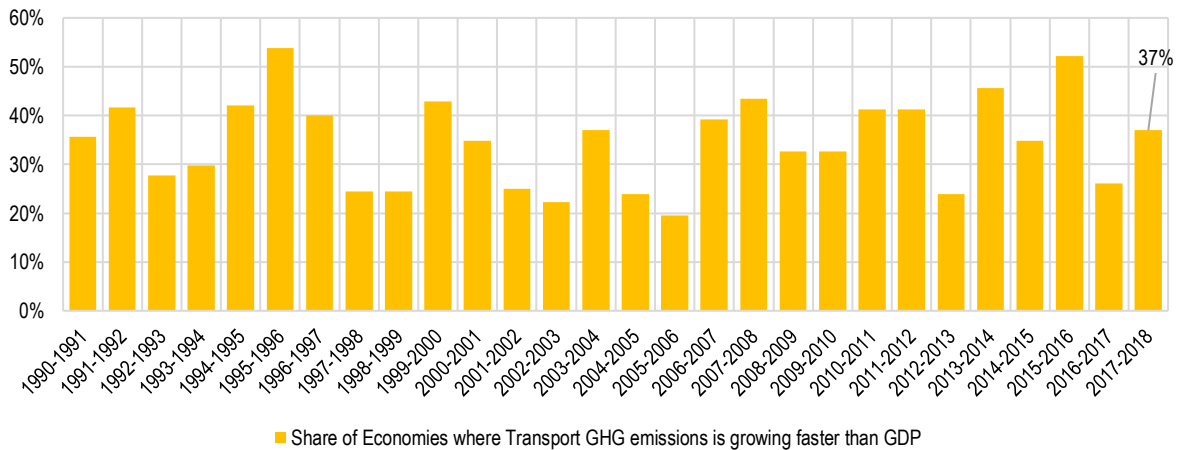
Source: [https://edgar.jrc.ec.europa.eu/overview.php?v=50\\_AP](https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP)

ATO Data Used: CLC-VRE-045, CLC-VRE-048, CLC-VRE-054, CLC-VRE-055, CLC-VRE-056, CLC-VRE-057 & SEC-SEG-001

China and India contributed close to 50% of ATO fossil transport CO2 emissions in the ATO economies. The highest intensity of transport fossil CO2 emission growth could be found in Tajikistan, Afghanistan and Nepal.

Economic growth tends to significantly increase the demand for transport services and thereby also emissions, unless effective policies are taken to reduce transport CO2 emissions. Globally, transport CO2 emissions have traditionally been closely coupled with income growth (Fig. 4).

**Figure 4: Share of Economies where Transport GHG emissions is growing faster than GDP**

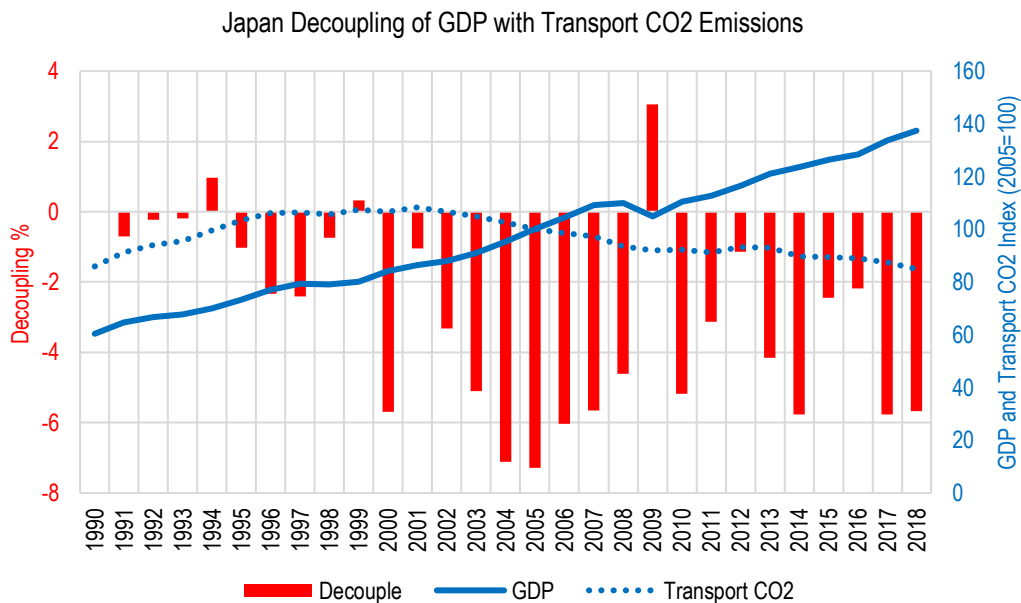


Source: [https://www.climatewatchdata.org/ghg-emissions?end\\_year=2018&sectors=transportation&source=CAIT&start\\_year=1990](https://www.climatewatchdata.org/ghg-emissions?end_year=2018&sectors=transportation&source=CAIT&start_year=1990)

ATO Data used: CLC-VRE-048(2), SEC-SEG-001

However, since 2000, close to 85% of ATO economies have increased their transport CO<sub>2</sub> emissions at a slower pace compared to the GDP (i.e. Relative decoupling) (Fig. 4). Among all the ATO major economies, Japan shows complete decoupling between emissions and GDP growth (Fig. 5).

**Figure 5: Decoupling of GDP and Transport CO<sub>2</sub> Emissions**



Source: [https://edgar.jrc.ec.europa.eu/overview.php?v=50\\_AP](https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP)

ATO Data Used - CLC-VRE-045, CLC-VRE-048, CLC-VRE-054, CLC-VRE-055, CLC-VRE-056, CLC-VRE-057 & SEC-SEG-001