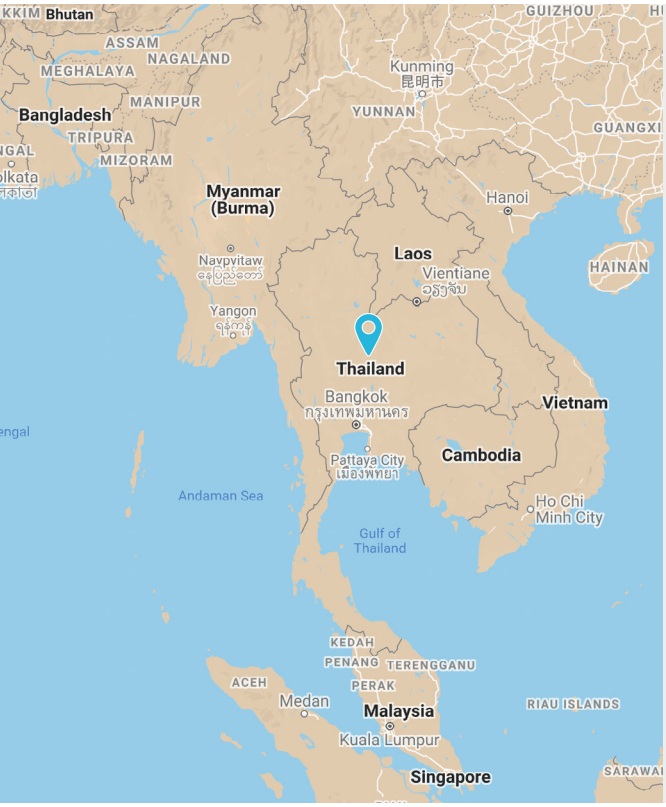
Thailand

Partner country

Status of the project: **Ongoing National Urban Mobility Policy or Programme**



Basic Information

Population: **66.17 million (2021)** | Growth rate: **-0.01%**

Percentage of urban population: **34.47%**

GDP per capita: **USD 6,730.31 (2020)**

Percentage of the population living below the national poverty lines: **6.84% (2020)**

Nationally Determined Contribution (NDC):

Reducing annual GHG emissions by 20%, or 115.6 $MtCO_2$, in 2030 compared to BAU. Transport will aim to reduce 41 $MtCO_2$ or 35.42% of the total NDC target (MoT)

National GHG emissions per capita: **5.37 tCO_2eq (excluding LULUCF), 3.99 tCO_2eq (including LULUCF)**

Proportion of transport related GHG emissions: **25.93% (including LULUCF)**

Exposure to climate change: **HIGH**

Context

Thailand is in the heart of Southeast Asia and borders Lao PDR, Myanmar, Cambodia, and Malaysia. Its capital is Bangkok, or Krung Thep in Thai. Thailand has the second largest economy in Southeast Asia after Indonesia. The services sector represents 45.75% of jobs in Thailand and contributes to 58.59% of the total GDP, followed by the agriculture sector, which employs 31.62% of the active workforce and 8% of the GDP. Last is the industry sector, which uses 22.63% of the active workforce and contributes 33.4% of the GDP (Statista, 2019). Thailand relies heavily on tourism, with nearly 40 million visitors in 2019. This puts Thailand in one of the top 10 most visited countries in 2019. However, many sectors have suffered from the decline in tourism due to the COVID-19 pandemic, which had a major impact on Thailand's economy. Thailand experienced negative GDP growth in 2020 for the first time since 1998.

Private vehicles are the most popular mode of transportation in Thailand. Bangkok has the most diversified transport offer in the country, including BTS (sky train), MRT (subway), metered taxis, motorcycle taxis and Tuk Tuks. However, the city is still notorious for traffic congestion as people prefer private vehicles for convenience and flexibility. To travel across the country or to the suburbs, there is an abundance of minivans and buses that connect most cities and popular destinations. Thailand also has 38 airports, seven of which are international airports. It typically takes around an hour to reach anywhere in Thailand by plane. Thailand also has a rail system spanning 4,925 km (BOI), which serves every part of the country, although it is not a high-speed train.

The national government has collaborated with GIZ to develop a National Urban Mobility Programme (NUMP) called the Thai Clean Mobility Program, aiming towards reducing GHG emissions stemming from the transport sector, reducing air pollution and promoting a modal shift away from motorised private vehicles to public transport.

The development of the NUMP is a participatory process which requires several preparatory steps and discussions. These steps include:

- Building on existing sector studies to assess city and national government mechanisms for funding, financing and transport planning and implementation
- Identifying support needs for cities that are to be included in the NUMP (capacity, financial instruments, funding, planning procedures, institutional framework)
- Assessing the main current barriers to low-carbon transport in Thailand
- Providing recommendations for "Vision & Goal setting" to:
  - » draft a national vision for urban mobility (in line with the NDC action plan);
  - » define the objectives of the National Urban Mobility Programme; and
  - » provide strategic direction on using the various levers of action available (governance, financing, funding, capacity building, technological choices, etc.) in Thailand

Support from the Partnership

Technical Assistance: National Urban Mobility Programme (NUMP)

Type of NUMP: Programme NUMP

Funded by: BMU

Funding amount: EUR 1,661,634

Implemented by: GIZ through the TRANSfer III Project

Local counterpart: Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport

Main purpose of the NUMP:

- Provide necessary groundwork that allows policy makers in the Thai government to make an informed decision on the implementation of the NDC action plan
- Develop a funding mechanism that supports the implementation of urban transport measures
- Provide a planning framework for urban transport planning (quality standards, clear guidance on roles and responsibilities, capacity development)

Objectives and supported activities:

The 'Thai Clean Mobility Program' consists of three pillars:

- Congestion charging
- Set-up of a Clean Transport Fund
- Public transport electrification

Status of implementation

Project start: 2017 Q1

Expected project completion: 2022 Q4

Completed outputs:

- Study Tour to Berlin and London (February 2020)
- Pre-feasibility study on congestion charging design for Bangkok (November 2020)
- 2 congestion charge videos for communication and educational purposes for the broad public as well as for the expert and policy maker community (December 2020)
- Study for the development of a Clean Transport fund (December 2020)
- Thailand Clean Mobility vision of the youth (July 2022)
- Study for Thailand's upscaling public and private investment on public transport electrification (October 2022)

NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
Congestion Charge	EUR 662,279,406
Bus Modernisation	EUR 124,902,630
BTS/MRT Fare Subsidy	EUR 290,633,646

Finance leverage

Leveraged financing (resulting or enabled by the NUMP preparation process)

Description	Source of financing	Secured	Amount
SMMR – Sustainable Mobility for Metropolitan Regional Projects[1]	BMZ	Secured	6,800,000 M EUR
Urban Act project[2]	The International Climate Initiative	Secured	22,980,000 EUR

Core impact indicator baselines

Indicator	Baseline - 2016
Total annual GHG emissions (Mt CO_2eq)	68.26 Mt CO_2eq from the energy sector
Annual transport related GHG emissions per capita (kg CO_2eq)	1.04 kgCO_2eq
Air pollution Decrease in mean urban air pollution of particulate matter (in µg $PM_{2.5}$) at road-based monitoring stations	43 µg/m³ of $PM_{2.5}$
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	11 fatalities / 100,000 habitants (2020)

[1] The SSMR project supports activities on urban mobility in Cambodia, Thailand, Laos, Vietnam

[2] The Urban Act project supports activities on urban mobility in China, India, Indonesia, Philippines, Thailand.

Insights from practice: lessons learned from the NUMP process

Balance is key, as implementing congestion charging represents a political risk

One key lesson from this project is that implementing a congestion charging system can be complex and politically sensitive. It involves balancing the objectives and constraints of multiple stakeholders, which can be challenging.

In this project, a steering and working groups were formed to ensure that all relevant stakeholders were included in the policy design process. However, due to the upcoming national election in Thailand, gaining political buy-in for implementing the congestion charge in Bangkok has been difficult, as decision-makers may fear that proposing such a system could reduce their popularity with the public.

Supporting sustainable urban mobility in Thailand requires addressing institutional and regulatory barriers.

Implementing the Clean Mobility Fund presents an opportunity to address institutional and legal barriers to congestion charging. Although the Ministry of Finance has reservations due to the past performance of similar funds, this presents an opportunity to ensure transparency and exemplary performance in this initiative. The feasibility study has identified key roles and stakeholders involved in implementing the system, and it is recommended that cooperation between these stakeholders is set up to ensure successful implementation. Additionally, legal issues related to vehicle identification, charging, and payment enforcement must be addressed. Addressing these issues will provide a strong foundation for the Clean Mobility Fund and pave the way for practical policy recommendations.

Perspectives for implementation

ASEAN-German SMMR Project

The ASEAN-German SMMR project culminated in a closing event in December 2024, marking the successful completion of its six-year collaboration on sustainable mobility across the ASEAN region. The project worked with several cities, including Udon Thani in Thailand, to implement sustainable solutions like Light Electric Vehicles (LEVs) and Mobility-as-a-Service (MaaS). These solutions aimed to reduce emissions and enhance urban transport efficiency.

Thailand's involvement in the project demonstrated its commitment to tackling mobility challenges while striving for climate-resilient urban development. The event showcased the positive outcomes of regional cooperation, including knowledge-sharing and capacity-building for sustainable mobility planning.

The closing event provided a platform for key stakeholders to reflect on the lessons learned, the project's impact on cities like Udon Thani, and its role in shaping the future of sustainable transport in ASEAN. It was also an opportunity to explore how these successful practices can be expanded and replicated across the region.

Urban Act Project

The Urban ACT project[3] Supports Thailand in integrating climate action and low-carbon mobility into urban development. It aids local authorities in enhancing urban resilience and reducing emissions, with a strong focus on sustainable transport systems. Building on MobiliseYourCity's prior work, the project improves climate adaptation and urban mobility strategies, positioning Thailand to address climate challenges and sustainable growth in its cities.

Updated in December 2024

[3] https://www.international-climate-initiative.com/en/project/urban-act-integrated-urban-climate-action-for-low-carbon-resilient-cities-22-i-416-asia-g-urban-act-integrated-climate-action/