

# China



China's transport CO<sub>2</sub> emissions increased by 15% from 2015 to 2021, mainly driven by a strong increase in freight transport activity. The COVID-19 pandemic impacted passenger travel significantly in 2020 and 2021. However, transport is only responsible for 8% of national CO<sub>2</sub> emissions.

China continues to implement a comprehensive set of sustainable transport strategies, as shown in the previous edition's country factsheet. The size of the urban rail network grew extensively in many cities.

Income group: Middle-income	
Human Development Index (2021): 0.768	
Population size (2022): 425,925,386	+2.6% (2015 - 2022)
Urban population share (2022): 63.8%	+17.4% (2015 - 2022)
GDP per capita (2021): 11,082.36	+39.24% (2015 - 2021)

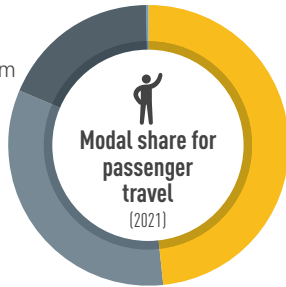
## Transport Demand Trends

### Passenger travel activity

1 975 810

million passenger-km  
in 2020

-34.3%  
(2015 to 2021)

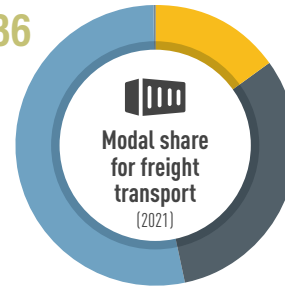


### Freight transport activity

21 818 136

million ton-km  
in 2020

+25.6%  
(2015 to 2020)



### Energy consumption (2020)

322

million tonnes of oil equivalent

+11%  
(2015 to 2020)

Average light duty fuel economy consumption Lge/100 km (WLTP) ▶

7.2  
(2019)

86.3%  
Oil Products

8%  
Natural Gas

0.9%  
Biofuels

4.7%  
Electricity

## Transport Emission Trends

### Transport CO<sub>2</sub> emissions (2021)

955.5 million tonnes

+15.3%  
(2015 to 2021)

### Per capita transport CO<sub>2</sub> emissions (2021)

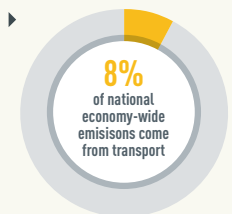
0.67 tonnes

### Per capita transport CO<sub>2</sub> emissions

Global average Income group average Regional average China average



Transport is the **fourth-largest** CO<sub>2</sub> producing sector in the country



## Transport Decarbonisation Pathways

Transport strategy identifies climate change	✓
Long-term strategy submitted to UNFCCC	✓
NDC submitted:	1st and Updated NDC
NDC highlights transport for GHG mitigation	✓
Transport mitigation targets in NDC	✗
Other non-emission related transport targets in NDC	✗
VNR highlights transport	✓ 2021 VNR with transport linkages to SDG 2, SDG 7, SDG 9, SDG 10, SDG 11 and SDG 13

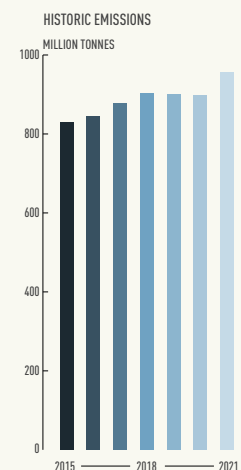
### Transport actions in VNRs

- ▶ Improved food supply chains
- ▶ Railway electrification
- ▶ Efficient, economical, intelligent, green, safe and reliable urban transport

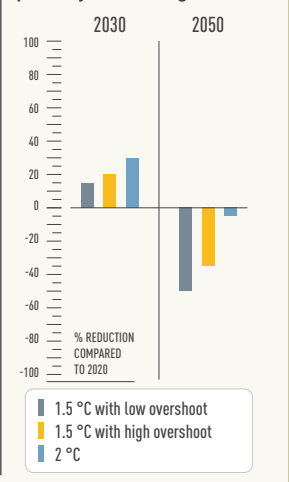
### Transport actions in NDC

- ▶ BRT
- ▶ EV charging infrastructure
- ▶ Expansion of infrastructure
- ▶ Freight transport shifting to rail or inland waterways
- ▶ General active mobility
- ▶ General alternative fuels
- ▶ General economic instruments
- ▶ General e-mobility
- ▶ General freight efficiency improvements
- ▶ General transport labels
- ▶ Hydrogen
- ▶ Intelligent transport systems
- ▶ Intermodality measures
- ▶ Public transit integration and expansion
- ▶ Support on-shore power and electric charging facilities in ports
- ▶ Vehicle efficiency standards
- ▶ Vehicle restrictions (import, age, access, sale, taxation)

### Required regional transport decarbonisation pathways



### IPCC transport decarbonisation pathways for this region





## Policy Areas: Indicators and Targets

Integrated Transport Planning	
National urban mobility framework (2022)	✓
Sustainable urban mobility plans (2022)	✓
Number of sustainable urban mobility plans (2022)	1 city
Low emission zones (2022)	49 cities

Walking	
National walking strategies (2022)	Combined with cycling in national transport strategy
<b>Targets</b> ▶ Improve urban transport facilities for cyclists and pedestrians, promote cycling	

Cycling	
National walking strategies (2022)	Combined with walking in national transport strategy
<b>Targets</b> ▶ Same as above	
Cycling infrastructure in capital (2022)	3 200 km

Shared Mobility, Public Transport and Informal Transport	
Bus rapid transit (2022)	672 km in 20 cities
Bus rapid transit daily passenger volume (2022)	4 375 250
Urban rail (LRT, metro, tram) (2022)	Over 5 400 km in 46 cities
Rapid Transit to Resident Ratio (2021)	14.4

Intercity Rail	
Rail network (2021)	109 767 km
Rail travel activity (2021)	946 499 million-passenger-km
Rail freight activity (2019)	3 018 200 million ton-km
High-speed rail (2021)	31 830 km
High-speed rail travel activity (2021)	606 416 million passenger-km
National plans for passenger and freight rail expansion (2022)	✓
<b>Target</b> ▶ By 2035, expand overall rail network to 200,000 km; with 70,000 km of high-speed railways	

Road Transport	
Total road vehicles in use per 1,000 people (2020)	223.2
Average annual growth rate (from 2015 to 2020)	14.30%

Aviation	
Air passengers carried (2020)	420 million people
Air freight activity (2020):	19 264.2 million ton-km
Carbon-accredited airports (2022)	6 airports
of which carbon neutral:	✗

Shipping	
Liner shipping connectivity index (2021):	171.2
Container port traffic (2020):	245 103 781 TEU

Transport Energy Sources	
Biofuel blend mandate (2022)	10% Ethanol
Renewable energy (biofuels and electricity) share in transport (2020)	5.60%
Targeted % of renewable energy	Not available

Vehicle Technologies	
Emission standards for LDVs (2020)	Euro 6
CO <sub>2</sub> emissions performance for passenger cars (2019)	135.4 gCO <sub>2</sub> /km
Targeted CO <sub>2</sub> emissions performance	59 gCO <sub>2</sub> /km by 2025
Regulatory environment ranking on used vehicles by UNEP (2021)	Not available
Electric vehicles (2022)	11 000 000
Share of electric vehicles in car sales (2022)	29%
ICE phase-out targets:	No, only on subnational level Hainan - 2030

COVID-19	
Strongest impact of COVID-19 on...	(compared to pre-COVID-19 baseline)
... trips to public transport	Not available
... navigation request for walking	Not available
... navigation request for driving	Not available
... driven kilometres	Not available
Traditional transport infrastructure investment:	USD 701 billion
Clean transport infrastructure investment:	Not available
<b>Examples</b>	
<ul style="list-style-type: none"> <li>▶ Promoting the deployment of Intelligent Connected Vehicles</li> <li>▶ Green Vehicle Investment</li> <li>▶ Construction of rural transportation infrastructure</li> <li>▶ Logistics industry support</li> <li>▶ High-speed rail spending</li> </ul>	

This fact sheet is part of the SLOCAT Transport, Climate and Sustainability Global Status Report 3<sup>rd</sup> Edition. Information shown in this country fact sheet is based on desk research and might not be complete or not show the most recent status. The data has been collected to the best knowledge and availability. If no information was able to be retrieved, then 'Not available' is being indicated. The content does not represent the opinion of the SLOCAT Partnership on Sustainable, Low Carbon Transport. For more information, please visit [tcc-gsr.com](http://tcc-gsr.com)

List of acronyms	
GDP	Gross-domestic product
HDV	Heavy-duty vehicle
ICE	Internal combustion engine
LDV	Light-duty vehicle
LRT	Light-rail transit
NDC	Nationally determined contribution
TEU	Twenty-foot Equivalent Unit
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VNR	Voluntary national review of the Sustainable Development Goals
WLTP	Worldwide harmonised light vehicles test procedure