

Philippines

Transport Climate Profile

Population (2024)
119.1 million

Urban population
49%

Below 18 y.o.
37%

Population density
394 persons per sqkm

Rural population
51%

Above 60 y.o.
9%

Subregion
(1) South East Asia

Gross domestic product
(GDP PPP, 2022)
(1) 1.17 trillion USD

Domestic consumption per capita, tonnes (2024)
(1) 8.8 tonnes

(1,2) *Domestic consumption is the total amount of materials directly used in the economy (used domestic extraction plus imports), minus the materials that are exported.*

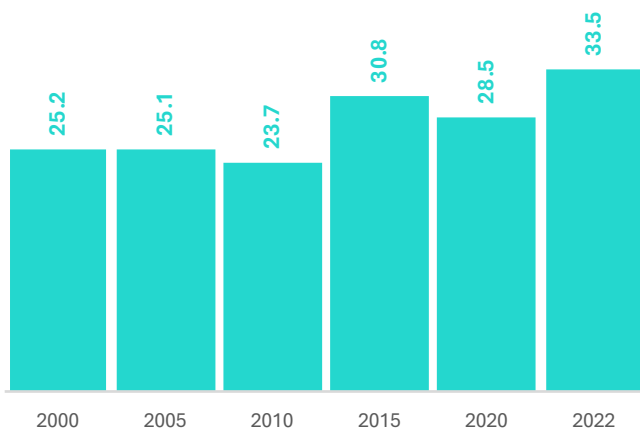
Income class
Low and lower middle income

GDP per capita (PPP, 2022)
10,137 USD (1,2)
(2)

(3)

Transport and Climate Change

Transport fossil CO2 emissions, million tonnes



(4)

In 2010, transport contributed 27.8% of total fossil CO2 emissions. By 2022, transport contributed 21.6%.

Share of transport CO2 emissions by mode (2022)

| Road **90.2%** (4)
| Rail **0.0%**

| Navigation **7.3%** (4)
| Aviation **2.4%**

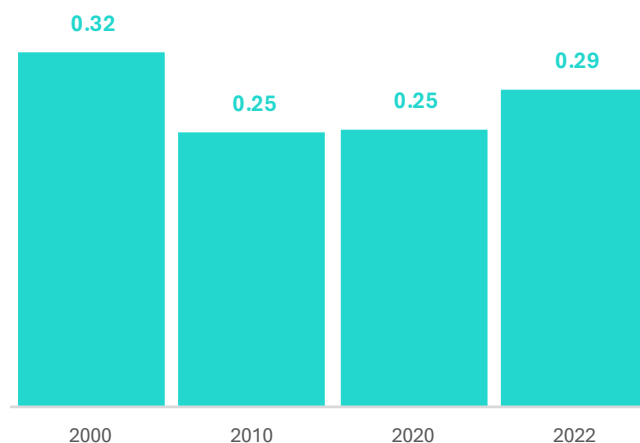
Navigation and aviation only includes domestic transportation

Between 2000-2015, road transport contributed 85.9% in transport fossil CO2 emissions. Between 2016-2022, road transport contributed 88.3%.

Transport CO2 emissions intensity with GDP, 2022
28.6 gCO2 per USD

Asia-Pacific average is 33.2 gCO2 per USD

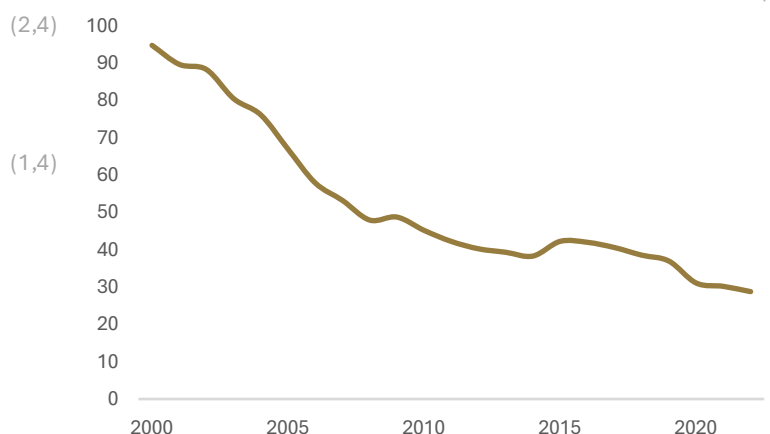
Transport fossil CO2 emissions per capita, tonnes



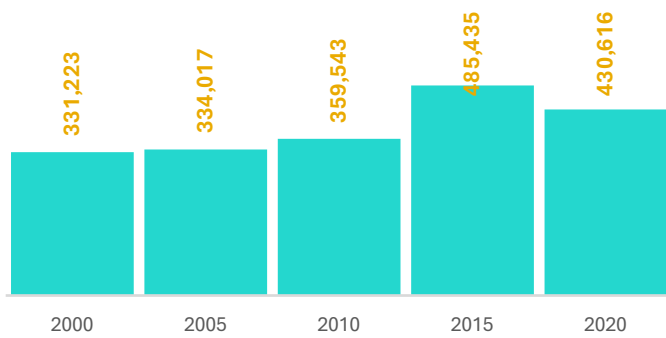
(2,4)

Transport CO2 emissions intensity with GDP trend, gCO2 per USD

(2,4)



Transport energy consumption, terajoules

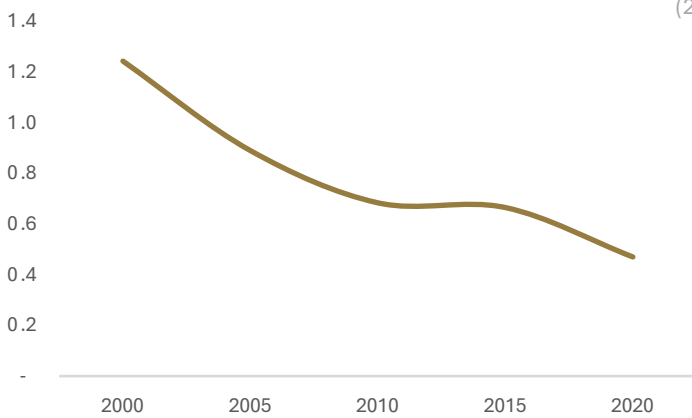


Transport energy intensity with GDP, 2020

0.5 MJ per USD

Asia-Pacific average is 0.5 MJ per USD

Transport energy intensity with GDP trend, MJ per USD

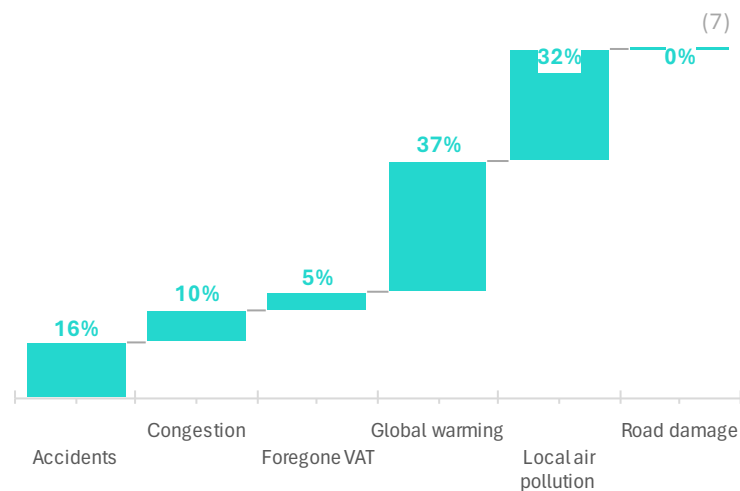


Transport fossil fuel subsidies, cumulative from 2010 to 2022

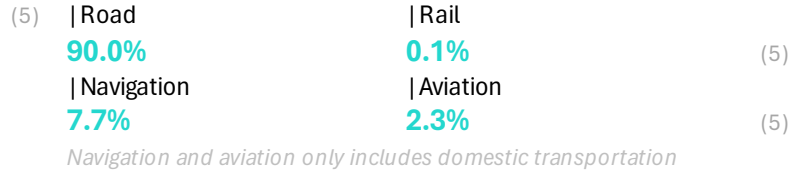
None

0.0% of Asia-Pacific total

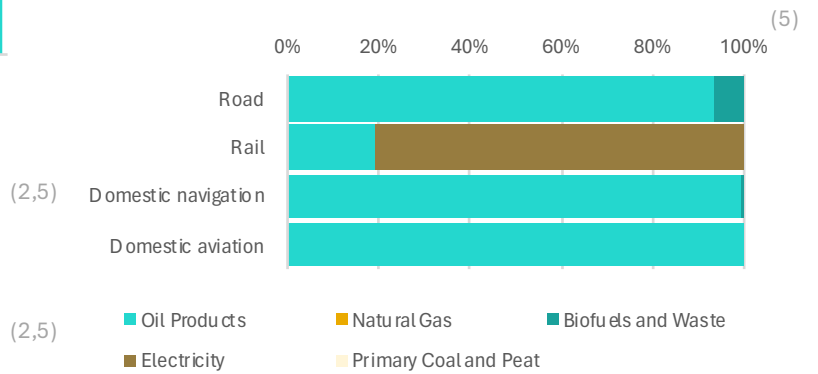
Implicit fossil fuel subsidies due to externalities



Share of transport energy consumption by mode (2020)



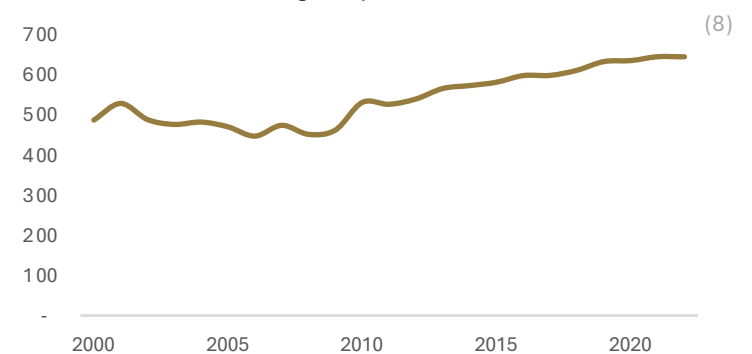
Share of transport energy consumption by source (2020)



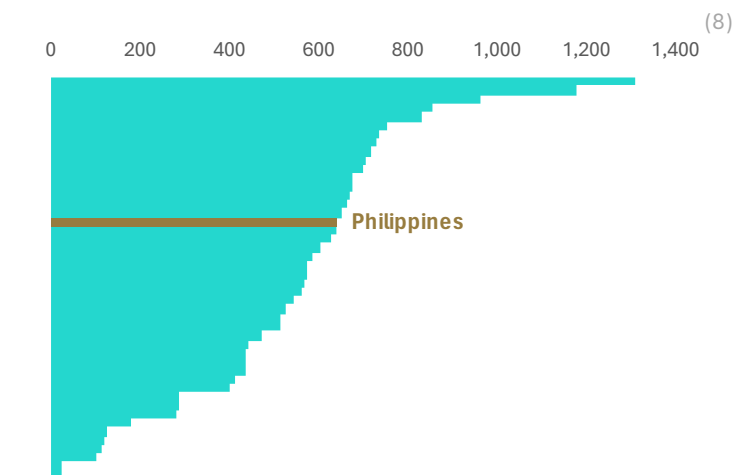
Grid emission factor (2022)

642 gCO₂ per kWh

Grid emission factor trend, gCO₂ per kWh



Grid emission factors in Asia-Pacific, gCO₂ per kWh



Vehicle Fleet

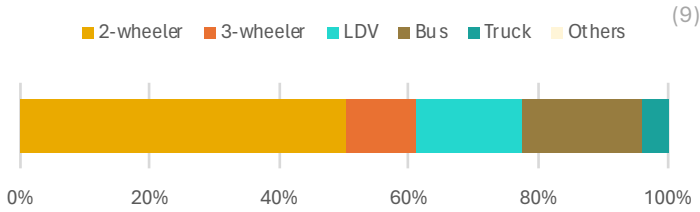
Road vehicles (2022)
13.86 million vehicles

Road vehicle motorization rate (2022)
120 vehicles per thousand population

Road vehicles include 2- and 3-wheelers, LDVs, buses and other informal public transport, trucks, and other unclassified types

In 2000, Philippines had 67 vehicles per thousand population. By 2022, this has increased to 120 compared with Asia-Pacific average of 577 in 2022.

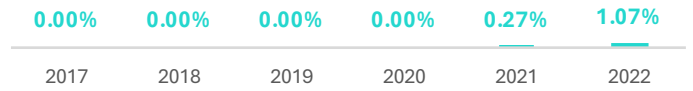
Share of vehicles by type



Bus vehicle production, units

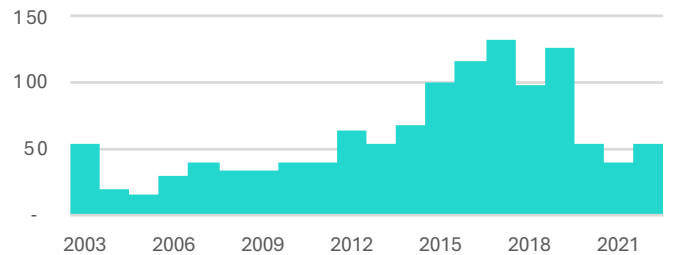
Electric road vehicle import value (2017-2022)
 (9) | Total **112.6 million USD** | Hybrid-electric **64.4 million USD** (11)

(1,9) Electric road vehicle share in total road vehicle import value trend (11)



Bus import value (2017-2022)
2.81 billion USD (11)

(10) Bus import value trend, assuming 2015=100 (11)



Adaptation

Average annual losses to transport infrastructure due to hazards (2023)
347.84 million USD

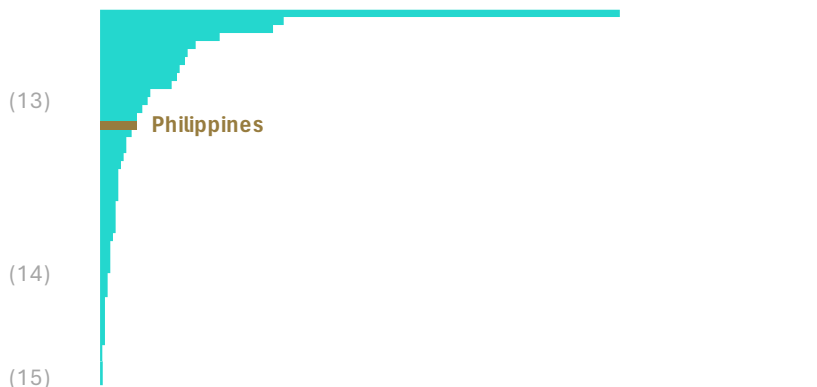
Share of average annual losses due to hazards, by mode (2022)

Road	85%	Rail	3%
Ports	8%	Airports	3%

National road vulnerability index ranking (2023)
n.d.

Share of population in low elevated coastal zones (2018)
6%

Average annual losses to transport infrastructure due to hazards, as a share of GDP, in Asia-Pacific (2023)
 (12) 0.00% 0.10% 0.20% 0.30% 0.40% 0.50% (12)



Urban Transport

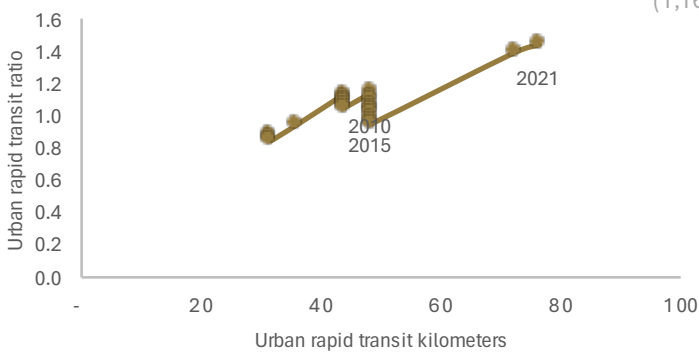
Urban rapid transit length (2021)

| BRT **24 kilometers** | LRT **None**
 | Metro **52 kilometers**

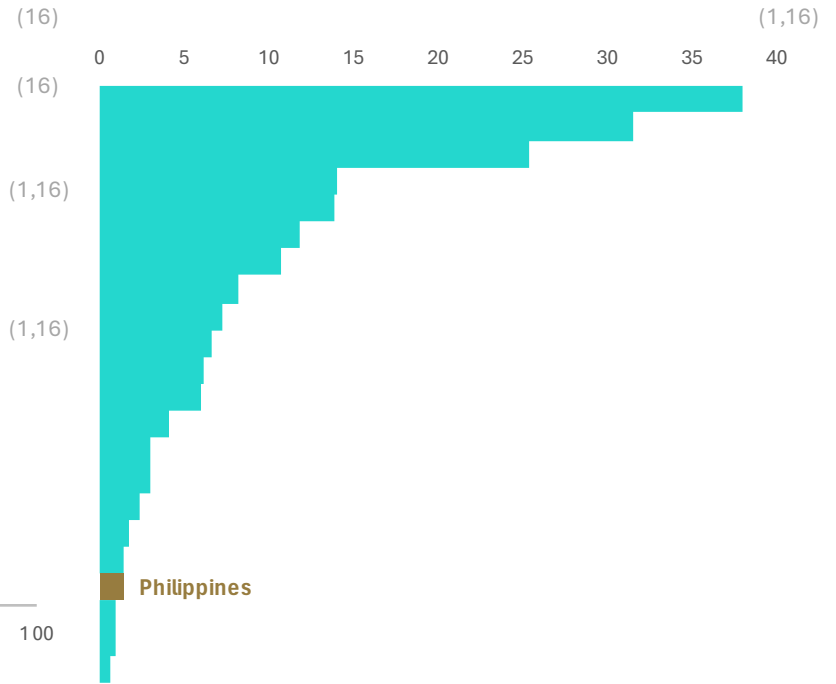
Urban rapid transit ratio (2021)

1.44 kilometers per million urban population

Urban rapid transit ratio, kilometers per million urban population (2000-2021)



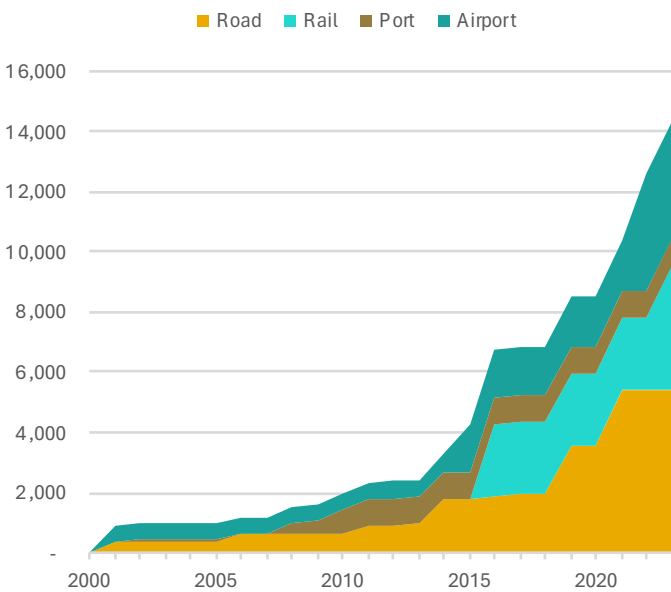
Urban rapid transit ratio in Asia-Pacific, kilometers per million urban population (2021)



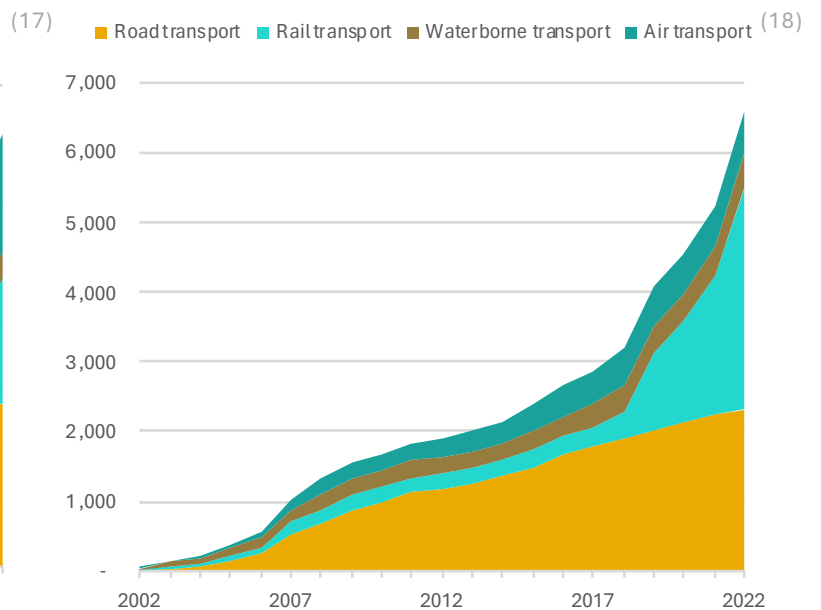
Based on 2015 estimates, only 72% of the population could reach the nearest city in 30 minutes, another 13% could reach in 1 hour, and another 12% could reach only after 3 hours.

Transport Investment

Public-private partnership investments in the transport sector, million USD

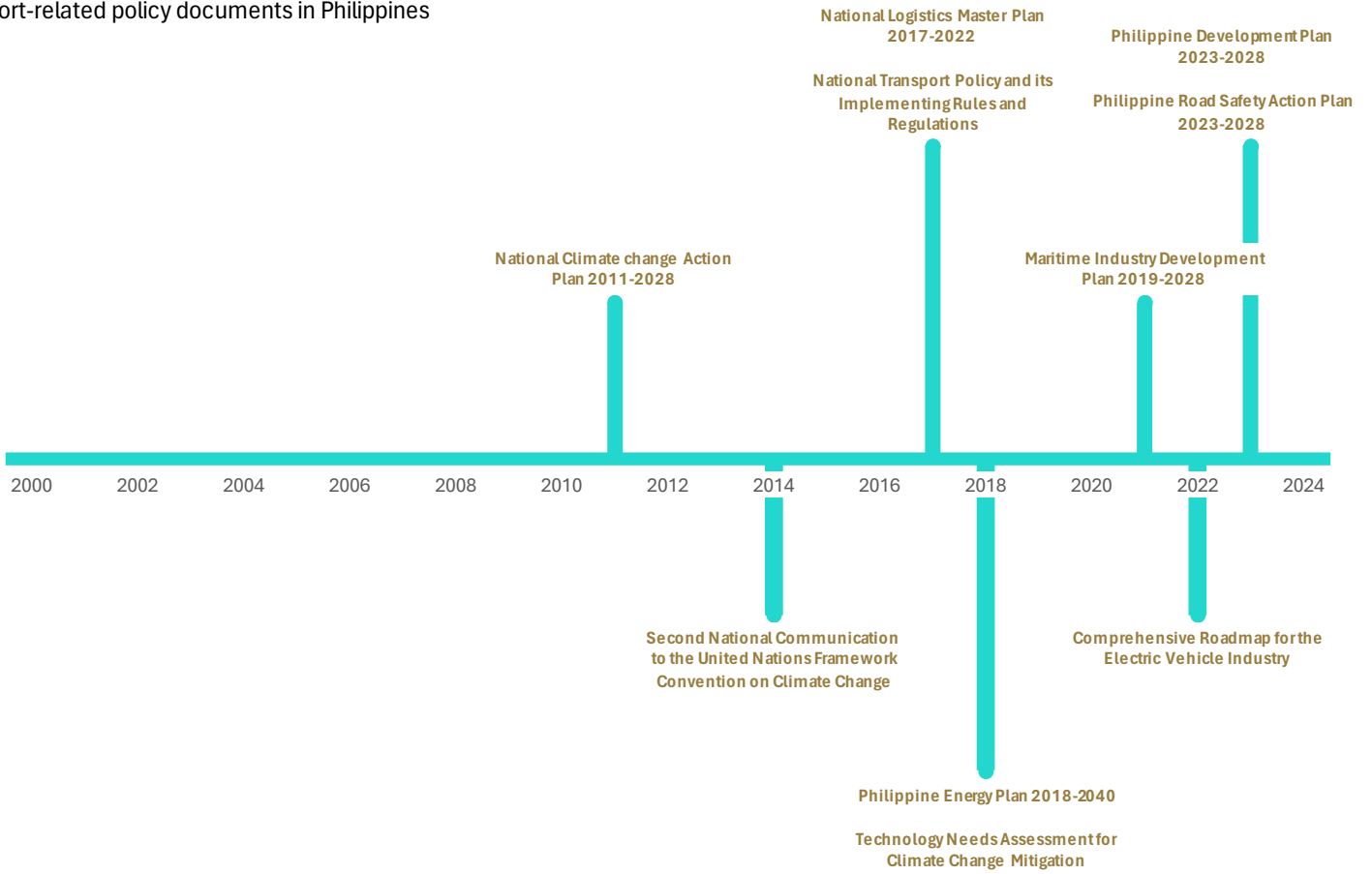


Official development assistance in the transport sector, million USD



Transport Climate Policy Documents

Transport-related policy documents in Philippines



Selection made based on the number of climate change mitigation and adaptation

Nationally Determined Contributions

Nationally Determined Contribution (adopted in 2021)	Mitigation measures Mitigation targets Adaptation measures Adaptation targets	Road transport	Rail transport	Domestic navigation	Domestic aviation	Urban transport

Long-term Strategies

None	Mitigation measures Mitigation targets Adaptation measures Adaptation targets	Road transport	Rail transport	Domestic navigation	Domestic aviation	Urban transport

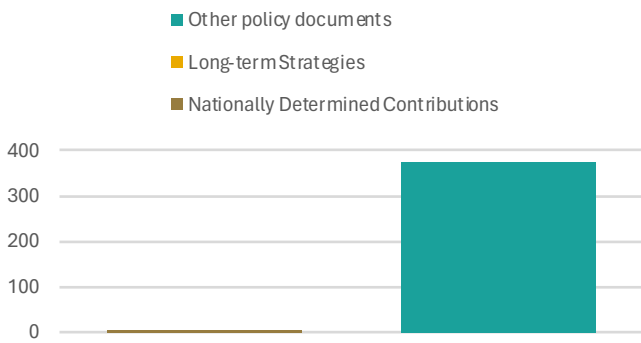


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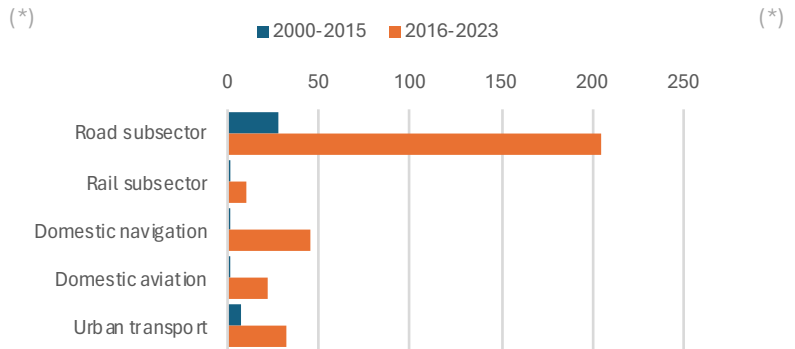


Transport Climate Policy Overview

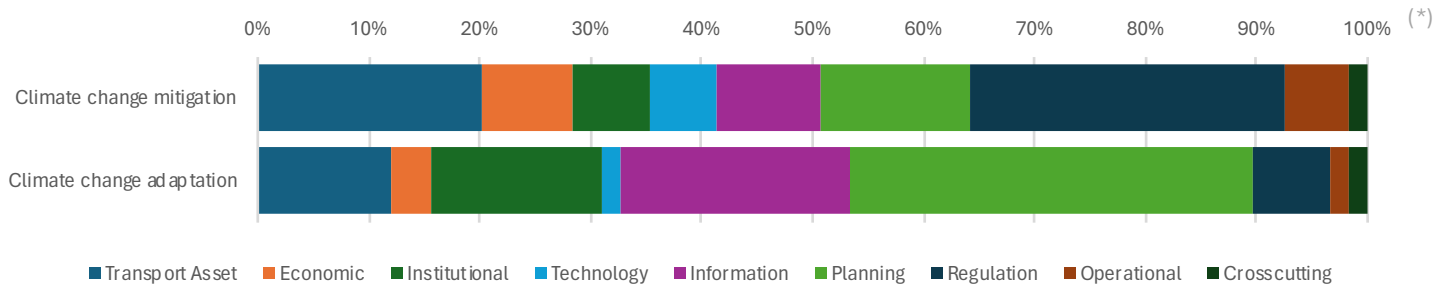
Number of measures by source



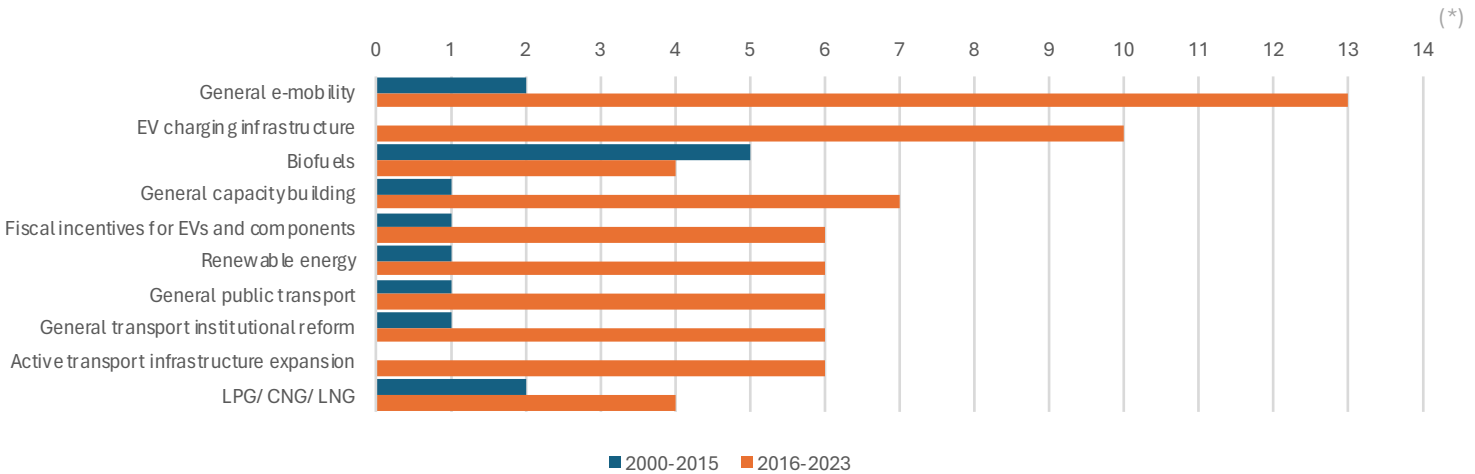
Number of climate change measures by subsectors



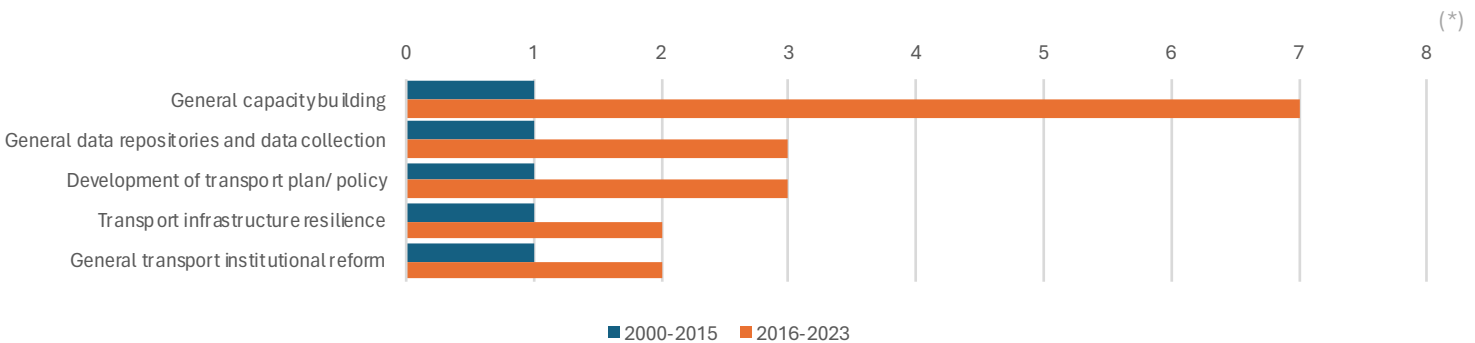
Transport-related climate change by framework



Climate change mitigation top 10 typology, number of measures



Climate change adaptation top 5 typology, number of measures



Climate Change Mitigation Policy Measures - Road Transport

Policy document	Year	Measures
Philippine Development Plan 2023-2028	2023	Active transport infrastructure expansion, Road space repurpose to allow access for other modes, General active mobility, Development of e-mobility transport plan/policy, EV charging infrastructure, General e-mobility, General freight and logistics improvements, Intermodality measures, General infrastructure improvements, Vehicle inspection and maintenance, BRT, Bus fleet renewal, Public transit integration, General public transport, Access restriction by corridor/ road, Vehicle taxes, Road infrastructure expansion, Road-side checks on overloading
Guidelines for the Authorization of Private Motor Vehicle Inspection Center (PMVIC) for Additional PMVICs (PMVIC Phase II)	2021	Vehicle inspection and maintenance, Accreditation of vehicle inspection centers
Philippine Road Safety Action Plan 2023-2028	2023	Development of active transport plan/ policy, Active transport infrastructure expansion, Road space repurpose to allow access for other modes, General active mobility, Development of e-mobility transport plan/policy, EV charging infrastructure, Fiscal incentives for EVs and components, General e-mobility, General infrastructure improvements, Vehicle inspection and maintenance, Vehicle scrappage scheme, Automated enforcement of speed limits, General innovations and digitalization, BRT, General public transport, Accreditation of vehicle inspection centers, Training of enforcement authorities, General capacity building, Implementation of horizontal deflections on roads, Implementation of vertical deflections on roads, General transport institutional reform, Involvement of subnational government for transport activities, Reporting, transparency, feedback mechanism, Transport law, General education and behavior change, General vehicle improvements, Vehicle restrictions (import, age, access, sale, taxation)
Philippine Energy Plan 2018-2040	2018	Active transport infrastructure expansion, Road space repurpose to allow access for other modes, EV charging infrastructure, Fiscal incentives for EVs and components, General e-mobility, LPG/ CNG/ LNG, General capacity building
Voluntary National Review 2022	2022	Active transport infrastructure expansion, BRT, General public transport
Harmonization of Motor Vehicle (MV) Classifications of LTO and LTRFB	2010	
National Climate change Action Plan 2011-2028	2011	General e-mobility, Fuel quality, Vehicle labelling, Biofuels, General public transport, Fuel tax, Parking pricing, Road charging and tolls, Vehicle efficiency standards, General vehicle improvements
National Transport Policy and its Implementing Rules and Regulations	2017	General e-mobility, General freight and logistics improvements, Biofuels, LPG/ CNG/ LNG, General transport institutional reform, Stakeholder Involvement, Vehicle air pollution emission standards
National Logistics Master Plan 2017-2022	2017	BRT, Transport law
Second National Communication to the United Nations Framework Convention on Climate Change	2014	Fiscal incentives for EVs and components, General e-mobility, LPG/ CNG/ LNG, BRT
59 UN Transport Agreements/ and Conventions Serviced by ECE	2021	Convention on Road Traffic 1949, Convention on Road Traffic 1968, Customs Convention on the Temporary Importation of Private Road Vehicles 1954
Comprehensive Roadmap for the Electric Vehicle Industry	2022	Development of e-mobility transport plan/policy, EV charging infrastructure, Fiscal incentives for EVs and components, Renewable energy, General e-mobility, General public transport, Coordinate planning across government agencies
An Act to Compile the Laws Relative to Land Transportation and Traffic Rules, to Create a Land Transportation Commission and for Other Purposes	1964	Customs Convention on the Temporary Importation of Private Road Vehicles 1954, National speed law
Global Status Report on Road Safety 2018	2018	Design standards for sidewalks and bicycle paths, National speed law, Local authorities have the power to modify national speed limits, Speed limits on urban roads <= 30 kph, Speed limit on rural roads <= 70 kph
Electric Vehicle Industry Development Act	2021	EV charging infrastructure, Fiscal incentives for EVs and components, General e-mobility

Climate Change Mitigation Policy Measures - Road Transport

Policy document	Year	Measures
Technology Needs Assessment for Climate Change Mitigation	2018	Fiscal incentives for EVs and components, LPG/ CNG/ LNG, Vehicle taxes, Transport law
An order for the implementation of the fuel subsidy program and other related activities	2022	General economic instruments
Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	General innovations and digitalization, Road charging and tolls, General education and behavior change, General vehicle improvements
Authority of the Land Transportation Franchising Board (LTRFB) to regulate the transport network companies (TNCs) and Transportation Network Vehicles Service (TNVS)	2018	Market entry regulations for app-based mobility, Pricing control for app-based mobility, General regulations for app-based mobility
Maritime Industry Development Plan 2019-2028	2021	Intermodality measures
Guidelines and Standards for the Classification of Roads, Setting of Speed Limits Under Republic Act No. 4136, and Collection of Road Crash Data	2018	National speed law, Local authorities have the power to modify national speed limits
Executive Order No. 290 of 2004 Implementing the Natural Gas Vehicle Program for Public Transport	2004	LPG/ CNG/ LNG
Clean Air Act	1999	Vehicle air pollution emission standards
Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles	2020	Vehicle inspection and maintenance, Vehicle import inspections, Vehicle restrictions (import, age, access, sale, taxation)
Guidelines for the scrapping of old Public Utility Vehicle Units (PUVS) under the Department Order 2017-011 otherwise known as the Omnibus Franchising Guidelines	2020	Vehicle scrappage scheme

Climate Change Mitigation Targets - Road Transport

Policy document	Target year	Targets
Philippine Development Plan 2023-2028	2028	Percentage of cycling households in the Philippines increased (% of total households) = 36 (from 29 in 2020)
Comprehensive Roadmap for the Electric Vehicle Industry	2034	achieve at least a 5% EV share in corporate and government fleets, public transport operators, and industrial and commercial companies at the end year of the Medium Term (2034) and increasing to 10% by 2040

Climate Change Mitigation Policy Measures - Rail Transport

Policy document	Year	Measures
National Logistics Master Plan 2017-2022	2017	Urban passenger rail infrastructure improvement, Freight rail infrastructure improvement
Philippine Development Plan 2023-2028	2023	General rail improvement, Non-urban passenger rail infrastructure improvement, General public transport, Target - Modal shift, Freight rail infrastructure improvement, Rail infrastructure expansion
National Transport Policy and its Implementing Rules and Regulations	2017	General freight and logistics improvements, General transport institutional reform
Second National Communication to the United Nations Framework Convention on Climate Change	2014	Urban passenger rail infrastructure improvement

Climate Change Mitigation Targets - Rail Transport

Policy document	Target year	Targets
Philippine Development Plan 2023-2028	2028	Passenger trips via rail in Metro Manila increased (% share to total passenger trips, cumulative) = 14 (from 1 in 2021)

Climate Change Mitigation Policy Measures - Domestic Navigation

Policy document	Year	Measures
National Climate change Action Plan 2011-2028	2011	Biofuels
Maritime Industry Development Plan 2019-2028	2021	General data repositories and data collection, Intermodality measures, General innovations and digitalization, General international conventions, Development of shipping/ maritime/ inland water transport (IWT) plan/ policy, Ship efficiency improvements, Vessel scrappage and retrofit schemes, General shipping improvement, General transport finance, General capacity building, Logistics hub, Port infrastructure improvements, Define roles and accountabilities across agencies, General transport institutional reform, Reporting, transparency, feedback mechanism, Stakeholder Involvement, Transport law, General education and behavior change, General vehicle improvements, Vehicle manufacturing, Vehicle restrictions (import, age, access, sale, taxation)
National Logistics Master Plan 2017-2022	2017	Development of shipping/ maritime/ inland water transport (IWT) plan/ policy, General shipping improvement, Port infrastructure improvements, Define roles and accountabilities across agencies, Transport law
Philippine Development Plan 2023-2028	2023	General freight and logistics improvements, Intermodality measures, General infrastructure improvements, General inland waterways (IWT) improvement, Public transit integration, General public transport, Vessel scrappage and retrofit schemes, General shipping improvement, Target - Transport activity, General transport finance, Freight rail infrastructure improvement, Port infrastructure improvements, Road-side checks on overloading
Comprehensive Roadmap for the Electric Vehicle Industry	2022	General e-mobility
National Transport Policy and its Implementing Rules and Regulations	2017	General freight and logistics improvements, General transport institutional reform
Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	Ship efficiency improvements

Climate Change Mitigation Targets - Domestic Navigation

Policy document	Target year	Targets
Philippine Development Plan 2023-2028	2028	Passengers transported via air and sea increased (number of passengers, cumulative) = 202.34 million (from 35.72 in 2021)
Philippine Development Plan 2023-2028	2028	Cargo transported via air and sea increased (international and domestic) (metric ton, cumulative) = 1850 million (from 470.30 in 2021)

Climate Change Mitigation Policy Measures - Domestic Aviation

Policy document	Year	Measures
Philippines Action Plan on CO2 Reduction	2018	Air traffic management, Jet fuel policies, General aviation improvements, General data repositories and data collection, General capacity building
National Climate change Action Plan 2011-2028	2011	Biofuels
National Logistics Master Plan 2017-2022	2017	Development of aviation plan/policy, Define roles and accountabilities across agencies
Philippine Development Plan 2023-2028	2023	General freight and logistics improvements, Intermodality measures, General infrastructure improvements, Public transit integration, Target - Transport activity, General transport finance, General capacity building, Road-side checks on overloading
National Transport Policy and its Implementing Rules and Regulations	2017	General freight and logistics improvements, General transport institutional reform
Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	Jet fuel policies

Climate Change Mitigation Targets - Domestic Aviation

Policy document	Target year	Targets
Philippine Development Plan 2023-2028	2028	Passengers transported via air and sea increased (number of passengers, cumulative) = 202.34 million (from 35.72 in 2021)
Philippine Development Plan 2023-2028	2028	Cargo transported via air and sea increased (international and domestic) (metric ton, cumulative) = 1850 million (from 470.30 in 2021)

Climate Change Mitigation Policy Measures - Urban Transport

Policy document	Year	Measures
Philippine Development Plan 2023-2028	2023	Active transport infrastructure expansion, General active mobility, BRT, Non-urban passenger rail infrastructure improvement, Target - Modal shift
Philippine Energy Plan 2018-2040	2018	Active transport infrastructure expansion
Philippine Road Safety Action Plan 2023-2028	2023	Active transport infrastructure expansion, General active mobility, EV charging infrastructure, Development density or intensiveness, Transit-oriented development (TOD), General land use, BRT, General public transport
Voluntary National Review 2022	2022	Active transport infrastructure expansion, BRT
National Logistics Master Plan 2017-2022	2017	BRT, Urban passenger rail infrastructure improvement
Second National Communication to the United Nations Framework Convention on Climate Change	2014	General e-mobility, BRT, Urban passenger rail infrastructure improvement
Comprehensive Roadmap for the Electric Vehicle Industry	2022	General e-mobility, General public transport, Coordinate planning across government agencies
National Urban Development and Housing Framework 2017-2022	2017	General infrastructure improvements, General innovations and digitalization, Development density or intensiveness, General land use, Development of other transport-related plan/ policy
National Climate change Action Plan 2011-2028	2011	Mixed use, General land use, Development of other transport-related plan/ policy
Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	General land use
National Transport Policy and its Implementing Rules and Regulations	2017	General transport institutional reform
Global Status Report on Road Safety 2018	2018	Speed limits on urban roads ≤ 30 kph

Climate Change Mitigation Targets - Urban Transport

Policy document	Target year	Targets
Philippine Development Plan 2023-2028	2028	Passenger trips via rail in Metro Manila increased (% share to total passenger trips, cumulative) = 14 (from 1 in 2021)

Climate Change Adaptation Policy Measures

Policy document	Year	Measures
Technology Needs Assessment for Climate Change Mitigation	2018	General transport institutional reform, Development of climate change/ low carbon plan/ policy, Development of national development plan/ policy, Development of transport plan/ policy, Transport law (Sub-sectors: Road transport)
Philippine Development Plan 2023-2028	2023	General data repositories and data collection, Development of e-mobility transport plan/policy, Disaster notification/ early warning system, Transport infrastructure resilience, General transport asset management, General transport finance, General capacity building, Development of transport plan/ policy, Disaster monitoring and risk assessment for transport infrastructure (Sub-sectors: Road transport, Domestic Navigation, Domestic Aviation)
National Logistics Master Plan 2017-2022	2017	Transport infrastructure resilience, General capacity building, Development of national development plan/ policy, Development of transport plan/ policy (Sub-sectors: NA)
National Urban Development and Housing Framework 2017-2022	2017	Development of national development plan/ policy, Development of other transport-related plan/ policy, Development of transport adaptation/ emergency/ disaster plan/ policy (Sub-sectors: Urban transport)
National Climate change Action Plan 2011-2028	2011	General data repositories and data collection, Transport asset condition assessment, Transport infrastructure resilience, General capacity building, General transport institutional reform, Development of other transport-related plan/ policy, Disaster monitoring and risk assessment for transport infrastructure (Sub-sectors: Urban transport)
Intended Nationally Determined Contribution	2015	Development of transport adaptation/ emergency/ disaster plan/ policy (Sub-sectors: NA)
Second National Communication to the United Nations Framework Convention on Climate Change	2014	Development of transport plan/ policy (Sub-sectors: NA)
Philippine Energy Plan 2018-2040	2018	General capacity building, Stakeholder Involvement, Disaster monitoring and risk assessment for transport infrastructure (Sub-sectors: Road transport)
Maritime Industry Development Plan 2019-2028	2021	General data repositories and data collection, General transport finance, General capacity building, General vehicle improvements (Sub-sectors: Domestic Navigation)
National Transport Policy and its Implementing Rules and Regulations	2017	General capacity building, General transport institutional reform, Involvement of subnational government for transport activities, Stakeholder Involvement (Sub-sectors: Road transport, Rail transport, Domestic Navigation, Domestic Aviation, Urban transport)
Philippine Road Safety Action Plan 2023-2028	2023	General capacity building (Sub-sectors: Road transport)
Philippines Action Plan on CO2 Reduction	2018	General data repositories and data collection, General capacity building (Sub-sectors: Domestic Aviation)
Philippine New Urban Agenda (PhiNUA)	2016	General land use (Sub-sectors: Urban transport)
Comprehensive Roadmap for the Electric Vehicle Industry	2022	Transport law (Sub-sectors: NA)

Notes



(*) Policy measures and targets were extracted from policy documents as listed in the ATO National Transport Policies Database

<https://bit.ly/ATOpolicyrepository>

References

- (1) UN Population Database (2022), <https://population.un.org/wpp/>
- (2) World Bank (2022), <https://data.worldbank.org/>
- (3) Global Materials Flow Database (UNEP, 2023), <https://www.resourcepanel.org/global-material-flows-database>
- (4) Emissions Database for Global Atmospheric Research (EC, 2023), <https://edgar.jrc.ec.europa.eu/>
- (5) UN Energy Statistics (2021), <https://unstats.un.org/unsd/energystats/dataPortal/>
- (6) Fossil Fuels Consumption Subsidies 2022 (IEA, 2022), <https://www.iea.org/reports/fossil-fuels-consumption-subsidies-2022>
- (7) Climate Change Dashboard (IMF, 2024), <https://climatedata.imf.org/pages/access-data>
- (8) Ember (2023), <https://ember-climate.org/data-catalogue/yearly-electricity-data/>
- (9) Country Official Statistics
- (10) International Organization of Motor Vehicle Manufacturers (OICA, 2023), <https://www.oica.net/production-statistics/>
- (11) Trademap (ITC, 2024), <https://www.trademap.org/>
- (12) Koks, et al. (2019), <https://www.nature.com/articles/s41467-019-10442-3>
- (13) Coalition for Disaster Resilient Infrastructure (CDRI, 2023), <https://giri.unepgrid.ch/facts-figures/building-infrastructures>
- (14) Koks, et al. (2023), <https://iopscience.iop.org/article/10.1088/2634-4505/acd1aa>
- (15) Environmental Vulnerability Indicators (UN, 2018), <https://www.un.org/development/desa/dpad/least-developed-country-category/evi-indicators-ldc.html>
- (16) Rapid Transit Database (ITDP, 2022), <https://www.itdp.org/rapid-transit-database/>
- (17) PPI Database (World Bank, 2023), <https://ppi.worldbank.org/en/ppi>
- (18) Organisation for Economic Co-operation and Development (OECD) (2022), <https://stats.oecd.org/Index.aspx?DataSetCode=CRS1#>

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