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Partnership on Sustainable, Low Carbon Transport

SLOCAT
Transport, Climate and Sustainability Global Status Report - 3 edition

Preliminary Insights #1: General Findings

www.tcc-gsr.com

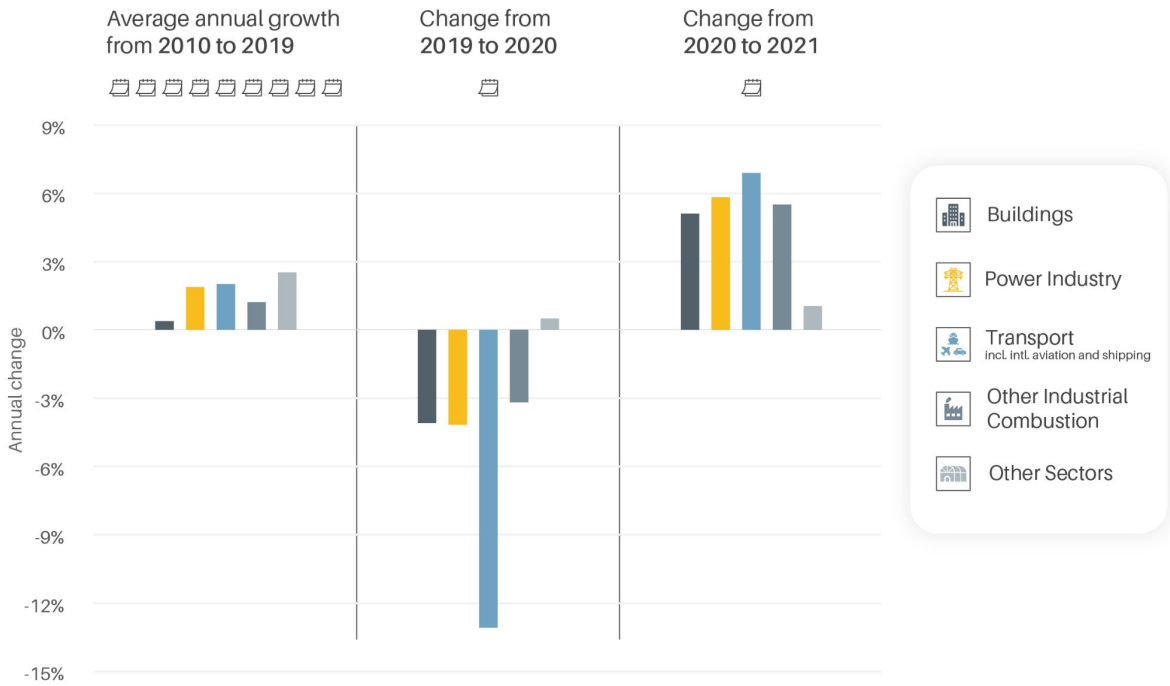
#TransportClimateStatus

Transport sector leads global CO_2 emission growth

From 2010 to 2019, **transport was the combustion sector with the fastest CO_2 emissions growth:** 18% growth.

In 2019, transport accounted for **22% of global fossil CO_2 emissions**.

Changes in CO_2 emissions by sector from 2010 to 2019 (left), **2019 to 2020** (middle) **and 2020 to 2021** (right)



Disclaimer: Draft figure based on preliminary data collected as of 10 February 2023. The data and figure are subject to change.

Source: SLOCAT analysis based on Crippa, M. et al (2022), CO2 emissions of all world countries - 2022 Report, doi:10.2760/730164, https://edgar.jrc.ec.europa.eu/report_2022 (accessed 20 September 2022)

Transport emissions bounced back to pre-COVID-19 trajectory

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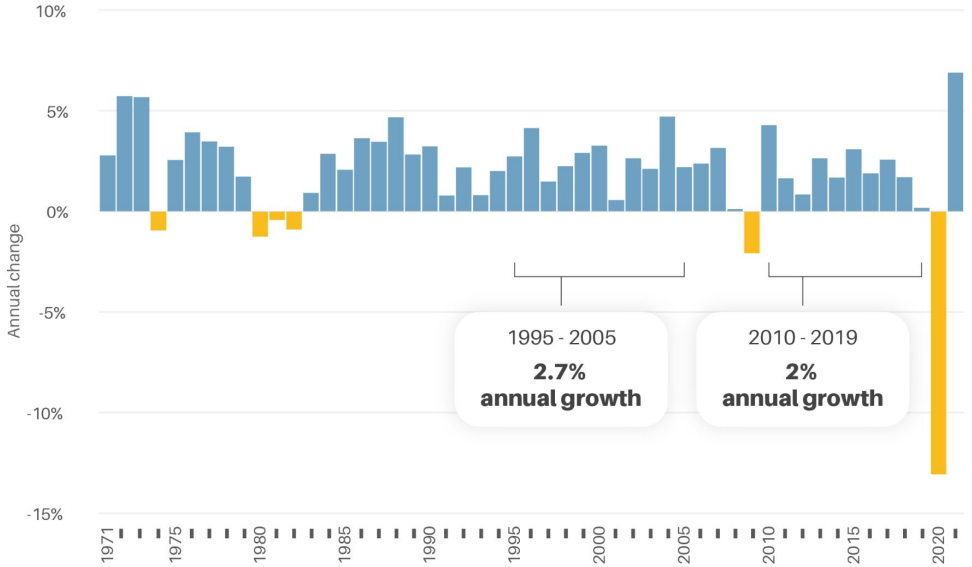
In **2020,** the pandemic **briefly set transport CO_2 emissions back to 2012 levels,** with the sector experiencing the **biggest emissions drop** among other combustion sectors.

But in **2021**, transport experienced the **strongest rebound** among other combustion sectors. People started commuting to work; international travel picked up.

Annual change in transport CO_2 emissions
(incl. international aviation and shipping)



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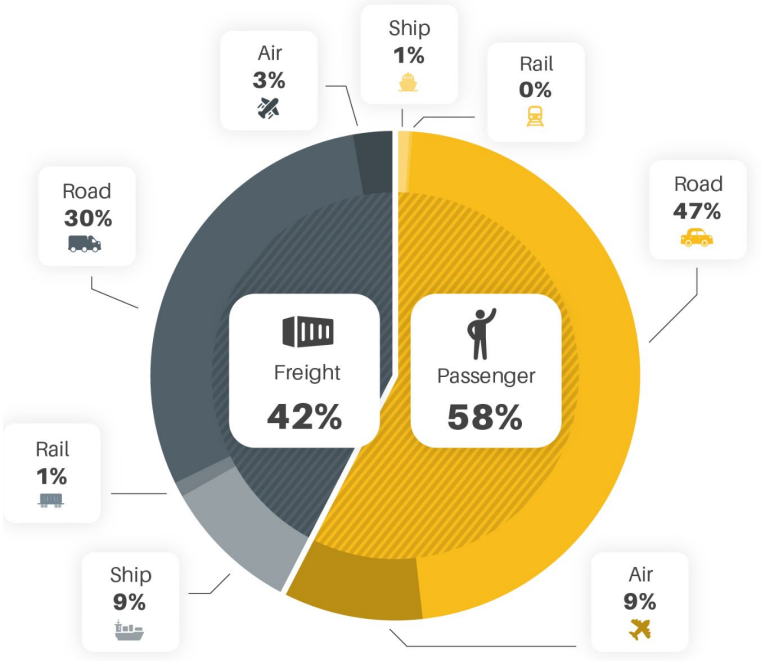
Freight plays an increasing role in transport CO_2 emissions

Road transport (passenger & freight) contributed **more than three-quarters of transport CO_2 emissions.**

Freight emissions kept growing: from 40% in 2018 to 42% in 2019. More goods than ever before are being transported.

Transport CO_2 emissions by activity and mode, 2019



Disclaimer: Draft figure based on preliminary data collected as of 10 February 2023. The data and figure are subject to change.

Source: Shell (2020), The Energy Transformation Scenarios, https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/the-energy-transformation-scenarios.html (accessed 20 August 2022)

Asia continues to spearhead emissions growth

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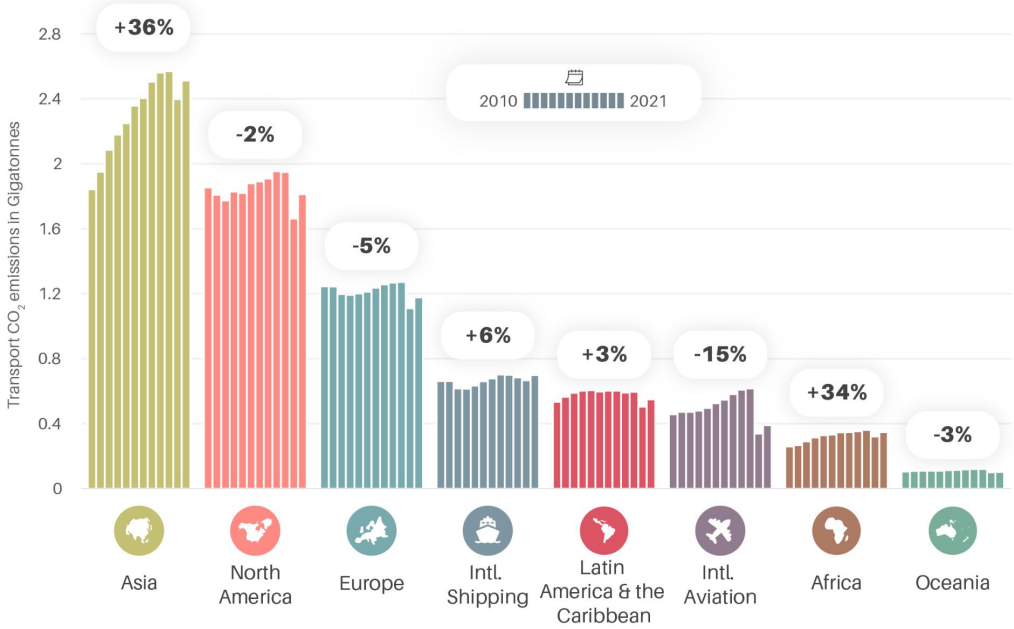
With its blooming population and economy, Asia continued to record the highest emissions growth among other regions, with 36% from 2010 to 2021.

North America, **Europe** and **Oceania experienced emission reductions** during the same period.

Transport CO_2 emission for regions and international shipping and aviation in gigatonnes from 2010 to 2021



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Reductions of transport emissions are urgently required to achieve decarbonised pathways

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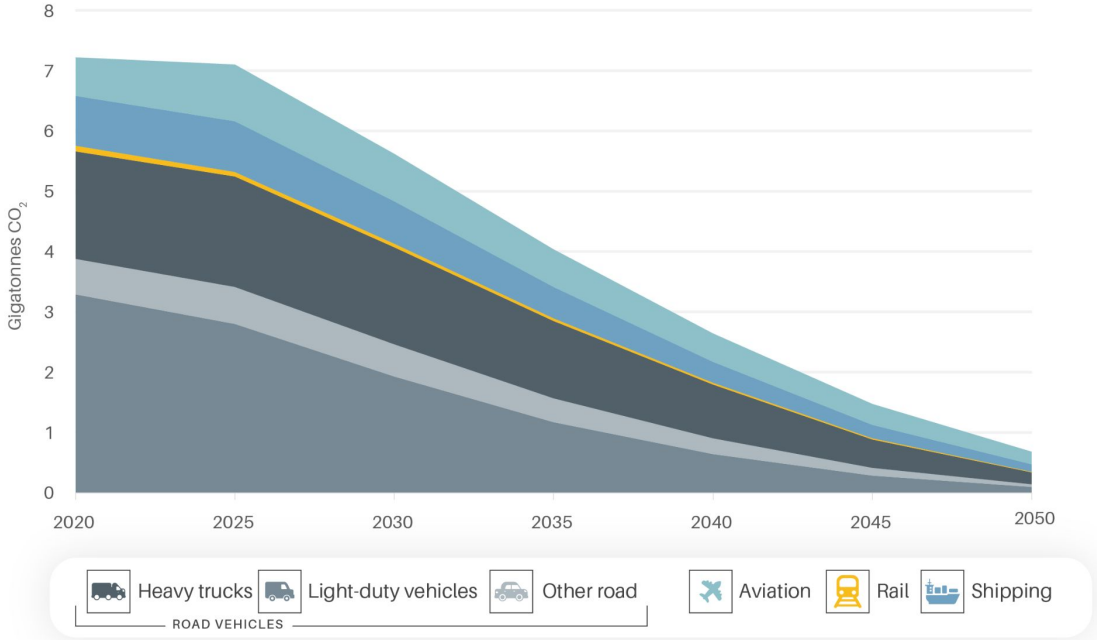
Achieving transport pathways that limit global warming to 1.5°C with no or limited overshoot will **require a 59% reduction of CO_2 emissions from transport by 2050**, compared to 2020 levels.

Meeting the **IEA net-zero emission scenario**, will require a **90% reduction of CO_2 emissions from transport by 2050,** compared to 2020 levels.

Different modes will require different decarbonisation levels:
i.e. road vehicles contribute more than rail, shipping and aviation.

Global transport CO_2 emission trajectories by mode, 2020 to 2050

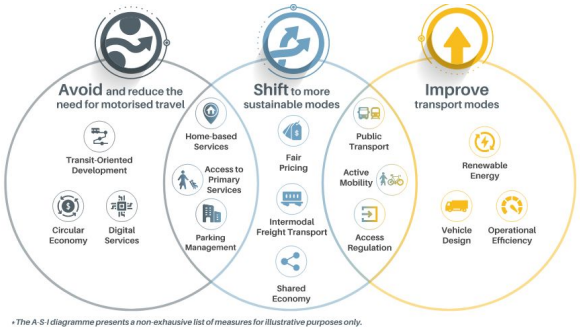


Disclaimer: Draft figure based on preliminary data collected as of 10 February 2023. The data and figure are subject to change.

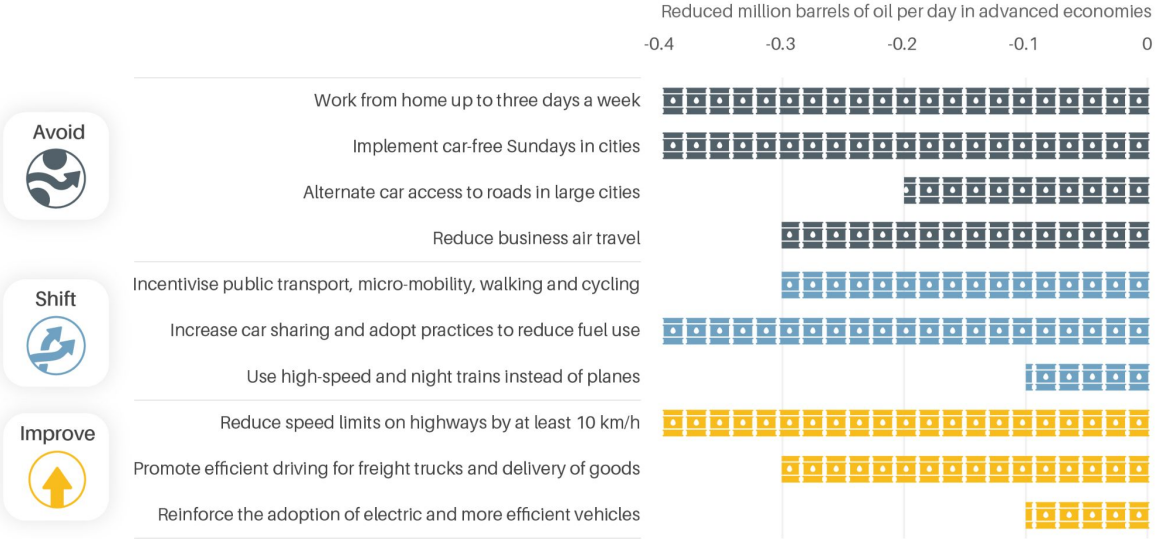
Source: IEA (2021), Net Zero by 2050, IEA, Paris, https://www.iea.org/reports/net-zero-by-2050 (accessed 20 January 2023)

Avoid measures show the biggest potential towards oil independence, followed by *Shift* and *Improve measures*

More about *Avoid-Shift-Improve* at www.slocat.net/asi



Major actions to reduce oil dependency



Disclaimer: Draft figure based on preliminary data collected as of 10 February 2023. The data and figure are subject to change.

Source: SLOCAT analysis based on IEA (2022), A 10-Point Plan to Cut Oil Use, https://www.iea.org/reports/a-10-point-plan-to-cut-oil-use

Access to public transport in Africa and Asia is still falling short

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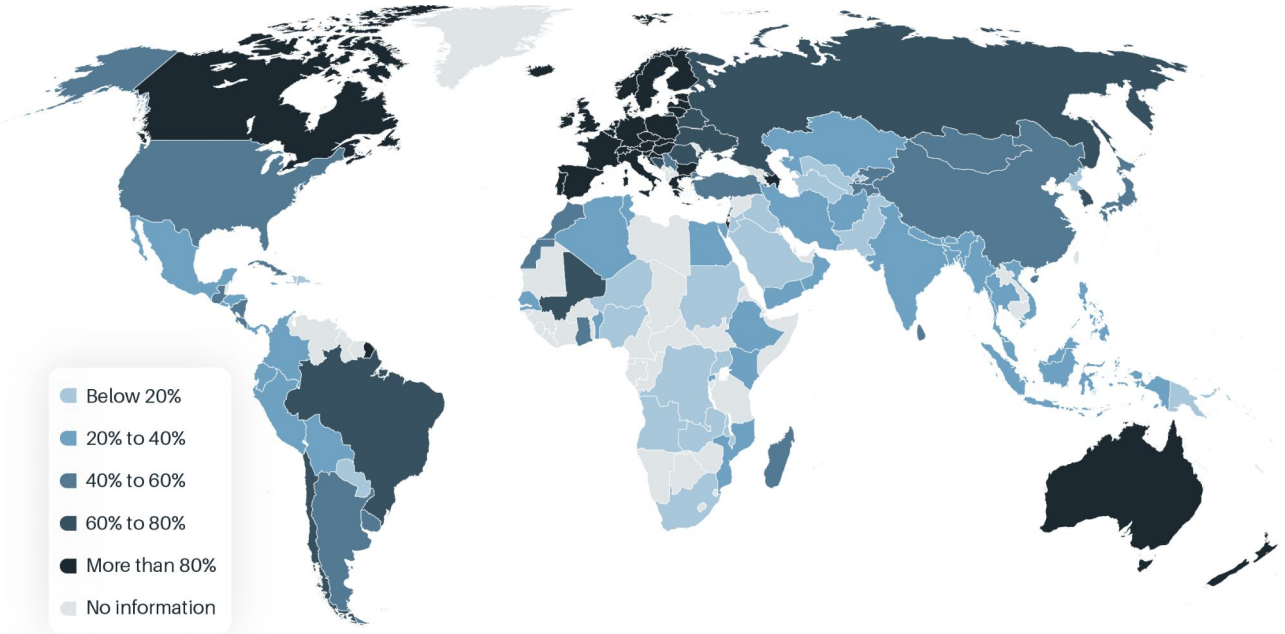
Convenient access to public transport
(% of urban population):

Africa	32%
Asia	38%
Europe	92%

Average percentage of urban population with convenient access to public transport



The percentages reflect the average share of population who live within a walking distance of 500 metres to a low-capacity public transport system (bus, tram etc.) and 1000 metres to a high-capacity public transport system (trains, ferries etc.).

Disclaimer: Draft figure based on preliminary data collected as of 10 February 2023. The data and figure are subject to change.

Source: UN-HABITAT (2021), 11 2 1 Percentage Access to Public Transport, https://data.unhabitat.org/datasets/GUO-UN-Habitat::11-2-1-percentage-access-to-public-transport/about (accessed 11 August 2022)

International aviation is still recovering from the COVID-19 hit, while shipping remains stable

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International aviation CO_2 emissions took a 45% hit in 2020, falling to **pre-millennium levels.**

From **2020 to 2021**, **international aviation CO_2 emissions increased by 15%**, still remaining **37% below 2019 levels.**

Despite the drastic pandemic impacts on global trade, **international shipping CO_2 emissions only fell by 2% in 2020. By 2021, they were higher than pre-pandemic levels**.

CO_2 emissions by international aviation and shipping in million tonnes from 2015 to 2021

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Also check out

Preliminary Insights #2: Africa, Asia and Latin America and the Caribbean

(Released in June 2023)

SLOCAT Transport, Climate and Sustainability Global Status Report

3 edition

Global and regional stories of where we are and where we need to get to urgently

One-stop shop for the latest available data, targets and developments

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5 Thematic Sections

Transport Pathways to Reach Global Climate and Sustainability Goals

Regional Overviews

Responses to Address Climate Change in Transport Sector

Transport and Energy

Finance and Capacity Building

12 Transport Areas

- Integrated transport planning
- Walking
- Cycling
- Public Transport
- Informal Transport
- ‘App-Driven’ Shared Transport
- Rail
- Road Transport
- Aviation
- Shipping
- Transport Energy Sources
- Vehicle Technologies

6 Spotlights on cross-cutting issues

Freight and logistics

Global Supply Chains

Health

Small Island Developing States

Capacity building

Engagement in UNFCCC

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Country Fact Sheets