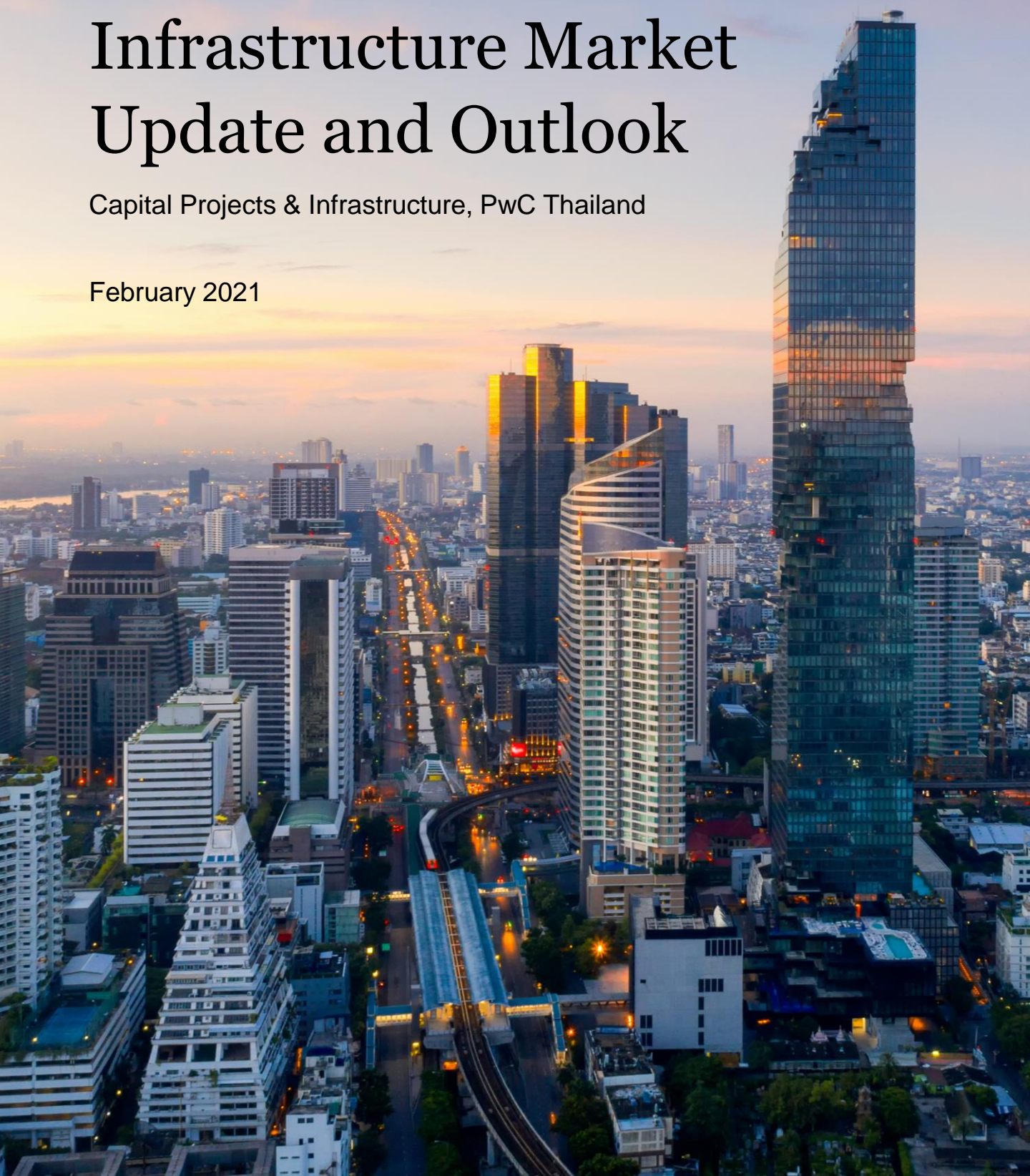


Thailand's Infrastructure Market Update and Outlook

Capital Projects & Infrastructure, PwC Thailand

February 2021



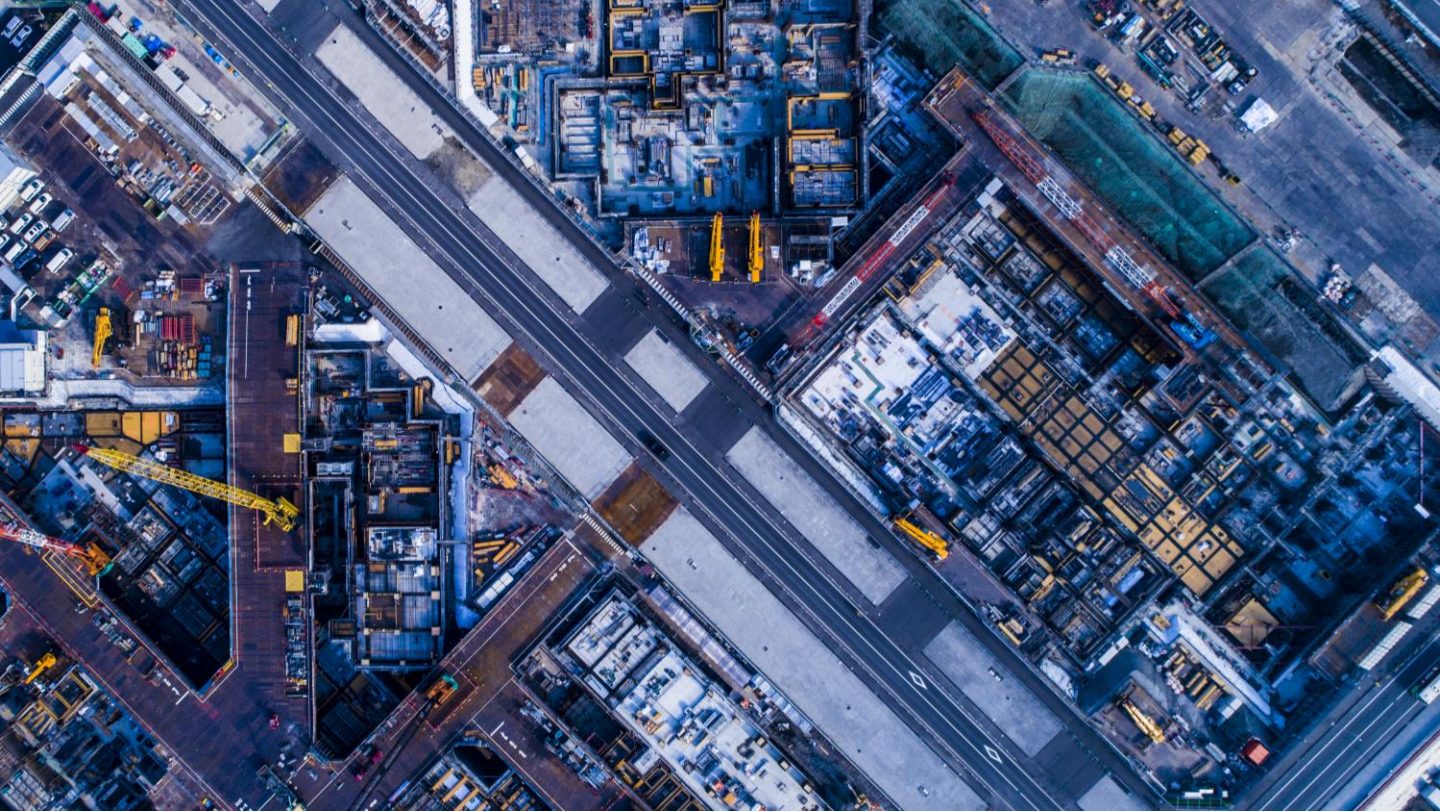
Overview

Infrastructure development is a critical success factor that stimulates and supports economic growth. In recognition of this, the Thai government has significantly invested in expanding and improving its infrastructure networks over the past decades through public investment and Public-Private Partnerships (PPP). In the last decade, the government invested close to THB 4,000 billion in infrastructure.¹ According to the World Bank's Private Participation in Infrastructure (PPI) database, investment in infrastructure projects under PPP arrangements in Thailand amounted to USD 28 billion over the past two decades.

However, based on recent indicators and a report published by the IMD World Competitiveness Center, Thailand still faces an infrastructure gap and there is room to upgrade its infrastructure quality. The Global Infrastructure Hub estimates there will be an infrastructure spending gap of up to USD 100 billion by 2040, if the current trend of infrastructure investment is not accelerated.

Recent infrastructure developments have helped drive the government's Eastern Economic Corridor (EEC) Initiative. However, in addition to the cluster of EEC projects, there are a large number of projects in the pipeline at both the national and regional levels. The government's long-term policy on infrastructure development gives several opportunities for private investors to participate in these upcoming projects. While the COVID-19 pandemic will have a sustained impact on the market and may cause some delays or re-prioritization of projects in the short-term, the overall infrastructure outlook remains positive.

¹ Gross fixed capital formation by public sector during 2010-2019. Data from the Office of the National Economic and Social Development Council.



This report provides an update and outlook on the main infrastructure development activities in Thailand.



Section 1:

Market Update and Infrastructure Pipeline

summarizes the status of infrastructure development in Thailand and upcoming pipeline projects.



Section 2:

Emerging Themes and Latest Market Developments

provides perspectives on the emerging trends for infrastructure procurement processes in Thailand.



Section 3:

Market Outlook

provides our perspectives on future infrastructure market activity and how infrastructure development may continue to be impacted by the COVID-19 pandemic.

Note: This report focuses primarily on the transport and power sector. Other infrastructure sectors such as digital infrastructure (data centers), telecommunications, urban sanitation (water, waste, wastewater) and social infrastructure (healthcare, education, housing) are not covered in detail within this report.

An aerial photograph of a vast railway yard. Numerous parallel tracks stretch across the frame, with several freight trains visible. The trains consist of various types of railcars, including boxcars and flatcars. Some tracks are bordered by gravel, while others have patches of dry, orange-brown vegetation. In the upper right corner, there's a paved area with some industrial structures and a small body of water. The overall scene depicts a busy hub for rail transport.

Market update and infrastructure pipeline



Market update and infrastructure pipeline

There is steady activity in the infrastructure market across a range of asset classes, with concentrated activity occurring in the EEC region.

EEC Flagship Projects

Infrastructure activities in Thailand in the last few years have been concentrated in the EEC region.

The six EEC flagship projects, all implemented under the PPP model, have a total estimated investment value of over THB 600 billion. The EEC flagship projects comprised strategic and transformative projects such as the first high-speed rail for the country, the third Bangkok international airport (U-Tapao International Airport) and the Maintenance Repair and Overhaul (MRO) campus. U-Tapao International Airport and the MRO projects aim to strengthen the country's footprint in the aviation industry.

The Thai government has made considerable progress in EEC projects. As of December 2020, Public-Private Partnership Agreements (PPPA) for three out of the six flagship projects have been signed including the Map Ta Phut Industrial Port (Phase 3), the High-Speed Rail Linking 3 Airports (HSR) project, and U-Tapao International Airport. All three projects are targeting commencement of operations between 2024-2025. The selection process for the Laem Chabang Port Phase III is ongoing, with signing of the PPPA planned in 2021. Revised procurement strategies for both the Digital Park and MRO projects are currently being considered by the Thai government.



U-Tapao International Airport

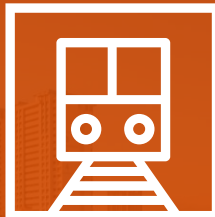
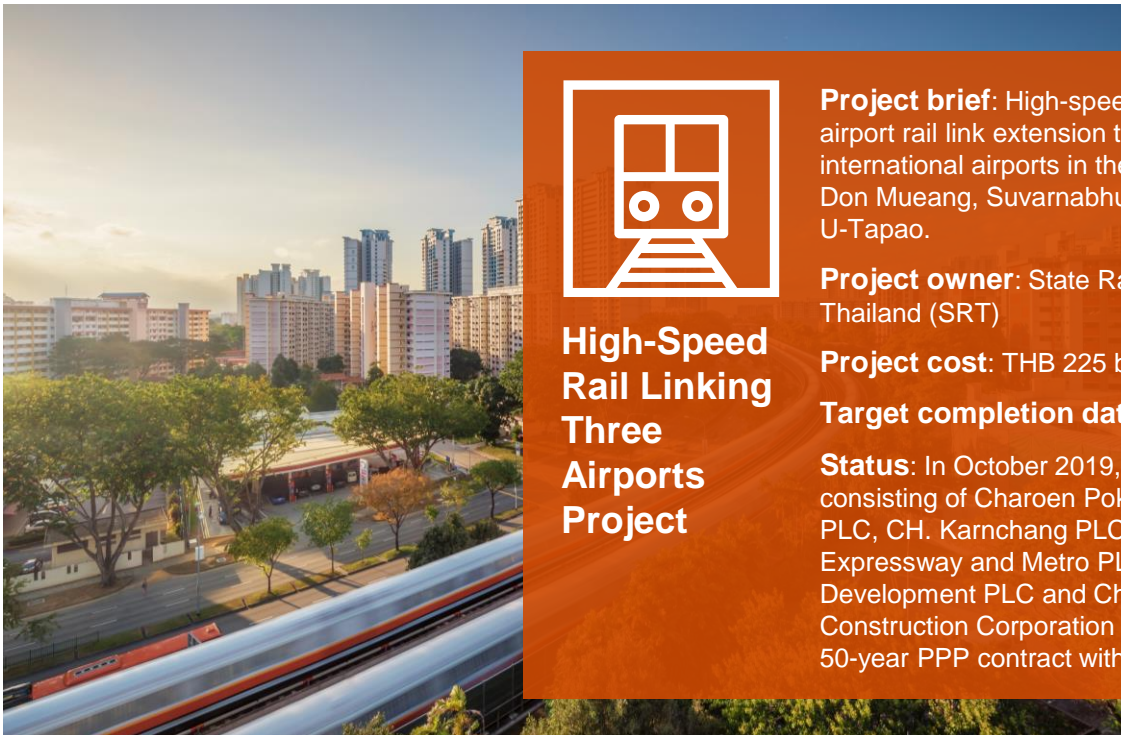
Project brief: Part of Bangkok airport systems, linked to Bangkok with high-speed rail. The target is 60 million passengers per annum.

Project owner: Royal Thai Navy

Project cost: THB 290 billion

Target completion date: 2024

Status: In June 2020, U-Tapao International Aviation Company Limited, consisting of Bangkok Airways PLC, BTS Group Holdings PLC and Sino-Thai Engineering and Construction PLC, signed a 50-year PPP contract with the Eastern Economic Corridor Office of Thailand (EECO).



High-Speed Rail Linking Three Airports Project

Project brief: High-speed rail and airport rail link extension to link the three international airports in the Bangkok area: Don Mueang, Suvarnabhumi, and U-Tapao.

Project owner: State Railway of Thailand (SRT)

Project cost: THB 225 billion

Target completion date: 2025

Status: In October 2019, a consortium consisting of Charoen Pokphand Holding PLC, CH. Karnchang PLC, Bangkok Expressway and Metro PLC, Italian-Thai Development PLC and China Railway Construction Corporation Ltd., signed a 50-year PPP contract with the SRT.



Map Ta Phut Industrial Port Phase III Project

Project brief: LNG terminal (phase 1) to increase the capacity of natural gas and raw fluid material shipments in the EEC for the petrochemical industry.

Project owner: Industrial Estate Authority of Thailand (IEAT)

Project cost: THB 55.4 billion

Target completion date: 2025

Status: PPPA was signed with Gulf MTP LNG Terminal Company Limited, a joint venture of Gulf Energy Development PLC (70%) and PTT Tank Terminal Co., Ltd. (30%) in October 2019.



Laem Chabang Port Phase III Project

Project brief: To expand Laem Chabang Port to reach a capacity of at least 18 million Twenty Foot Equivalent Units (TEUs) per year with 30% of total containers transported via railway.

Project owner: Port Authority of Thailand

Project cost: THB 84.3 billion

Target completion date: 2023

Status: Under selection process, with PPPA signing expected in 2021.



Thai Airways Maintenance Repair and Overhaul (TG MRO) Campus Project

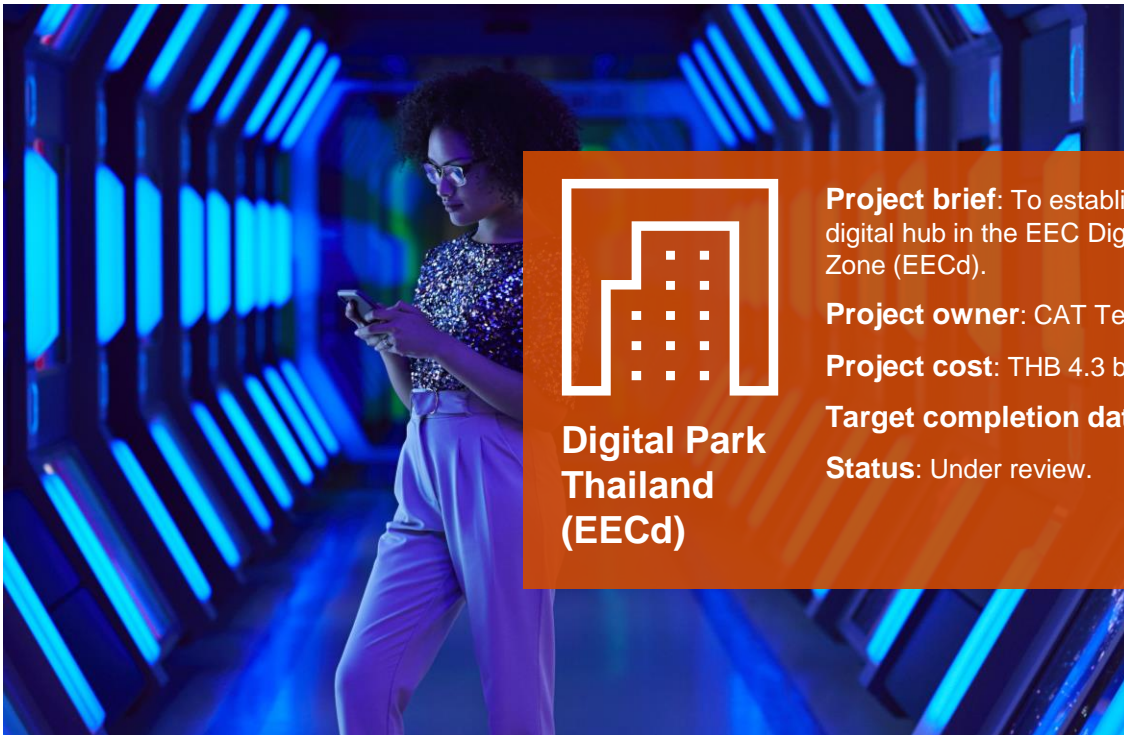
Project brief: To set up an MRO campus at U-Tapao International Airport.

Project owner: Thai Airways PCL (TG)

Project cost: THB 10 billion

Target completion date: 2023-2024

Status: Under review.



Digital Park Thailand (EECd)

Project brief: To establish a regional digital hub in the EEC Digital Innovation Zone (EECd).

Project owner: CAT Telecom PCL

Project cost: THB 4.3 billion

Target completion date: 2023-2024

Status: Under review.

Southern Economic Corridor (SEC)

The Thai government has initiated plans to develop the Southern Economic Corridor and connect it with the EEC to optimize the value generated from investments in the EEC.

The SEC is the government's regional initiative to develop the upper Southern provinces. The regional development plan will include a seaport in Ranong province which will open a trade route to the South Asian region, double-track rail linking Chumphon and Ranong provinces, oil pipelines, bridges and road investments. According to the government's scheme, once completed, the SEC will link up with the EEC to develop a trading hub joining the Pacific and Indian Oceans.



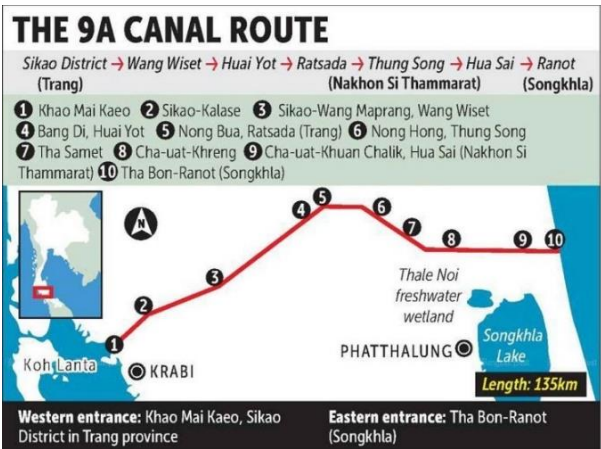
Source: EECO
Figure 1 SEC and EEC connectivity and initiatives

One of the key initiatives in the SEC includes a Land Bridge project which aims to improve connectivity between the Gulf of Thailand and the Andaman Sea.



Source: TNN news
Figure 2 Land Bridge project location

The Thai government is considering the Thai Canal project, a mega infrastructure project that would connect the Gulf of Thailand and the Andaman sea through the Isthmus of Kra.

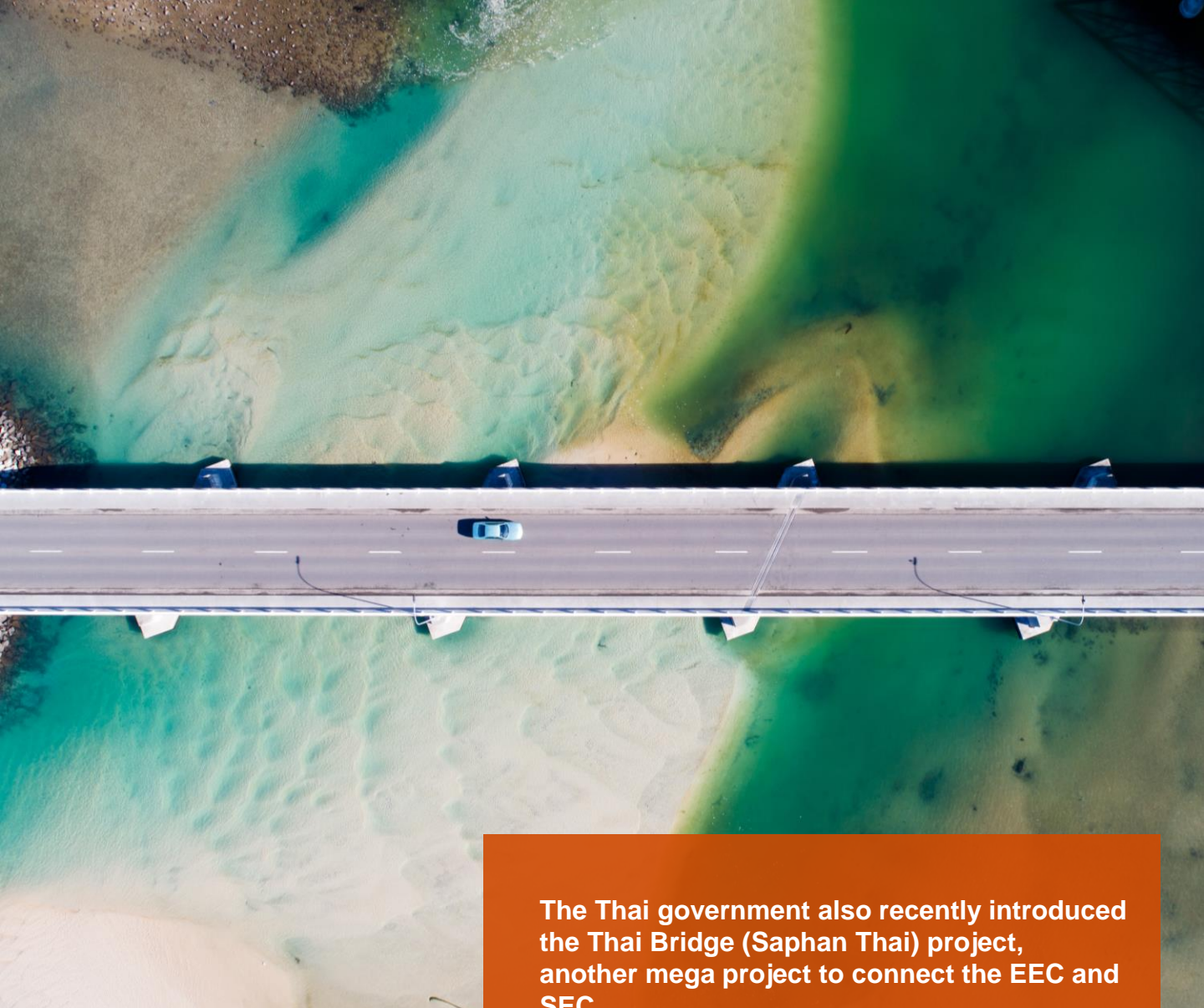


Source: Bangkok Post
Figure 3 Thai Canal project location

The project aims to create road and rail links between the deep seaports in Ranong and Chumphon, a total distance of approximately 105 kilometres. The project is being overseen and studied by the Ministry of Transport, with the study expected to be completed in the next two years. Following the study, the Thai government will propose the project and the procurement method for approval before commencing the selection process.

To ensure the competitiveness of the land bridge vis-à-vis other international transport routes, there are several key considerations, such as the existing capacity and competitiveness of the deep seaports in Ranong and Chumphon, the economic value of time savings from the shorter distances, and environmental and social impacts.

The Thai Canal is a longstanding initiative that is now being studied by the National Economic and Social Development Commission (NESDC). The canal would provide an alternative maritime route that reduces the shipping time between the South Chinese Sea and the Indian Ocean by two or three days, compared with the route passing through the Strait of Malacca. The NESDC plans to study the 9A route, a 135-kilometre canal passing through Trang, Phatthalung and Songkhla provinces. The project is complex and there will be many considerations from the economic and trade benefits of the canal, to environmental impact, national security, and geopolitical and economic relationships in the region. The results of the study will be considered in conjunction with the Land Bridge project before the Thai government proceeds to the next step.



The Thai government also recently introduced the Thai Bridge (Saphan Thai) project, another mega project to connect the EEC and SEC.

Preparation of a feasibility study for the Thai Bridge project was approved by the EEC committee in October 2020, with an investment value of over THB 900 billion. The bridge, planned to be approximately 80 to 100 kilometres long, will link Pattaya and the Chonburi area with Hua Hin and Prachuap Khiri Khan province, connecting ports in the south of Thailand with Laem Chabang port in Chonburi. The bridge would enable a new cargo transport route from the EEC to the South, while providing a new transport route between East Asia and ASEAN countries. The feasibility study is planned to be completed by 2023.

Transport sector

Outside the EEC, there's an increasing focus on transport sector projects especially urban rail systems and inter-city toll roads.

Urban rail sector

In terms of mass transit, the first two monorail projects in Thailand overseen by the Mass Rapid Transit Authority of Thailand (MRTA), the Pink and Yellow Lines, have both seen consistent progress. Both projects signed 33-year PPPA net cost contracts in 2017. The concessionaires are the Northern Bangkok Monorail Company Limited and Eastern Bangkok Monorail Company Limited, with the majority of shares owned by the BTS Group.

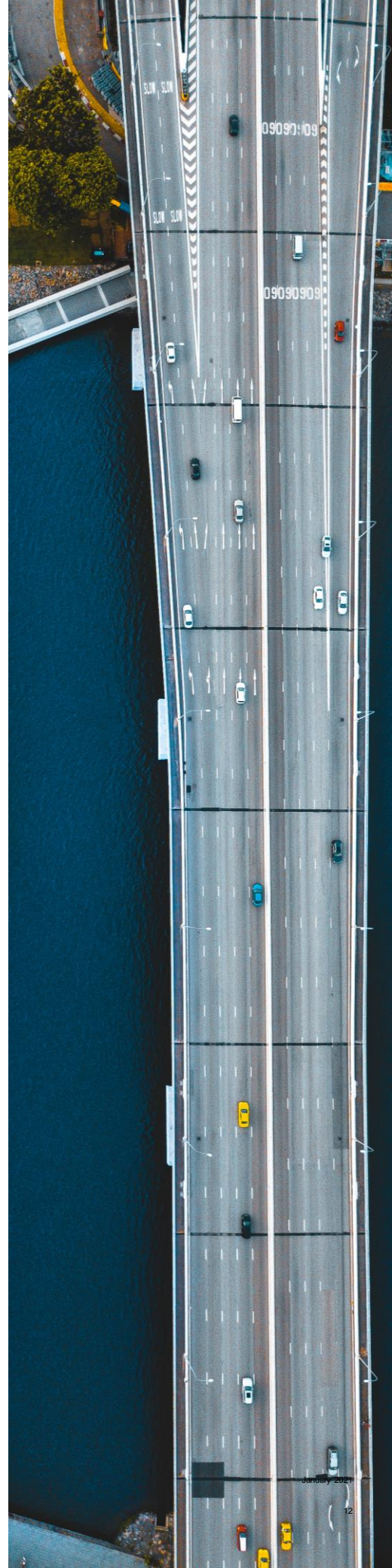
The 34.5-kilometre Pink Line runs between Khae Rai in Nonthaburi and Min Buri in Bangkok's east. The 30.4-kilometre Yellow Line runs between Lat Phrao in north Bangkok and Samrong in Samut Prakan. With over 65% of overall construction completed, the two lines are expected to start operations in 2022.

The Red Line (Bang Sue to Rangsit) is expected to open for commercial operation in late 2021. A subsidiary of state-owned SRT will run the services in the opening phase, while the option to open up the project to private sector operation of the line in the future, is still under consideration.

The Orange Line, which is also being overseen by the MRTA, has also made notable progress. The eastern section of the Orange Line is already under construction with overall civil work progress reaching 72% in November 2020. The western section of the Orange Line (36 kilometres), which is planned to be carried out via the PPP net cost model, commenced the bidding process in 2020. However, due to a legal dispute regarding the bidding criteria, the bidding was cancelled in February 2021. A new timeline for the bidding process has not yet been set.

Toll roads sector

In the toll roads sector, the Nakhon Pathom – Cha Am Intercity motorway, a 109-kilometer tolled road connecting Bangkok to the Southern provinces, is awaiting the Thai cabinet's approval of the final alignment and the bidding process is planned to start in 2021. The PPP Committee has approved the project, which will be carried out under the PPP net cost model, with a 30-year concession period and estimated investment value of THB 79 billion. The O&M rights for the 196-kilometre Intercity Motorways Bang Pa-In – Nakhon Ratchasima (M6) and the 96-kilometre Bang Yai – Kanchanaburi (M81), were tendered in 2019, with a consortium led by BTS Group and Gulf Energy selected as the preferred bidder. The signing of the PPPA is expected in Q1 2021.



Energy sector

The energy sector has seen a slowdown in investment due to high system reserve margin and sluggish electricity demand growth due to the GDP contraction from the COVID-19 impact.

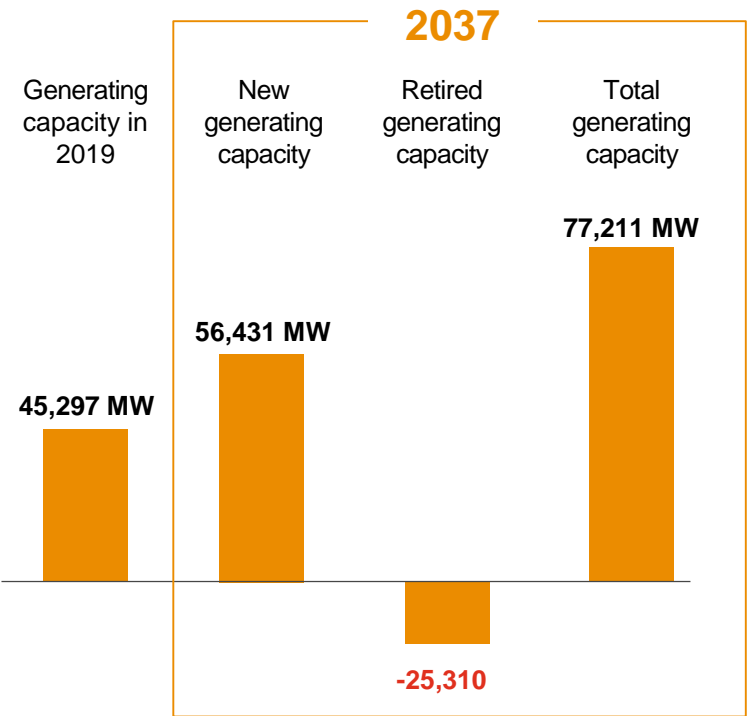
New Power Purchase Agreements (PPAs), with the Thai government as the off-taker, are being put on hold, except for the community renewable energy scheme where the Thai government will open bids for 150 MW (75 MW biogas and 75 MW biomass) in 2021. The government is also considering increasing electricity prices to buy electricity back from residential solar rooftops and is targeting a 200 MW program in 2021. However, growth in private corporate PPAs led by industrial customers and other corporate buyers has been observed, as the cost of renewable energy has become increasingly competitive compared to grid electricity.

In late 2020, the government approved the Power Development Plan, which aims to add 56,431 MW of new capacity by 2037.

Among the new capacity, the Thai government sets an ambitious target to increase power generated from renewable energy with new added capacity of 20,766 MW by 2037. As part of this target, the government aims to increase the share of renewable electricity from the current 10.1% to 28% by 2037.

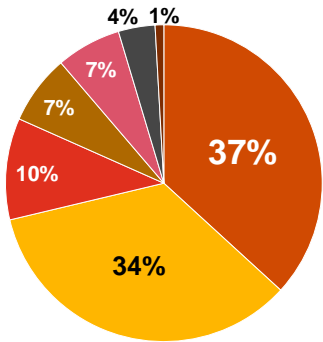


Electricity generation outlook



Source : EGAT, PDP 2018

New generating capacity, 2037 (% of total MW)



New generating capacity, 2037 (MW)

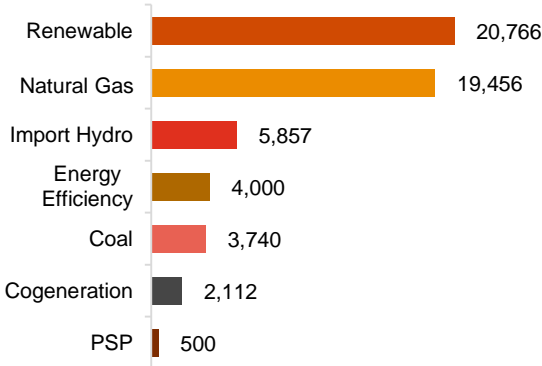


Figure 4 Electricity generation outlook 2037 (PDP2018 Revision 1)

Over the long-term horizon, the Thai government has announced initiatives to allow more private participation in power trading and move toward power market liberalization.

The Electricity Regulatory Commission (ERC) and the Ministry of Energy has announced a move towards 'prosumers' or a peer-to-peer model, with decentralization of the overall management of state utilities to a prosumer system in the future.

Several initiatives on power trading are underway:

- The National Energy Trading Platform (NETP) has plans to develop peer-to-peer power trading and open up the grid for third-party access, and this is currently being studied by the three utilities: the Electricity Generating Authority of Thailand (EGAT), the Provincial Electricity Authority and the Metropolitan Electricity Authority.
- ERC implemented a sandbox program to pilot peer-to-peer power trading.
- The Thai government is considering a net-metering scheme to facilitate electricity sales.

EGAT was recently authorised to issue REC.

Another interesting development, which will also be important for the growth of the renewable energy and corporate PPA market, is the development in the renewable energy trading. EGAT was authorised in 2020 as an official issuer of Renewable Energy Credit (REC) in Thailand from the International REC Standard Foundation (I-RECs). This is expected to facilitate more renewable energy trading and provide additional incentives for developers and consumers.





Emerging themes and latest market developments

Emerging themes and latest market developments

The market has seen an evolution in PPP models, with more complex transaction structures and new players expanding beyond their core businesses. Further innovations could be introduced into PPP structures to further facilitate private investment.

From recent bidding on key infrastructure projects, more large-scale Thai conglomerates are participating in the market across multiple asset classes.

While the major operators and construction firms continue to be the key players, large-scale Thai companies have expanded beyond their existing core businesses to participate in the bids, for example Charoen Pokphand (CP) group (e.g. HSR), RATCH Group (e.g. mass transit), Gulf Energy (e.g. roads) and BTS Group (e.g. roads, aviation). This shows that PPP projects can provide reasonable returns, while also providing synergies and value capture opportunities on existing core businesses, such as property development. We expect the ongoing participation of these players will contribute positively towards competition in future bidding processes and fund raising, especially for large-scale projects.

Involvement from foreign firms has been limited to foreign firms acting as consortium partners or in a sub-contractor role (e.g. China Railway Construction Corp on HSR). Foreign firms continue to face practical limitations regarding their participation in projects, such as Request for Proposal (RfP) and project documentation being produced in Thai language and limitations on foreign equity ownership. To further enhance competition and encourage knowledge and technology transfer, the Thai government may consider policy and regulatory changes that open up the market to more foreign players. This is especially the case for projects where technology and innovations can help advance sector development such as smart cities.

The Thai Government has embraced increased innovation and flexibility in its contracting structures. There is increasing focus on ensuring projects are structured to satisfy the private sector’s return requirements but don’t become an excessive fiscal burden for the government.

Recent metro and toll roads projects have been structured as gross cost PPP contracts, where the government has taken responsibility for public investment in the civil works and construction (e.g. M6 & M81 Motorways, eastern section of the Orange Line), and then procured the private sector to take responsibility for operations. This is in recognition of the additional expertise that the private sector can introduce as operators of assets. This contracting structure has helped enhance investment attractiveness and reduce the risks taken by private parties associated with construction.

The Thai government has also introduced additional funding streams using the combination of value capture components and public subsidies to improve the commercial viability of transport projects. For example, in the recent HSR project, there were three additional sources of funding:

- SRT included property development rights around two major HSR stations.
- Existing brownfield assets that comprise the airport rail link were bundled into the concession, along with the corresponding revenue.
- Public investment subsidy to augment demand and provide additional revenue sources.

There is greater scope for innovation in financing and funding. This will be particularly important if the government is to successfully pursue upcoming PPP initiatives, where it is looking to explore other sectors such as urban housing and hospitals.

Case Study: The HSR Project

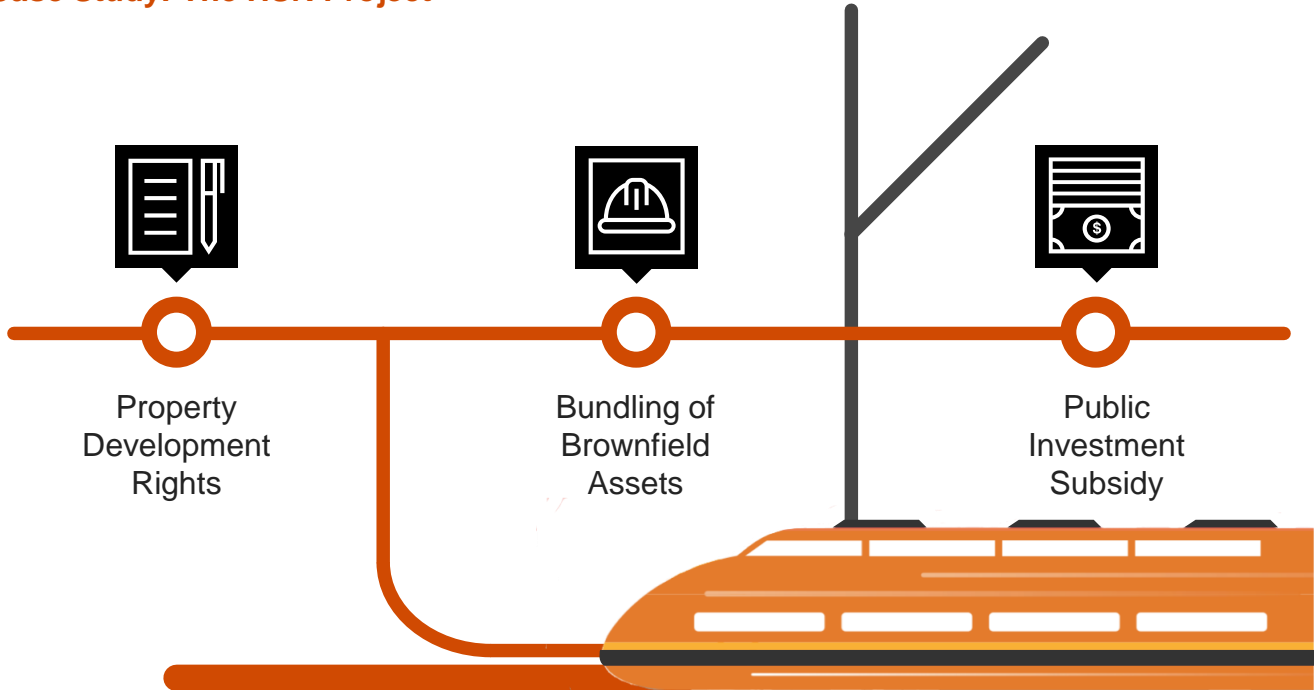


Figure 5 Innovation in revenue augmentation in PPP contract



Market outlook

Market outlook

Infrastructure will remain focused in the EEC and transport sector, with the PPP model continuing to be a key mechanism used by the Thai government to deliver new infrastructure projects. COVID-19 will continue to impact the infrastructure market in the short- to medium-term.

Looking forward, infrastructure development in the near future will remain focused on EEC.

It's expected that the Thai government will prioritize the construction of the signed HSR, the U-Tapao International Airport, and the Map Ta Phut Industrial Port, according to their respective planned timelines. For the remaining flagship projects, the tender process of the Laem Chabang Port Phase III Project is expected to be completed and the PPPA signed in early 2021.

The MRO project is facing a delay due to both the withdrawal of Airbus from the formal procurement process in early 2020 and the ongoing rehabilitation of Thai Airways. However, the government appears to be pushing the project forward, as it shows the potential to generate sustainable revenue for the airline, as one of the top ranked world class MRO centers in South East Asia. It remains to be seen how the government will restructure the contract to implement the project.

In late 2020, the EEC office announced its plan to reconsider its 5-year investment plan (2020-2024) to respond to the latest global economic and investment trends. The original investment target is THB 1.7 trillion in targeted industries, comprising THB 367 billion for infrastructure development, and up to THB 1.42 trillion for investment in high-tech industries (next-generation cars, robotics, medical technology) and aviation and aerospace. The EEC office is considering a increase in the original investment target to capture emerging opportunities from policy changes in the new US administration, which are expected to have a positive impact on trade and investments as well as the promotion of green industries. In addition, the EEC office expects that new investments in 5G and future trade agreements will help to further attract investments into the EEC region.



In 2021-22, the Thai government will continue to bring the existing pipeline into the market with key upcoming bids in the transport sector to improve urban and inter-city connectivity.


Transport activities are expected to be the most active with several bids and studies being planned in the next few years at both the national and local levels. The various projects will support the government’s long-term plans to build a comprehensive urban transport network in Bangkok and to encourage a modal shift from road to rail in both freight and passenger transport.

For urban connectivity, the government aims to push ahead with the Bangkok mass transit network while urban transport projects in other regional cities are also being developed.

Within Bangkok, several mass transit lines and extensions are being planned. A key rail project being overseen by the Bangkok Metropolitan Administration (BMA) is the Grey Line, which will have 15 stations in its total length of 16.2 kilometres. The line will connect Vacharapol in north Bangkok with Tha Phra in Bangkok’s west. The first phase of the project, covering Vacharapol to Thonglor in the Sukhumvit area, is currently undergoing an Environmental Impact Assessment (EIA), while two other phases are still being studied.

Other upcoming rail lines overseen by the MRTA are the Purple Line and the Brown Line. MRTA expects the tender process for the southern extension of the Purple Line (between Tao Poon and Ratburana) to begin in 2021. The Brown Line (Kae Rai to Lam Salee) remains under consideration.

As regional cities grow and face increasing urban transport challenges, the national and local governments have initiated several urban transport projects. In southern Thailand, the MRTA’s Phuket Light Rail with an investment value of THB 35 billion is planned to be tendered in 2022 under the PPP model. MRTA is also studying a 16-kilometer tram system in Chiang Mai under the PPP net cost model with a 30-year concession period and an estimated investment value of THB 27 billion. The feasibility study for the project will be targeting completion in 2021. The Pattaya municipality is also planning a monorail project, which is currently under public consultation process.



The Thai government is investing in increased rail and road capacity to improve intercity and regional connectivity with neighbouring countries.

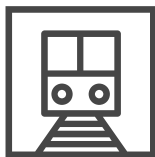
In the road sector, the Thai government recently conducted market soundings for two upcoming PPP motorways, an elevated motorway section from Srinakarin to Suvarnabhumi Airport and an intercity motorway from Bang Khun Thian to Bang Bua Thong, with a combined investment value of THB 100 billion. Bidding for both projects is planned to begin in 2022.

In the rail sector, the dual track railway expansion is a feature project of the Thai government, which plans to take the northern and the northeastern line to bidding in 2021. The northern line, with a total length of 326 kilometres (linking the Den Chai district in Phrae with the Chiang Khong district in Chiang Rai), will enter the bidding stage for civil works and construction in 2021, after the EIA process has been completed. The northeastern line, with a total length of 180 kilometres, is also planned to start the tender process this year. The government is discussing options for private sector participation in the rail network during the operation stage.

The Thai government also plans to increase private sector participation in social infrastructure, such as housing and hospitals.

In the social infrastructure sector, one of the key projects is the Din Daeng Community Urban Rehabilitation Project by the National Housing Authority (NHA). This project aims to develop the existing Din Daeng housing community to accommodate new residents due to population growth in Bangkok's inner city. The project is currently awaiting the PPP Committee's consideration and cabinet approval.

The government is also pushing forward with Thailand's first medical center to be developed under the PPP Model (worth THB 8.2 billion), proposed by the Department of Medical Services (DMS) under the Public Health Ministry. The project will be located on 24,000 square metres of SRT land near Bang Sue Grand Station. The aim is to provide middle-income patients with convenient access to quality affordable care, reducing congestion problems facing other DMS hospitals and institutes. Income generated will be used to develop DMS's main institutes to better serve DMS functions. The project is proposed to be structured under the Design-Built-Finance-Transfer-Operation/Maintain (DBFTO/M) model and it is currently being submitted for PPP Committee approval.

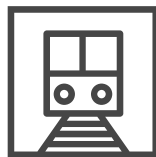


Grey Line

Project owner: BMA

Estimated cost: THB 56 billion

Status: Feasibility study

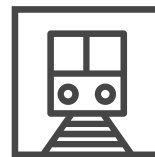


Phuket Light Rail

Project owner: MRTA

Estimated cost: THB 35 billion

Status: Bidding planned in 2022

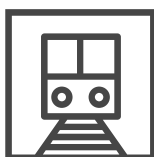


Pattaya Monorail

Project owner: Pattaya Municipality

Estimated cost: THB 26 billion

Status: Feasibility study



Chiang Mai Light Rail

Project owner: MRTA

Estimated cost: THB 27.21 billion

Status: Feasibility study

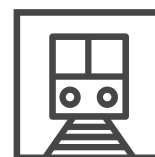


Srinakarin – Suvarnabhumi Airport elevated motorway

Project owner: DOH

Estimated cost: THB 35.6 billion

Status: Bidding planned in 2022

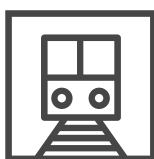


Dual track railway (North and North-eastern Lines)

Project owner: SRT

Estimated cost: THB 64.8 billion

Status: Bidding planned in 2022



Dual track railway (North and Northeastern Lines)

Project owner: SRT

Estimated cost: THB 79.6 billion

Status: Bidding planned in 2021.



DMS Medical Complex

Project owner: DMS

Estimated cost: THB 8.2 billion

Status: Under approval process.



Din Daeng Community Urban Rehabilitation Project

Project owner: NHA

Estimated cost: THB 39 billion

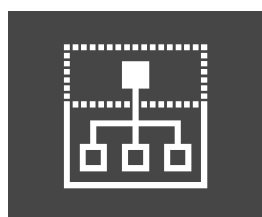
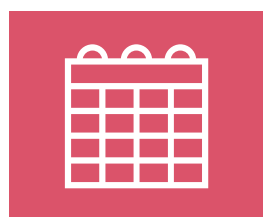
Status: Under approval process.



PPP remains the Thai government's primary method of financing infrastructure.

In 2020, SEPO announced the PPP Plan (2020-2027) for the next seven years, which included a total of 92 projects covering 11 sub-sectors with total projected investment worth THB 1.09 trillion. The Plan identified 18 high-priority projects which are expected to move into selection process in the period between 2021-2022. The list of high priority projects is provided in the table below.

Projects in the transport sector, especially road and rail, will continue to be the main priority. The next wave of PPP projects will also include a wide range of social infrastructure projects in the healthcare, education, and housing sectors. The pipeline demonstrates the Thai government's long-term commitment to the PPP model and showcases potential investment opportunities to both domestic and international players.



Period
2020-2027

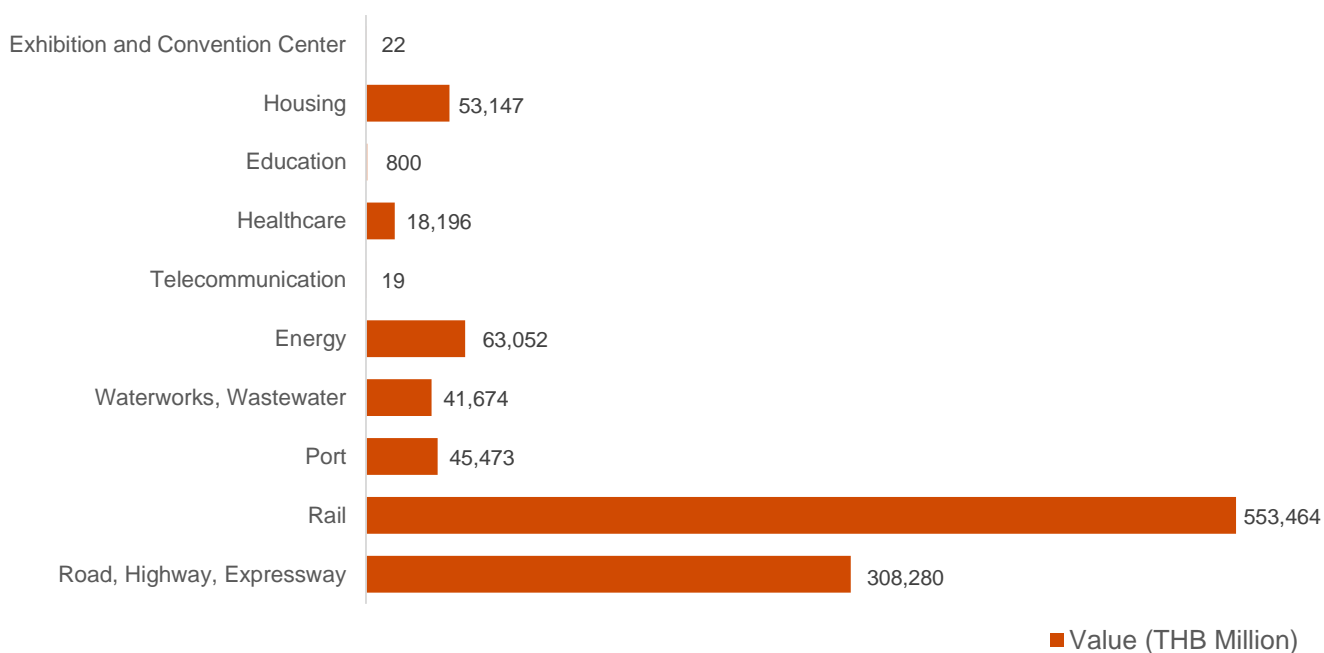
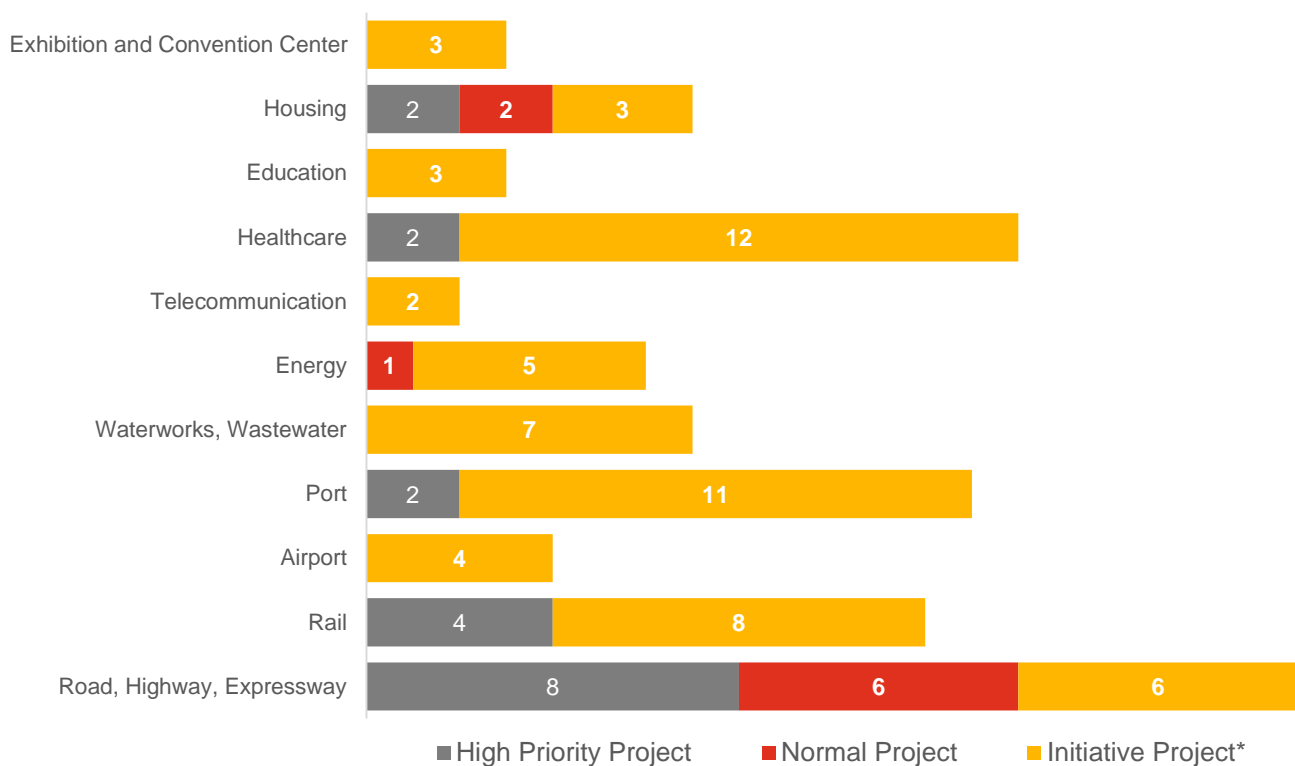
Number of
sub-sectors
11

Total
Investment
**THB 1.09
trillion**

Total No. of
Projects
92

Number of
High Priority
Projects
18

Figure 6 SEPO PPP Strategic Plan 2020-2027



*Note: Initiative projects are projects that are currently being studied and not considered urgent. The project values for airport projects are not provided.

Road, Highway, Expressway

Project	Project owner	Budget (THB m)	Duration (Years)
Kathu-Pathong Expressway Project	EXAT	14,177	30
Bang Pa-In – Nakhon Ratchasima Intercity Motorway Project	DOH	7,965	30
Bang Yai – Kanchanaburi Intercity Motorway Project	DOH	6,089	30
Rest Area Development Project for Bang Pa-In – Nakhon Ratchasima Motorway Project	DOH	1,606	30
Rest Area Development Project for Bang Yai - Kanchanaburi Motorway Project	DOH	1,454	30
Rest Area Development Project for Pattaya – Map Ta Phut Motorway Project	DOH	818	20
Chiang Kong Intermodal Shift Mode Center Project	DLT	2,169	15
Truck Terminal Project, Nakhon Phanom	DLT	1,216	30

*Expressway Authority of Thailand (EXAT)
Department of Highways (DOH)
Department of Land Transport (DLT)

Rail

Project	Project owner	Budget (THB m)	Duration (Years)
MRT Orange Line, Bang Khun Non – Min Buri	MRTA	235,320	30
MRT Purple Line, Toa Poon – Rat Burana	MRTA	124,792	30
MRT Blue Line, Bang Kae – Phuttamonthon Sai 4	MRTA	21,197	30
Monorail Project, Hat Yai District	Songkhla Provincial Administrative Organization	17,586	30

**Mass Rapid Transit Authority of Thailand (MRTA) Department of Land Transport (DLT)

Port, Marine transportation

Project	Project owner	Budget (THB m)	Duration (Years)
Public Port Management Project (for liquid product)	IEAT	17,366	30
Public Port Management Project (for general cargo)	IEAT	1,378	30

** Industrial Estate Authority of Thailand (IEAT) Department of Land Transport (DLT)

Hospital and healthcare

Project	Project owner	Budget (THB m)	Duration (Years)
Medical Center Project	Department of Medical Services	8,220	30
Special Medical Center Building Project, Hat Yai Hospital	Ministry of Public Health	1,670	N/A

Housing/Facilities for low/middle income people, elderly, disabled

Project	Project owner	Budget (THB m)	Duration (Years)
Chiang Mai Community Housing Project (Nong Hoi), Mueang Chiang Mai District	National Housing Authority	5,550	30
Senior Complex Bang Lamung	Department of Older Persons	3,477	30



COVID-19 will continue to bring uncertainty to the market.

COVID-19 had an immediate impact on infrastructure projects in Thailand, causing delays in project timelines and disruption in supply chain management. COVID-19 also affected the Thai government's budgetary approval processes and long-term investment allocations. Since the government has urgently required budget to remedy the short-term impacts of COVID-19 and with decline in revenue collection, capital expenditures may be affected in the short term.

The government may review and reprioritize investment projects, with a focus on projects that are financially and economically viable and meet the country's long-term needs. PPPs may play a key role in implementing these projects, to mitigate any short-term financing constraints from the Thai government's perspective.

For other projects with less certain demand levels, the government may consider de-scoping or re-phasing such projects. The government may also incorporate insights gained from varied consumer behavior across the transportation network due to COVID-19 and adjust its policies in light of updated demand levels when designing new projects.

Infrastructure has a vital role to play in the post-COVID recovery.

In the short-term, infrastructure investment can provide stimulus to the economy with increased construction activities and job creation. Continued investment and reaping benefits from past investment in expanding transport networks in road, rail and urban transit will bring strong economic benefits to the country. In addition to the main infrastructure network, complementary investments in the feeder system and urban development, together with reform to improve efficiency of state operators, will be key to ensure the economy fully benefits from upfront investments.

In the longer-term, how infrastructure is being developed will also play a role in the post-COVID recovery. With digital acceleration and the climate change crisis, there will be more emphasis and demand for digital and green recovery. The Thai government and private sector in Thailand are already introducing several policies initiatives in the areas of transit-oriented development (TOD), electric vehicles, smart cities, renewable energy, power trading and 5G. Environmental, Social and Governance factors have also become more prominent in decision making, project assessment and funding requirements for investors and lenders. There are still untapped opportunities to further upgrade infrastructure in Thailand to increase the country's competitiveness in the post-COVID world.



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Thank you

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