



Be Safe Be Happy



BANGKOK EXPRESSWAY AND METRO

BANGKOK EXPRESSWAY AND METRO PUBLIC COMPANY LIMITED

We are committed to providing efficient services of expressway systems and metro systems in the travelling modes with convenience, rapidity and safety to the service users on a daily basis. We are ready to broaden the modern transportation network in order to alleviate the traffic problems and elevate the quality of life of people based on good corporate governance with social and environmental responsibility for sustainable development of the company, society and our nation.



HAPPY JOURNEY



BE SAFE BE

HAPPY

LINE





VISION

The Company's vision is to become a leading, fully-integrated transportation service provider in Thailand and ASEAN.



MISSION

The Company is committed to operating the businesses:

1. Providing services of the expressway and metro systems with safety, convenience, rapidity, reliability, punctuality, and efficiency, in order to improve the quality of people's lives;
 2. Improving the quality and efficiency of the modern and full-service transportation network in order to alleviate traffic problems, preserve the environment, and improve society and the country;
 3. Creating value-added and utmost benefit to shareholders based on fairness to all stakeholders;
 4. Adhering to sustainability principles in business operations by realizing good corporate governance as well as striving for social and environmental responsibility.
-



GOALS AND BUSINESS STRATEGIES

To achieve the Company's objectives and mission, the Company has formulated major strategies in its business operations, as follows:

1. To invest in the transportation system projects, expressway and connecting road projects, metro system projects, and related projects under the government policy for public-private partnership (PPP) in respect of infrastructure, including related business, such as, various commercial development, taking into consideration the projects which are beneficial to society and the country, with reasonable business yields;
2. To strengthen the businesses by generating revenues for continued growth, and managing costs and expenses efficiently, in order to maintain good financial standing;
3. To build relationships with stakeholders through the corporate social responsibility process and communicate with internal and external personnel about it;
4. To develop personnel ready for the provision of quality services of the expressway and metro systems;
5. To build social recognition of the corporate good image.





BOARD OF DIRECTORS

Mr. Plew Trivisvavet

Chairman of the Board of Directors
Chairman of the Executive Board
Nomination and Remuneration Committee Member



Mr. Vitoon Tejatussanasoontorn

Director,
Chairman of the Audit Committee,
Nomination and Remuneration
Committee Member

Gen. Chetta Thanajaro

Director,
Chairman of the Nomination
and Remuneration Committee,
Audit Committee Member

Prof. (adjunct) Athapol Yaisawang

Director,
Chairman of the Corporate
Governance, Risk Management and
Sustainable Development Committee,
Nomination and Remuneration
Committee Member

Dr. Annop Tanlamai

Director,
Audit Committee Member



Mrs. Vallapa Assakul

Director,
Corporate Governance,
Risk Management and Sustainable
Development Committee Member

M.L. Prasobchai Kasemsant

Director

Mr. Supong Chayutsahakij

Director,
Executive Director

Mr. Phongsarit Tantisuvanitchkul

Director,
Corporate Governance, Risk
Management and Sustainable
Development Committee Member,
Executive Director



Mrs. Payao Marittanaporn
Director,
Executive Director

Miss Supamas Trivisvavet
Director,
Executive Director

Miss Arisara Dharamadhaj
Director

Mr. Panit Dunnvatanachit
Director



Mr. Piyakorn Apibalsri
Director

Mrs. Tasanuch Thammachot
Director

Miss Jiranan Vorachak
Director

Dr. Sombat Kitjalaksana
Director,
Corporate Governance,
Risk Management and Sustainable
Development Committee Member,
Executive Director,
Managing Director

MANAGEMENT



Dr. Sombat Kitjalaksana
Managing Director



Mr. Witoon Hatairatana
Deputy Managing Director:
Operations & Engineering (Rail)

Mr. Anawash Suwanarit
Deputy Managing Director:
Business Development
& Expressway Operations



Mr. Alvin Gee
Deputy Managing Director:
Administration

Miss Panan Tosuwanthaworn
Deputy Managing Director:
Accounting and Finance

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HAPPY BLUE LINE

ทางพิเศษปรีดิรัทธา
(ทางพิเศษสายศรีรัช-วงแหวนรอบนอก
กรุงเทพมหานคร)
↓ ↓

Happy Journey

Be Safe Be Happy

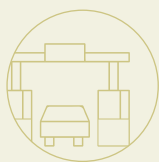
FINANCIAL SUMMARY

BANGKOK EXPRESSWAY AND METRO PUBLIC COMPANY LIMITED AND ITS SUBSIDIARIES

FINANCIAL HIGHLIGHTS

Unit : Million Baht

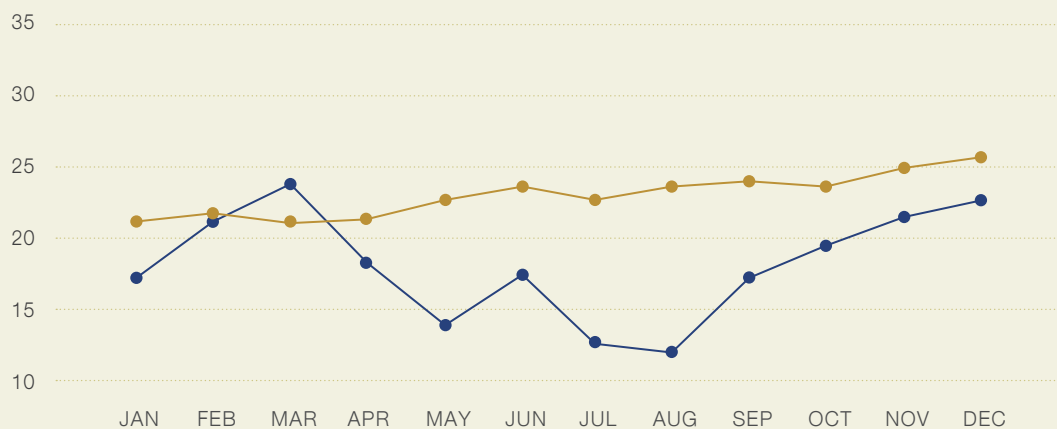
	2022	2021
Financial Position (As at December 31)		
Total assets	114,128	115,088
Total liabilities	76,865	77,389
Shareholders' equity	37,263	37,699
Operating Results (For the year ended December 31)		
Revenue from expressway business	8,192	6,450
Revenue from rail business	4,917	3,454
Revenue from commercial development business	921	822
Net profit attributable to the Company	2,436	1,010
Financial Ratios		
Net profit margin (%)	16.66	8.97
Return on equity (%)	6.50	2.67
Return on total assets (%)	2.26	0.95
Debt to equity ratio (times)	1.91	1.87
Interest bearing debt to equity ratio (times)	1.66	1.65
Book value per share (Baht)	2.44	2.47



AVERAGE DAILY TOLL REVENUE :

The Chalem Mahanakorn Expressway, The Si Rat Expressway,
The Udon Raththaya Expressway and The Prachin Raththaya Expressway
(Si Rat - Outer Ring Road Expressway)

(Million Baht/Day)



AVG Daily Toll Revenue 2022 :
23.5 Million Baht/Day

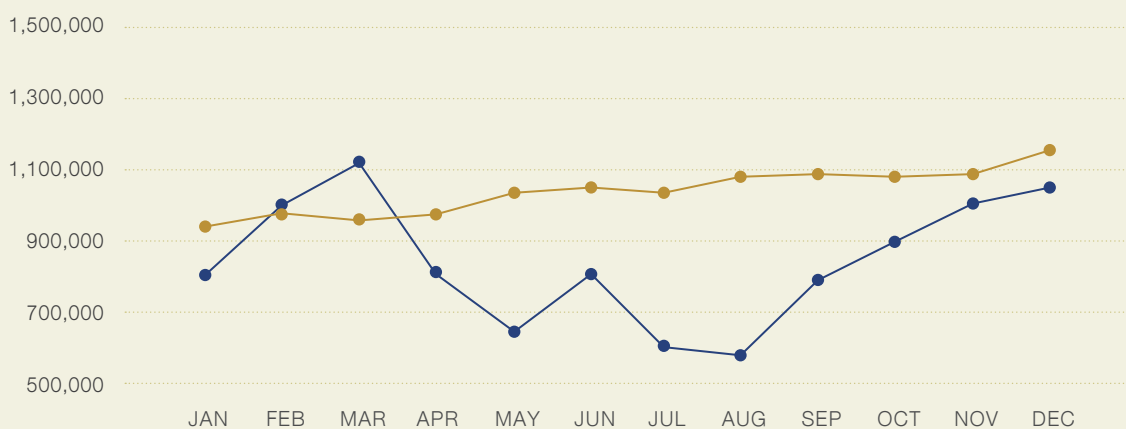
AVG Daily Toll Revenue 2021 :
18.5 Million Baht/Day



AVERAGE DAILY TRAFFIC VOLUME :

The Chalem Mahanakorn Expressway, The Si Rat Expressway,
The Udon Raththaya Expressway and The Prachin Raththaya Expressway
(Si Rat - Outer Ring Road Expressway)

(Trips/Day)



AVG Daily Traffic 2022 :
1,040,000 Trips/Day

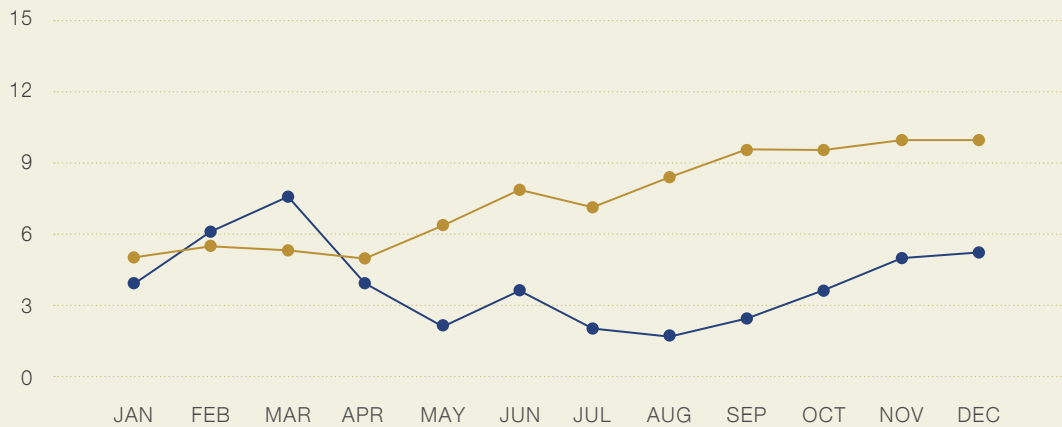
AVG Daily Traffic 2021 :
849,700 Trips/Day



AVERAGE DAILY FARE BOX REVENUE :

The MRT Chaloem Ratchamongkhon Line

(Million Baht/Day)



AVG Daily Fare Box Revenue 2022 :
7.4 Million Baht/Day

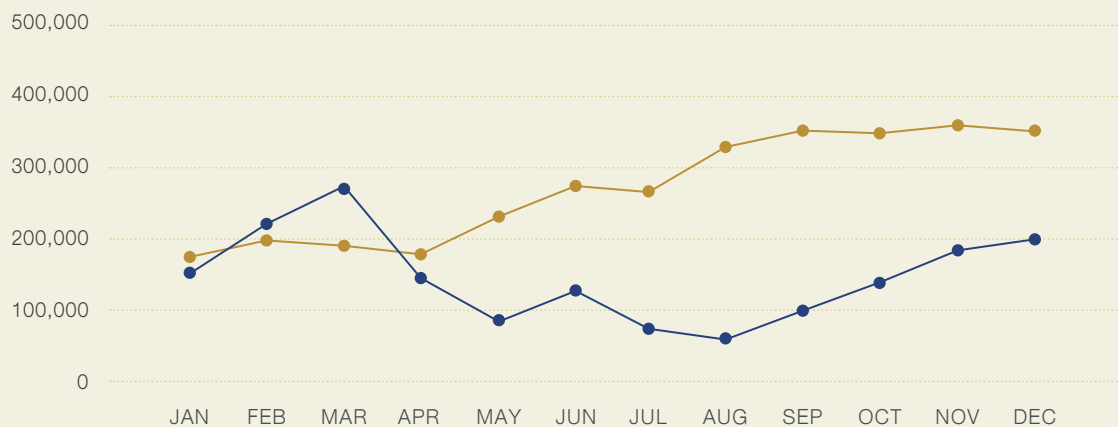
AVG Daily Fare Box Revenue 2021 :
4.1 Million Baht/Day



AVERAGE DAILY RIDERSHIP :

The MRT Chaloem Ratchamongkhon Line

(Trips/Day)



AVG Daily Ridership 2022 :
270,617 Trips/Day

AVG Daily Ridership 2021 :
146,700 Trips/Day

MESSAGE FROM THE CHAIRMAN OF THE BOARD OF DIRECTORS

In 2022, the impacts of the COVID-19 outbreak had reduced in intensity; the Thai economy had begun to rebound; and likewise, the performance of Bangkok Expressway and Metro Public Company Limited or “BEM”, as the expressway and MRT service provider, has been improved since the third quarter of 2022. Following the improvement of the COVID-19 outbreak situation and the government’s announcement of the downgrade of COVID-19 from a dangerous communicable disease to communicable disease under surveillance, people started to resume their normal lives. As a result, both the volume of expressway users and the number of MRT passengers have been steadily rising. In addition, despite the fact BEM would be impacted by such situation, BEM remains committed to providing quality services in the travelling modes with convenience, rapidity and safety to the service users, while simultaneously striving for social and environmental responsibility. To that effect, BEM has actively cooperated with the government in response to its “**Safety City Opening**” policy by distributing one million alcohol spray cards to the MRT and expressway service users, including nearby schools and communities surrounding the service routes.



Due to BEM’s readiness and potential in the management of MRT operations, BEM was entrusted and selected by the government sector in 2022 to operate the MRT Orange Line Project, Bang Khun Non - Min Buri (Suwinthawong) Section. Then, BEM will enter into a Public-Private Partnership agreement for such project with the Mass Rapid Transit Authority of Thailand (MRTA) after the Cabinet’s resolution granting approval for MRTA to execute such agreement. In this regard, by investing in the MRT Orange Line Project, BEM will be equipped to enhance its continued operational capacity and broaden the network of mass rapid transit systems currently operated by BEM to serve more service areas.

In terms of financial management, BEM has consistently been successful in issuing and offering for sale sustainability debentures worth Baht 4,500 Million, with overwhelming demand among investors, reflecting the investors' confidence in BEM's business operations with its commitment to social and environmental responsibility. The objective of this sustainability debenture issuance is to re-finance debt and/or equity investment portion in the MRT Blue Line Project, a transportation business that uses clean energy, thereby contributing to reduction in carbon dioxide emissions generated by driving, while also facilitating people's easy access to infrastructure transportation system, minimizing the environmental impact, as well as addressing the traffic problems on roads in the face of pollutant crises and climate change which are harmful to the world's ecosystems.

BEM's operations on the mission to help alleviate traffic problems to improve the quality of life of people based on good corporate governance and efficient risk management alongside social and environmental responsibility by realizing the development of the organization towards sustainability, have been instrumental in BEM's achievements in that BEM has been successively rated as a listed company with the "Excellent CG Scoring" or Five Star in Corporate Governance; and BEM has been selected as one of listed companies on the "Thailand Sustainability Investment" (THSI) 2022 for the sixth consecutive year; moreover, BEM was awarded the ASEAN Asset Class PLCs from the assessment for corporate governance of listed companies in ASEAN (ASEAN CG Scorecard). Other than this, BEM has also been awarded the Thailand's Top Corporate Brands 2022, as a company with the Thailand's highest brand value in the transportation and logistics sector for the third consecutive year.

In respect of the operating results 2022, BEM has reflected the solid business fundamentals with a net profit of Baht 2,436 Million, an increase from the previous year by Baht 1,426 Million. The Board of Directors' Meeting therefore resolved to propose the dividend payment for 2022 at the rate of Baht 0.12 each to be approved by the Shareholders' Meeting.

On behalf of the Board of Directors, we would like to extend our gratitude to stakeholders of all sectors, including shareholders, service users both the expressway and MRT systems, counterparts, public and private agencies, together with all executives and staff, for being a key role in providing the great sustained support in BEM's business operation. Thus, please rest assured that BEM still remains committed to operating the businesses with social and environmental responsibility in the pursuit of sustainable development in accordance with the principles of good corporate governance, while also striving to endlessly provide excellent and efficient services and improve the quality of life in travelling for the expressway users and the MRT passengers.

Mr. Plew Trivisvavet
Chairman of the Board of Directors

1

PART • BUSINESS OPERATIONS
AND OPERATIONAL
RESULTS



1. STRUCTURES

AND OPERATIONS OF THE COMPANY GROUP

1.1

BUSINESS POLICY AND OVERVIEW



Bangkok Expressway and Metro Public Company Limited (the “Company”) is primarily engaged in the concession businesses for management and provision of the expressway and metro services, including commercial development relating to the expressway and metro systems, which are cornerstones for business expansion through future extension of the routes and the service network, both in the expressway and metro systems, thereby enabling the Company to be a leading mass rapid transit and transportation service operator in Thailand and in the region. Moreover, the Company may extend its businesses to other fast-growing businesses with good returns, such as other infrastructure projects, commercial development or real estate development, both at home and abroad. As of December 31, 2022, the Company’s registered and paid-up capital amounted to Baht 15,285 million, divided into 15,285 million ordinary shares, at the par value of Baht One per share.

Northern Bangkok Expressway Company Limited (“NECL”), a subsidiary, engages in the concession business for the construction and operation of the Udon Rattaya Expressway in accordance with the Bang Pa-in - Pak Kret Expressway Project Agreement, with its registered capital amounting to Baht 6,000 Million; its paid-up capital amounting to Baht 5,250 Million. As of December 31, 2022, the Company’s shareholding percentage in NECL was 99.99 percent.

Bangkok Metro Networks Limited (“BMN”), a subsidiary, engages in advertising media and commercial development business and also serves as the Company’s management representative for commercial development in the MRT and expressway systems where the Company has obtained concessions, with its registered and paid-up capital amounting to Baht 254 Million. As of December 31, 2022, the Company’s shareholding percentage in BMN was 99.67 percent.



1.1.1 VISION, MISSION, GOALS, BUSINESS STRATEGIES AND BUSINESS OVERVIEW



Vision

The Company's vision is to become a leading, fully-integrated transportation service provider in Thailand and ASEAN.

Mission

The Company is committed to operating the businesses:

1. Providing services of the expressway and metro systems with safety, convenience, rapidity, reliability, punctuality, and efficiency, in order to improve the quality of people's lives;
2. Improving the quality and efficiency of the modern and full-service transportation network in order to alleviate traffic problems, preserve the environment, and improve society and the country;
3. Creating value-added and utmost benefit to shareholders based on fairness to all stakeholders;
4. Adhering to sustainability principles in business operations by realizing good corporate governance as well as striving for social and environmental responsibility.

Goals and Business Strategies

To achieve the Company's objectives and mission, the Company has formulated major strategies in its business operations, as follows:

1. To invest in the transportation system projects, expressway and connecting road projects, metro system projects, and related projects under the government policy for public-private partnership (PPP) in respect of infrastructure, including related business, such as, various commercial development, taking into consideration the projects which are beneficial to society and the country, with reasonable business yields;
2. To strengthen the businesses by generating revenues for continued growth, and managing costs and expenses efficiently, in order to maintain good financial standing;
3. To build relationships with stakeholders through the corporate social responsibility process and communicate with internal and external personnel about it;
4. To develop personnel ready for the provision of quality services of the expressway and metro systems;
5. To build social recognition of the corporate good image.

Business Overview of the Company

The Company is committed to being a leading, fully-integrated transportation service provider to improve the quality of life of people in society by elevating their journey to a higher level. The Company's businesses comprise the provision of the expressway and metro services, including commercial development directly related to the main businesses. The Company's business overview is as follows:



1. Expressway Business

The Company and NECL have obtained concessions from the Expressway Authority of Thailand ("EXAT") for construction and operation of a total of three expressways, namely, the Si Rat Expressway, the Prachin Ratthaya Expressway, and the Udon Ratthaya Expressway, per the following details:

1.1 The Si Rat Expressway

The Si Rat Expressway (Second Stage Expressway) is the first large-scale construction project in Thailand on the basis of public private partnership. This project is implemented on a BTO (Build Transfer Operate) basis, namely, the Company invested in the design, construction and operation of the Si Rat Expressway. In this regard, the title to various permanent constructions pertaining to or used on the Si Rat Expressway shall be vested in EXAT. The Company has the right to receive toll revenues as specified in the Agreement, including the right to conduct commercial development on the expressway structure areas. On February 20, 2020, the Second Stage Expressway Agreement (Amendment) was signed for an extension of the concession period until October 31, 2035.

The Si Rat Expressway is comprised of three Sectors, covering a total distance of 38.5 kilometers, as follows:

• Sector AB

starts from Ratchadapisek Road southward to Phayathai Interchange eastward to Rama 9 Road and from Phayathai Interchange heading southward to Bangkok Interchange, connecting with the Chalong Mahanakorn Expressway (First Stage Expressway).

• Sector C

starts from Ratchadapisek Road northward up to Chaeng Watthana Road, connecting with the Udon Ratthaya Expressway.

• Sector D

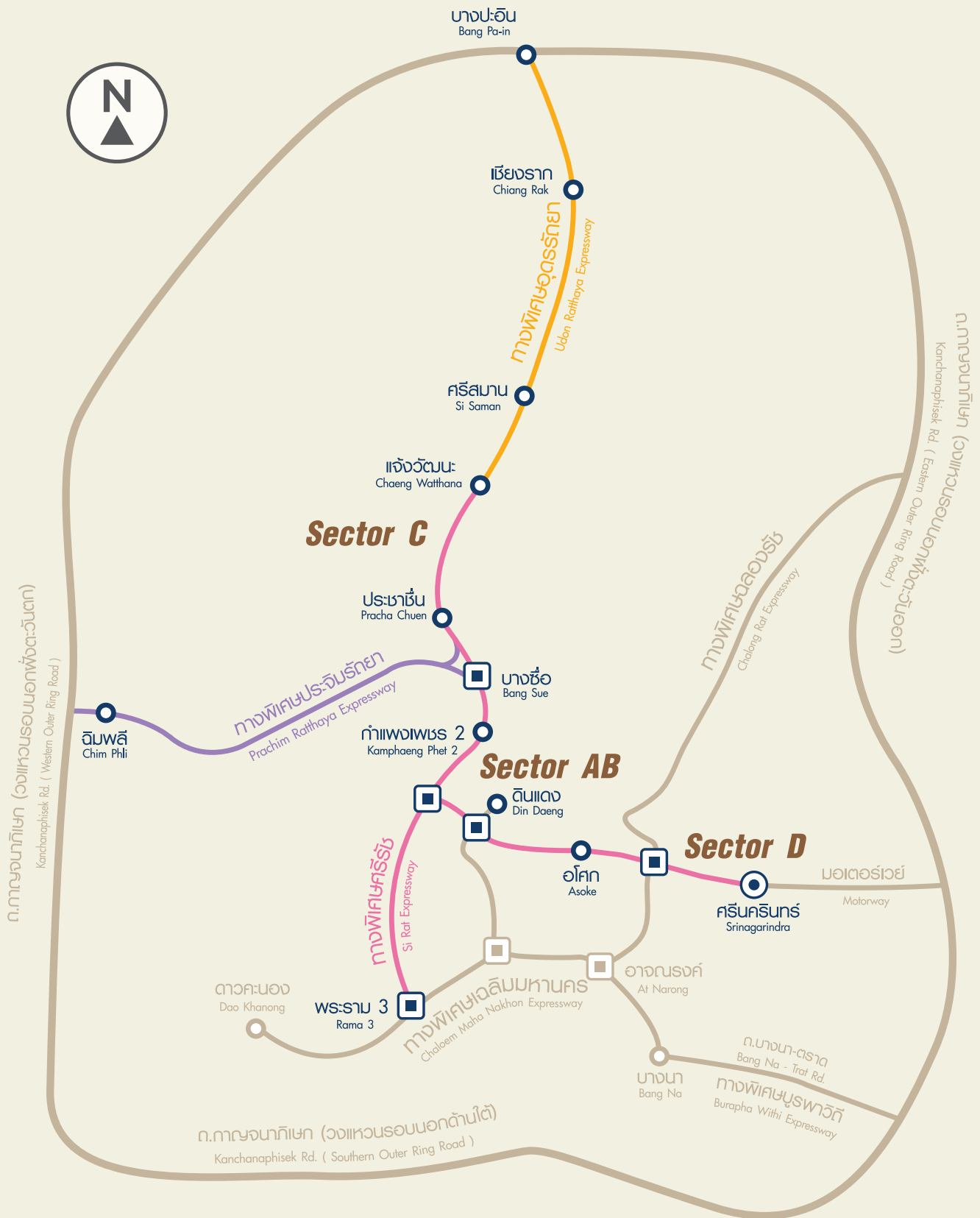
starts from Rama 9 Road eastward to end at Srinakharindrarat Road, connecting with the Motorway.

1.2 The Prachin Ratthaya Expressway

The Prachin Ratthaya Expressway (formerly the Si Rat - Outer Ring Road Expressway) under the Concession Agreement for Investment, Design, Construction, Operation, Service, and Maintenance of the Si Rat - Outer Ring Road Expressway Project is implemented on a BTO basis. The Company is exclusively entitled to receive toll revenues throughout the concession period. The route starts from Kanjanapisek Road (Western Outer Ring Road adjacent to Mahasawat Water Treatment Plant) heading eastbound along the right of way of the existing Southern railway, crossing the Chao Phraya River around the Rama VII Bridge, ending around Bang Sue Grand Station (Chatuchak), connecting with the Si Rat Expressway around the Bus Terminal (Mo Chit 2), running down to at-grade level around Kamphaeng Phet 2 Road, and connecting northward heading to Chaeng Watthana, covering a total distance of 16.7 kilometers. The concession period is 30 years and ends on December 14, 2042.

1.3 The Udon Ratthaya Expressway

The Udon Ratthaya Expressway (Bang Pa-in - Pak Kret Expressway), operated by NECL under the Bang Pa-in - Pak Kret Expressway Agreement is implemented on a BTO basis. NECL is entitled to receive toll revenues as specified in the Agreement, including the right to conduct commercial development on the expressway structure areas, with its Amendment being signed on February 20, 2020 for an extension of the concession period until October 31, 2035. The Udon Ratthaya Expressway connects to the Si Rat Expressway around Chaeng Watthana Road northward heading to Bang Pa-in around Kanjanapisek Road (Western Outer Ring Road), covering a total distance of 32 kilometers.



EXPRESSWAY SYSTEM MAP

- The Si Rat Expressway (Second Stage Expressway)
- The Prachin Rattaya Expressway (Si Rat - Outer Ring Road Expressway)
- The Udon Rattaya Expressway (Bang Pa-in - Pak Kret Expressway)



2. Rail Business

The Company has obtained concessions for the operation of two mass rapid transit rail system projects from the Mass Rapid Transit Authority of Thailand (“MRTA”), namely the M.R.T. Chaloom Ratchamongkhon Line Project (MRT Blue Line), and the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line), per the following details:

2.1 The M.R.T. Chaloom Ratchamongkhon Line Project (MRT Blue Line)

The M.R.T. Chaloom Ratchamongkhon Line Project (MRT Blue Line) is investment on a PPP Net Cost basis, whereby MRTA invests in all civil works and the Company shall supply, install the M&E Equipment, and provide the operation and maintenance services. The Company is entitled to farebox revenue and undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and in the trains. The concession period is 30 years from the full service opening of the entire route, starting from March 30, 2020. The MRT Blue Line comprises:

• Hua Lamphong – Bang Sue Section,

which is the first underground metro project of Thailand, covering a total distance of 20 kilometers, with 18 underground stations.

• Hua Lamphong – Bang Khae Section,

which is the combined structure of underground and elevated route, covering a total distance of 16 kilometers, with 11 stations.

• Bang Sue – Tha Phra Section,

which is the entire elevated route, covering a total distance of 12 kilometers, with 9 stations.

The M.R.T. Chaloom Ratchamongkhon Line Project (MRT Blue Line) has connected to the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line) at Tao Poon Station.

2.2 The M.R.T. Chalong Ratchadham Line Project (MRT Purple Line)

The M.R.T. Chalong Ratchadham Line Project (MRT Purple Line), Bang Yai - Rat Burana, Bang Yai - Bang Sue Section (Khlom Bang Phai Station - Tao Poon Station), Contract 4: Concession for Supply of M&E Systems and O&M Services, on a PPP Gross Cost basis, whereby MRTA invests in all civil works and the Company invests in the M&E Systems and the rolling stocks, as well as provides the operation and maintenance services in accordance with the specified service standards. MRTA is entitled to all farebox revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and MRTA shall make a gradual repayment of the M&E Equipment to the Company on a monthly basis for a period of 10 years, and shall engage the Company for the O&M Services throughout the concession period of 30 years from September 4, 2013.

The M.R.T. Chalong Ratchadham Line Project (MRT Purple Line) is an elevated metro project, for a distance of 23 kilometers, with 16 stations and connects to the M.R.T. Chaloom Ratchamongkhon Line Project (MRT Blue Line) at Tao Poon Station.

Moreover, the Cabinet resolved to approve the implementation of the MRT Orange Line Project, Bang Khun Non - Min Buri (Suwinthawong) Section on a PPP Net Cost basis, whereby the government shall invest in the land ownership of the MRT Orange Line Project (Western), Bang Khun Non - Thailand Cultural Centre Section, and the private sector shall invest in the civil works for the MRT Orange Line Project (Western) and the M&E Systems, the rolling stocks, as well as the operation and maintenance of the entire route from Bang Khun Non - Min Buri (Suwinthawong) Section, for the train operation period of 30 years, starting from the service opening of the MRT Orange Line Project (Eastern) onwards. The Company is the successful tenderer who obtains the highest total scores and is selected to operate the MRT Orange Line Project. In this regard, the Company will enter into the Public-Private Partnership Agreement for the MRT Orange Line Project with MRTA after the Cabinet's affirmative resolution allowing MRTA to enter into such Agreement.

The MRT Orange Line Project, Bang Khun Non - Min Buri (Suwinthawong) Section, has its route alignment connecting between the eastern Bangkok and the western Bangkok, covering a total distance of 35.9 kilometers, with 28 stations, divided into two sections, as follows:

1. The MRT Orange Line Project (Eastern)

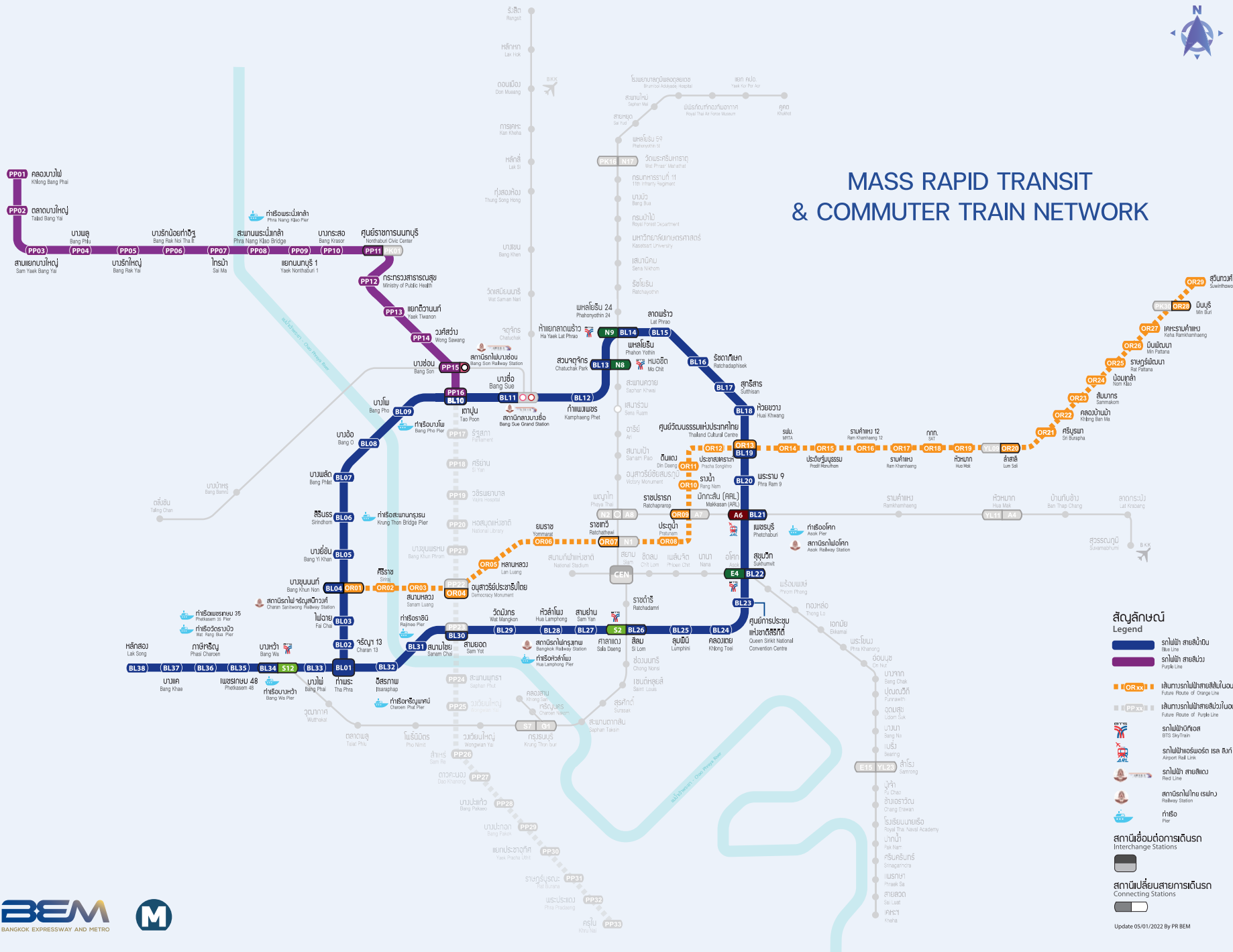
It has a distance of 22.5 kilometers, with 17 stations, from Thailand Cultural Centre Station to Suwinthawong Station, 10 of which are underground and 7 of which are elevated.

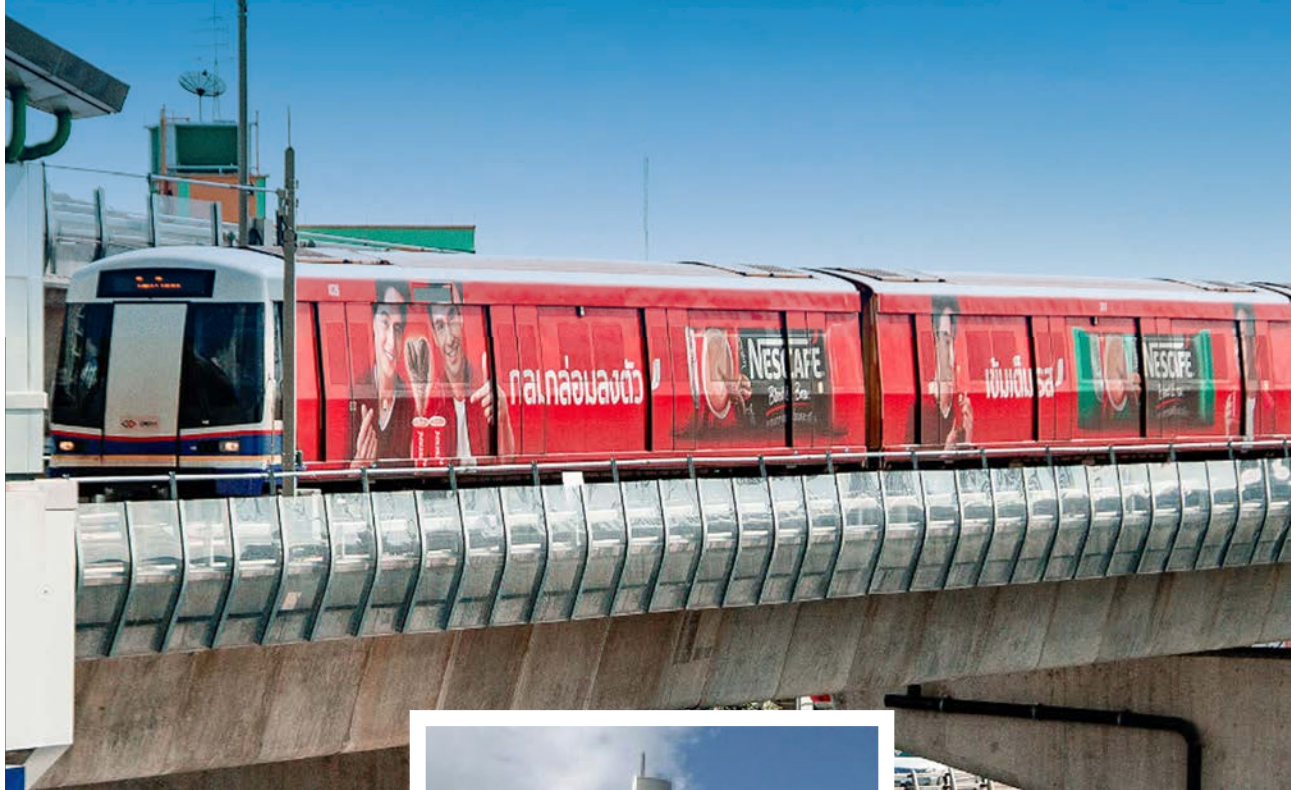
2. The MRT Orange Line Project (Western)

It has a distance of 13.4 kilometers, with 11 stations, from Bang Khun Non Station to Thailand Cultural Centre Station, all of which are underground.



MASS RAPID TRANSIT & COMMUTER TRAIN NETWORK





3. Commercial Development Business

Given that the Company is exclusively entitled to conduct commercial development as specified in the relevant Concession Agreement, the Company has appointed BMN, its subsidiary, to serve as the Company's management representative for commercial development in the MRT and expressway projects, with its business operations being divided into three categories, namely

1. Procurement and/or production of advertising media;
2. Lease of retail spaces;
3. Provision of service and maintenance of telecommunications system equipment.

The commercial area development typically requires both self-operation and contracting outside resources.





1.1.2 SIGNIFICANT CHANGES AND DEVELOPMENTS



December 30, 2015

Bangkok Expressway Public Company Limited ("BECL") and Bangkok Metro Public Company Limited ("BMCL") has been amalgamated under the Public Limited Company Act to be Bangkok Expressway and Metro Public Company Limited ("BEM"), which shall assume all assets, rights, duties and responsibilities of both companies by operation of law.

March 31, 2017

The Company signed the Concession Agreement for the MRT Blue Line Project with MRTA on a PPP Net Cost basis, combining the M.R.T. Chaloem Ratchamongkhon Line Project (Hua Lamphong Station - Bang Sue Station) (Initial MRT Blue Line), in service since 2004, and the MRT Blue Line Extension Project (Hua Lamphong Station - Lak Song Station and Bang Sue Station - Tha Phra Station), for a total distance of 48 kilometers, with 38 stations. The Company is entitled to farebox revenue and to commercial development throughout the concession period.

August 11, 2017

The Company opened for service the MRT Blue Line Extension Project, Tao Poon Station - Bang Sue Station, linking the train operation among the M.R.T. Chaloem Ratchamongkhon Line (Initial MRT Blue Line), the MRT Blue Line Extension, and the M.R.T. Chalong Ratchadham Line (MRT Purple Line) as a through operation, in order to ensure a faster, more convenient and safer commute between Bangkok and its vicinity.

September 30, 2018

The Company opened for service the connection between the Prachin Ratthaya Expressway and the Si Rat Expressway heading to Chaeng Watthana in order to ensure the greater convenience for traveling to Chaeng Watthana and continuing along the Udon Ratthaya Expressway.

September 29, 2019

The Company opened for commercial service the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line), Section 2: Hua Lamphong Station to Lak Song Station, with 11 stations.





2020

February 20, 2020

The Company, NECL and EXAT signed the Second Stage Expressway Agreement (Amendment) and the Bang Pa-in - Pak Kret Expressway Project Agreement (Amendment) for settlement of the disputes and extension of the respective concession periods until October 31, 2035.

March 30, 2020

The Company opened for commercial service the MRT Blue Line Extension Project (Hua Lamphong - Bang Khae Section and Bang Sue - Tha Phra Section), resulting in the project's connected alignment featuring a Circle Line covering the central area of Bangkok, including a connection for travel between Bangkok and Thonburi sides.

November 14, 2020

His Majesty King Maha Vajiralongkorn Phra Vajiraklaochaoyuhua and Her Majesty Queen Suthida Bajrasudhabimalalakshana graciously presided over the official opening ceremony of the M.R.T. Chaloen Ratchamongkhon Line Extension Project (MRT Blue Line) at the Sanam Chai Station.



1.1.2 SIGNIFICANT CHANGES AND DEVELOPMENTS



April 28, 2021

The Company offered for sale the Sustainability Bond No. 1/2021, worth Baht 6,000 Million, with a 3 to 10-year maturity, at the fixed interest rates of 1.56 percent to 3.33 percent, to repay the existing debt and/or refinance the MRT Blue Line Project, with the bonds being issued in accordance with the Sustainable Financing Framework. The Company is the first private company in Thailand and in the Southeast Asia where the sustainability bonds have been issued. As a result, the Company received the Best Sustainability Bond Awards 2021 from "The Asset", the leading financial magazine in Asia.

August 2, 2021

The Company, in association with MRTA, opened a route linking Bang Sue Station, the MRT Blue Line Project, with Bang Sue Grand Station, the SRT Red Line Project, to enable the people to transition between modes of transportation in a smooth, convenient, and rapid manner.

December 13, 2021

The Company, in association with EXAT and Krung Thai Bank Public Company Limited, launched toll payment service with EMV Contactless (Europay Mastercard and Visa) as an alternative toll payment method in order to provide the people with convenient, fast service.

December 15, 2021

The toll rates for the Prachin Ratthaya Expressway became first due for the revision in accordance with the Concession Agreement. However, in order to relieve the burden of living expenses for the people, the Company sold coupons at the same rate which the expressway users could use to pay the toll until December 15, 2022.





2022

January 29, 2022

The Company, in association with MRTA and Krung Thai Bank Public Company Limited, has launched a fare payment service using the EMV Contactless system (Europay Mastercard and Visa) in the MRT Blue Line Project and the MRT Purple Line Project, as an alternative to paying MRT fares in order to provide the people with convenient, fast service.

March 29, 2022

The Company entered into the Sustainability Loan Agreement with Bank of Ayudhya Public Company Limited in the amount of Baht 3,000 Million, with a term of 5 years, for use in the MRT Blue Line Project, with such loan complying with the Sustainable Financing Framework.

September 5, 2022

The Company offered for sale the Sustainability Bond No. 1/2022, worth Baht 4,500 Million, with a 3 to 12-year maturity, at the fixed interest rates of 2.76 percent to 4.15 percent, to repay the existing debt and/or refinance the MRT Blue Line Project. The bonds were issued in accordance with the Sustainable Financing Framework, and had garnered the overwhelming demand from investors, as evidenced by the subscription amount over the target by 2.6 times. In this regard, the Company received an issue rating of **"A-/Stable Outlook"** for such bonds from TRIS Rating Co., Ltd.

September 30, 2022

His Majesty King Maha Vajiralongkorn Phra Vajiraklaochaoyuhua graciously bestowed the name of the Si Rat - Outer Ring Road Expressway as **"Prachin Ratthaya"**, which means **"Path to the West"**.

November 28, 2022

The Extraordinary General Meeting of Shareholders No. 1/2022 resolved to approve the Company's execution of the Public-Private Partnership Agreement for the MRT Orange Line Project, Bang Khun Non - Min Buri (Suwinthawong) Section, with MRTA after the Cabinet's affirmative resolution; and to engage CH. Karnchang Public Company Limited to carry out the management and construction of civil works (western section) and design, supply, installation, testing and commissioning of the M&E Equipment, and trial running (eastern and western sections) of the MRT Orange Line Project.

AWARDS OF PRIDE



The Company was consecutively **rated excellent** (Excellent CG Scoring) or 5 stars by the Thai Institute of Directors Association (IOD) under the Corporate Governance Report of Thai Listed Companies 2022.

The Company was selected as one of listed companies on the **“Thailand Sustainability Investment”** 2022 for the sixth consecutive year in the services category, proving the listed company’s good management, business operations by taking into account Environmental, Social and Governance or ESG, delivering efficient service, improving quality of life, building confidence for investors and stakeholders in the sustainable business operations.



The Company was awarded the Thailand's Top Corporate Brand 2022 as a company with the highest brand value in the transportation and logistics sector in 2022, by the Faculty of Commerce and Accountancy Chulalongkorn University, at the ASEAN and Thailand's Top Corporate Brands 2022, reflecting the long-term sustainable success.



The Company was awarded the ASEAN Asset Class PLCs from the assessment for corporate governance of listed companies in ASEAN (ASEAN CG Scorecard), demonstrating that the Company was a listed company conducting sustainable business by taking into account Environmental, Social and Governance or ESG.

The Company received the **"Excellent"** rating in the assessment of the quality of the 2022 Annual Ordinary General Meeting of Shareholders (AGM Checklist 2022), as deserved to be a role model for the third year in a row since 2020, from the Thai Investors Association.



1.1.3 FUNDING OBJECTIVES

The Company raised funds by issuing and offering for sale the unsubordinated, unsecured debentures which are enforceable under Thai law. In this regard, the Company completely used the proceeds in accordance with the objectives specified in the Registration Statement for Debenture Issuance. For more information, please visit the website of the Office of the Securities and Exchange Commission ("SEC Office") at <https://market.sec.or.th>.

1.1.4 OBLIGATIONS TO WHICH THE COMPANY IS COMMITTED IN THE REGISTRATION STATEMENT FOR SECURITIES OFFERING

The unsubordinated and unsecured debentures

The Company has no financial commitments for each issue of the debentures as specified in the Registration Statement for Debenture Issuance and other documents related to each issue of the debentures. In this regard, the conditions for exercising the right to redeem the debentures (Call Option) are disclosed in Clause 1.5: Issuance of Debentures.

1.1.5 BANGKOK EXPRESSWAY AND METRO PUBLIC COMPANY LIMITED

Bangkok Expressway and Metro Public Company Limited (or abbreviated to "BEM")



Business Operation

Construction and management of the expressways and the rail mass rapid transit system projects, including other related businesses



**Company
Registration No.**
0107558000491



Registered Capital

Baht 15,285 Million, which is fully paid up.

Total Shares

15,285 million ordinary shares, at a par value of Baht One per share.



Head Office

587 Sutthisarn Road, Ratchadaphisek Subdistrict,
Dindaeng District, Bangkok 10400



Website

www.bemplc.co.th



Telephone

0 2641 4611 and 0 2354 2000



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0 2641 4610 and 0 2354 2020

1.2

NATURE OF BUSINESS OPERATIONS

1.2.1 REVENUE STRUCTURE

The Company and its subsidiaries have operated the businesses as concessionaires awarded by the government sector, as follows: 1) concessionaires for the expressway construction and operation, namely, the Si Rat Expressway, the Prachin Ratthaya Expressway, and the Udon Ratthaya Expressway; and 2) concessionaires for operation of the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line) and the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line). Other than earnings through toll revenues, farebox revenues and metro operation service charges, the Company has also earned revenues from the commercial development pursuant to the relevant Concession Agreements. Currently, the revenue structure of the Company and its subsidiaries is set forth below:

REVENUE STRUCTURE	OPERATED BY	SHAREHOLDING OF THE COMPANY %	CONSOLIDATED FINANCIAL INFORMATION					
			2022		2021		2020	
			MILLION BAHT	%	MILLION BAHT	%	MILLION BAHT	%
Expressway business			8,192	55.3	6,450	56.2	8,145	56.9
Toll revenue	Company		7,008	47.3	5,490	47.8	6,942	48.5
Toll revenue	Subsidiary	99.99	1,184	8.0	960	8.4	1,203	8.4
Rail business			4,917	33.3	3,454	30.1	4,520	31.5
Farebox revenue and metro operation service charges	Company		4,917	33.3	3,454	30.1	4,520	31.5
Commercial development business			921	6.2	822	7.2	825	5.8
Commercial development	Company		811	5.5	745	6.5	724	5.1
Commercial development	Subsidiary	99.67	110	0.7	77	0.7	101	0.7
Other income ⁽¹⁾			772	5.2	755	6.5	833	5.8
Total revenues			14,802	100	11,481	100	14,323	100

Remark: ⁽¹⁾ Other income, core revenues, namely, dividend income and interest income.

1.2.2 PRODUCT INFORMATION

1. Expressway Business

(1) Nature of Services

The Company and one of its subsidiaries, i.e., NECL, have been granted concessions for construction and operation of a total of three expressways, namely, the Si Rat Expressway, the Prachin Ratthaya Expressway, and the Udon Ratthaya Expressway, as per the following details:

• The Si Rat Expressway

In the operation of the Si Rat Expressway (Second Stage Expressway), the Company has a duty to collect toll fees, carry out rescue and maintenance. The Si Rat Expressway's route alignment is divided into three sectors, namely Sector AB (Rama 9 - Phayathai - Ratchadapisek - Bangkok), which is treated as the same urban expressway as the Chalerm Mahanakorn Expressway; therefore, there is a revenue sharing with EXAT; while Sector C (Ratchadapisek - Chaeng Watthana), and Sector D (Rama 9 - Srinagarindra), are treated as suburban expressways, with the total distance of 38.5 kilometer for all three sectors. The Company is entitled to receive toll revenues as follows:

- The Company receives a 40% revenue sharing and EXAT receives a 60% revenue sharing from the Chalerm Mahanakorn Expressway (First Stage Expressway) (Bang Na-Din Daeng - Dao Khanong);
- The Company receives a 40% revenue sharing and EXAT receives a 60% revenue sharing from the Si Rat Expressway (Sector AB);
- The Company receives all toll revenues of the Si Rat Expressway (Sector C and Sector D).

The Chalerm Mahanakorn Expressway and the Si Rat Expressway are subject to a revision to their respective toll rates every 10 years at the rate of Baht 10 as specified in the Agreements, with their next revision taking place on September 1, 2028.

• The Prachin Ratthaya Expressway

In the operation of the Prachin Ratthaya Expressway, the Company has the duties to carry out operation, service provision, and maintenance of the expressway, including toll collection, and has the right to receive all toll revenues and other income (if any).

The project is an elevated six-traffic lane expressway, for a distance of 16.7 kilometers, with 9 toll plazas, with its route starting from the Outer Ring Road (Khanapisek Road around Mahasawat Water Treatment Plant) heading eastbound along

the right of way of the existing Southern railway, crossing the Chao Phraya River around the Rama VII Bridge, ending around Bang Sue Grand Station (Chatuchak), connecting with the Si Rat Expressway and running down to at-grade level around Kamphaeng Phet 2 Road, with its route connecting with the northern part of the Si Rat Expressway heading to Chaeng Watthana continuing along the Udon Ratthaya Expressway.

The Prachin Ratthaya Expressway is subject to a revision to its toll rates every 5 years from the date of service operation of the project at the rates of Baht 15, Baht 25 and Baht 35 for four-wheeled vehicles, six-wheeled to ten-wheeled vehicles; and more than ten-wheeled vehicles, respectively, as specified in the Agreement, with the first revision taking place on December 15, 2021. To ease the burden of the expressway users, the Company has sold a one-year coupon for the former toll rates (December 15, 2021 to December 15, 2022).

• The Udon Ratthaya Expressway

The operation of the Udon Ratthaya Expressway (Bang Pa-in - Pak Kret Expressway) is carried out by NECL. NECL is responsible for collection of tolls, rescue, including maintenance of the Udon Ratthaya Expressway. All toll revenues in respect of the Udon Ratthaya Expressway shall belong to NECL.

The Udon Ratthaya Expressway comprises 2 Stages, namely, Stage 1, Chaeng Watthana - Chiang Rak, and Stage 2, Chiang Rak - Bang Sai, connecting to the Si Rat Expressway around Chaeng Watthana Road, covering a total distance of 32 kilometers. As for the inbound route, expressway users shall pay tolls at the booths around the on-ramps of the expressway while in respect of the outbound route, expressway users shall pay tolls at the off-ramps of the expressway. The Udon Ratthaya Expressway is subject to a revision to its toll rates on the 1st day of November every 10 years at the rate of Baht 10 as specified in the Agreement, with the next revision taking place on November 1, 2028.

The details of the expressway linking networks in Bangkok and its vicinity are as follows:

EXPRESSWAYS	LENGTH (KM.)	CONSTRUCTED AND OPERATED BY
1. Chalem Mahanakorn Expressway (First Stage Expressway) (Bang Na - Din Daeng - Dao Khanong)	27.1	EXAT
2. Si Rat Expressway (Second Stage Expressway) <ul style="list-style-type: none"> Urban Network (Sector AB) (Prachachuen - Phayathai - Bangkhlo - Asoke) Suburban Network (Sector C) (Prachachuen - Chaeng Watthana) Suburban Network (Sector D) (Rama 9 - Srinagarindra) 	38.5	Company
3. Udon Ratthaya Expressway (Bang Pa-in - Pak Kret)	32.0	NECL
4. Prachim Ratthaya Expressway (Si Rat - Outer Ring Road Expressway)	16.7	Company
5. Uttaraphimuk Elevated Way (Don Muang Tollway)	28.0	Don Muang Tollway Public Company Limited
6. Chalong Rat Expressway including its Extension (Ramindra - At Narong and Ramindra - Outer Ring Road)	32.9	EXAT
7. Burapha Withi Expressway (Bang Na - Chonburi)	55.0	EXAT
8. Kanjanapisek Expressway (Bang Pli - Suksawad) and Highway No. 37 (Suksawad - Bang Khun Thien Section) including a connecting road to Bhumibol Bridge 1 and Bhumibol Bridge 2	37.8	EXAT
Total Length	268.0	

Toll Revenue Sharing

EXPRESSWAYS	LENGTH (KM.)	REVENUE SHARING (Company : EXAT)
Chalem Mahanakorn Expressway		
Din Daeng - Port	8.9	40 : 60
Bang Na - Port	7.9	
Port - Dao Khanong	10.3	
Si Rat Expressway		
Sector AB: (Rama 9 - Ratchadapisek) (Phayathai - Bangkhlo)	21.8	40 : 60
Sector C: (Ratchadapisek - Chaeng Watthana)	8.0	100 : 0
Sector D: (Rama 9 - Srinagarindra)	8.7	100 : 0
Prachim Ratthaya Expressway	16.7	100 : 0
Udon Ratthaya Expressway		(NECL : EXAT)
Chaeng Watthana - Chiang Rak	22.0	100 : 0
Chiang Rak - Bang Sai	10.0	

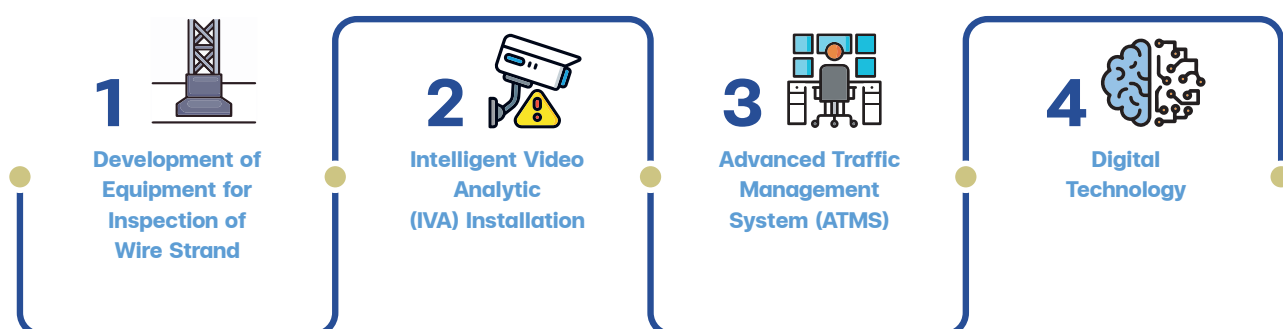
Toll Rates

EXPRESSWAYS/TOLL PLAZAS	TOLL RATES (Baht/Trip)		
	4 WHEELS	6-10 WHEELS	MORE THAN 10 WHEELS
Chalerm Mahanakorn Expressway (First Stage Expressway) Except: At Narong 1 Toll Plaza (to Bang Na)	50 25 ⁽¹⁾	75 50 ⁽¹⁾	110 85 ⁽¹⁾
Si Rat Expressway (Sector AB) (Second Stage Expressway) Except: Prachachuen Toll Plaza (inbound) Prachachuen Toll Plaza (outbound)	50 60 ⁽²⁾ 10 ⁽²⁾	75 90 ⁽²⁾ 15 ⁽²⁾	110 140 ⁽²⁾ 30 ⁽²⁾
Si Rat Expressway (Sector C) (Second Stage Expressway) Prachachuen 1 Toll Plaza (from Prachachuen Road) Prachachuen 2 Toll Plaza (to Prachachuen Road) Ngam Wong Wan 1 Toll Plaza (outbound) Ngam Wong Wan 2 Toll Plaza (inbound)	15 15	20 20	35 35
Si Rat Expressway (Sector D)	25	55	75
Prachim Ratthaya Expressway	65	105	150
Udon Ratthaya Expressway Except: Bang Pa-in Toll Plaza	45 55	100 120	150 180

Remarks: ⁽¹⁾ These rates were after deduction of Baht 25 discount for all types of vehicles (from July 1, 2021 to December 31, 2022).
⁽²⁾ In case of the motorists' service use of the Second Stage Expressway continuing from Sector AB to Sector C at Prachachuen Toll Plaza (outbound) or from Sector C to Sector AB at Prachachuen Toll Plaza (inbound), the tolls of the Second Stage Expressway for all types of vehicles will be offered at a discount of Baht 5 throughout the contract period.

(2) Innovation Development

The organization's ultimate goal is delivery of efficient services, thus the Company has continuously developed innovations for expressway users' travels with the highest level of safety, including rapid facilitation. To that end, the Company has implemented the following throughout the last year:



1

Development of Equipment for Inspection of Wire Strand

The Company attaches importance to the inspection and maintenance of the expressway structures, as well as development of the structural audit process so that the expressways are in a ready-to-use and safe condition for the expressway users. In this regard, wire strands are crucial components of expressway structures; the Company therefore gives high priority to regular audits to ensure that they remain in a good condition. Currently, the Company in collaboration with professors and researchers from the Maintenance Technology Center, King Mongkut's University of Technology Thonburi, who are experts in the field of Non-Destructive Testing (NDT), is carrying out development of equipment for inspection of wire strands to ensure modern, user-friendly and more precise equipment. Moreover, the Company has developed the expressway engineering-specialized research work unit, with the aim of enhancing the Company's research and innovation knowledge, in association with the consulting firms, and also integrated cooperation with the academic sector, both the leading higher education institutions and the National Institute of Science and Technology Research. As a result, the Company has a network of academics, including professors, researchers, and experts, through which, accurate, trustworthy, and current knowledge is developed and exchanged at all times.

2

Intelligent Video Analytic (IVA) Installation

The Si Rat Expressway is currently undergoing the installation of Intelligent Video Analytics (IVA) at the off-ramps and on-ramps without toll plazas where vehicles, people or animals accessing the expressway or motorists driving in the wrong direction can be detected, in order to prevent any potential incidents on expressways, with its completion scheduled for 2023.

3

Advanced Traffic Management System (ATMS)

ATMS is a software which connects traffic facilities on expressways to display the facilities' operating status, namely, Variable Message Signs (VMS) Mandatory Signs (MS), Emergency Telephone Systems (ETS) and Closed Circuit Television Cameras (CCTV), which are being additionally installed by the Company in the entire area of the Si Rat Expressway, with its completion scheduled for 2023, as well as ATMS, integrated with the Intelligent Video Analytics (IVA) equipped at the off-ramps in order to detect vehicles which are not permitted to use expressways or driving in the wrong direction, whether people or animals, in which case, to provide alerts for any detected insecurity incident on expressways. In addition, ATMS can display a schematic map by showing shades of color to indicate the active traffic conditions in that area, with the device symbol showing on the schematic map, based on the actual position on expressways, to ensure the greater convenience, speed and efficiency in monitoring and management of traffic conditions. ATMS was installed within the communication room, Si Rat Expressway Control Center in 2022.



4

Digital Technology

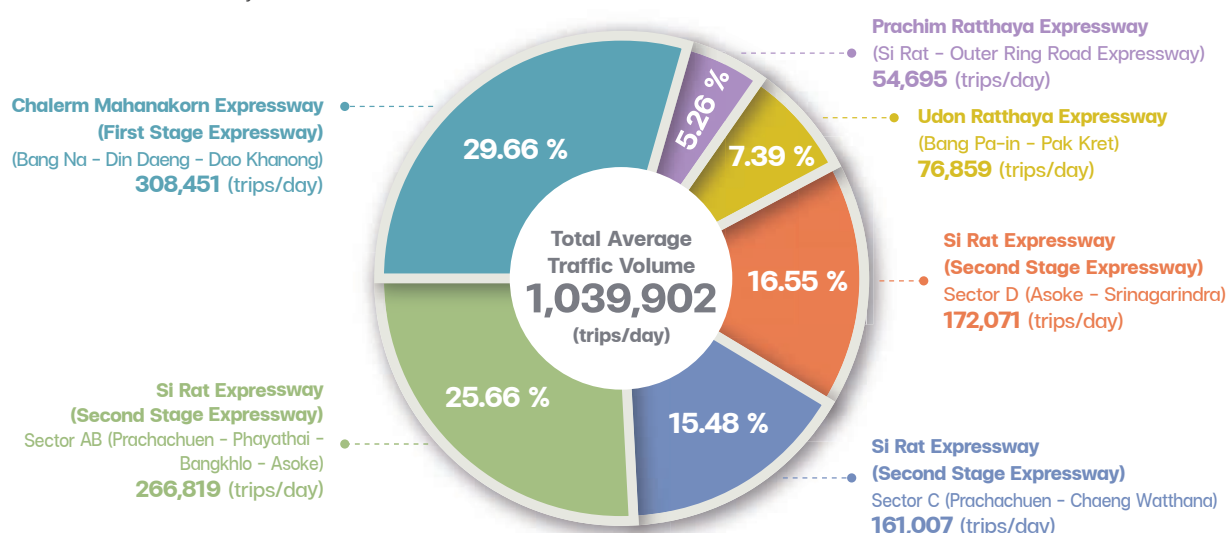
In 2022, the Company continues to develop and expand its application of Digital Technology to increase work efficiency and reduce costs. To do this, it has applied and expanded the use of Business Process Management (BPM) for processing the Company's important documents and administrative tasks, in order to reduce use of papers (Paperless). As a result, it is practical for users and contributes to lower document management costs. In this regard, the information will be stored as Big Data, and the use of Business Intelligence (BI) will be increased to improve executive decision-making by bringing information from Big Data to present on Dashboard for analyzing the paperless, reducing accidents on expressways, enhancing the efficiency of expressway maintenance, and optimizing the procurement work, including the development of Dashboard for the management of various aspects of the Company.

(3) Marketing and Competition of Expressway Business

Policy on Competition and Distribution of Products of the Company

• Customer Characteristics and Target Customers of Expressway Business

Target customers of the expressway users refer to those motorists who desire a convenient and rapid transportation or who desire to shorten the traveling distance to their destinations as well as to avoid the traffic congestion along the congested normal roads in Bangkok and its vicinity. The groups of consumers are then broad depending on their destinations, residences, and workplaces. Therefore, the revenues of the expressway systems will not depend on any particular group of customers. The customers by the types of vehicles using the expressways may be divided into four-wheeled vehicles; six-wheeled to ten-wheeled vehicles; and more than ten-wheeled vehicles, which in 2022, accounted for 98.43 percent, 1.31 percent, and 0.26 percent, respectively. The traffic volume on the expressways from January 1 to December 31, 2022 can be described by areas as follows:



The traffic volume on the expressways from January 1 to December 31, 2022

• Marketing Strategies of Expressway Business

The marketing highlight is that the Si Rat Expressway is designed to respond to the transportation needs through the expressway network which connects to and covers major areas in Bangkok, whether from the Chalerm Mahanakorn Expressway and the Si Rat Expressway, as well as the Chalerm Mahanakorn Expressway and the Chalerm Mahanakorn Expressway, thereby rendering the service of the expressway systems to become more complete for users to reach their destinations more conveniently and rapidly than using at-grade roads.

The Prachin Raththaya Expressway, a route connecting between the Bangkok-Thonburi sides, has its route crossing the Chao Phraya River at the Rama VII Bridge, continuing along in parallel to the Southern railway via the districts of Bang Phlat, Bang Bamru, Taling Chan, passing Ratchaphruek Road, and ending at the Outer Ring Road (the West), thereby enabling motorists to conveniently and rapidly commute from and to Bangkok-Thonburi sides. On the inbound side, there is a connection point from the Boromarajonani overpass in Taling Chan area to the Prachin Raththaya Expressway, at Km.5 + 200, and a connection point with the Si Rat Expressway in Mo Chit area, Chatuchak, turning right southward to Phaya Thai - Silom and turning left to the northern part of the Si Rat Expressway, to ensure the greater convenience in the motorists' travelling to Ratchadaphisek, Prachachuen, Chaeng Watthana, and Bang Pa-in, by using the Udon Raththaya Expressway.

The marketing disadvantage is the physical limitation which prevents the release of traffic around the expressway exits during the peak hours, which depends on the traffic on at-grade roads, representing an uncertain factor beyond the Company's control. However, the Company continuously coordinates with traffic police in police stations of such areas, including linking video signal from CCTVs on the expressways to police stations of such areas, to provide assistance in releasing and facilitating traffic flow in the expressway systems by improving various on- and off-ramps for motorists to save time and facilitate motorists with more convenience and better quality of living in their commute in the downtown. Motorists should then appreciate these benefits over the price factor.

o Service and Product Strategies of Expressway Business

- The prime location and connections to major roads in the city allow the expressway network to respond to the transportation needs of motorists to reach their desired destinations. The Company has improved quality, maintained the expressways to assure their availability at all times for motorists' travelling safety, and enhanced the efficiency in the continuous service provision of the routes while also maintaining the good quality of the services. They have since been modified as a key strategy to improve the system's capacity to accommodate the inflows of traffic volume to ensure greater efficiency.
- The feasibility study on improvement of the on- and off-ramps of the expressways serves as another measure taken by the Company to ensure greater convenience, rapidity in travelling, and continually maintain the quality of the expressways in terms of engineering safety to meet international standards.
- The study on new routes in response to the urbanization in the future, particularly in Bangkok, as well as the study on traveling behavior of motorists, are conducted to prepare for the expansion of the scope of the expressway services, and serve well as additional channels of services in response to needs of the motorists in the future.
- The communication channels on traffic information via Smart Traffic and Variable Message Signs (VMS) are added to keep motorists informed of the traffic conditions on expressways, as well as suggesting routes on expressways for more convenience and rapidity.
- The expressway guide signs on at-grade main roads and alleys in Bangkok and its vicinity have been continuously improved so as to facilitate motorists' travelling to destinations and boost their confidence to access and use the expressways. To this effect, the emphasis is given to provision of information relating to landmarks adjacent to the on- and off-ramps of the expressways via the websites, various public relations media, including social media to ensure greater convenience and rapidity in travelling of customers, as the expressway users.
- To encourage the use of EMV Contactless, a Happy Week Happy Hour promotion activity was undertaken on the Prachin Ratthaya Expressway where alcohol sprays were given away free of charge to the expressway users, who paid the toll with an EMV Contactless-enabled credit card or debit card, on the last week of every month. Such activity attracted attention, and the use of EMV Contactless on such route has steadily been rising.



- The study was carried out to develop the EMV Contactless card toll collection system in the toll lanes without toll booth attendants in the form of Tab and Go (EMV Toll Collection Machine), as a semi-automatic toll lane, allowing motorists to complete their own transactions by themselves and an automatic barrier will then open for passing through, with the trial service starting as a pilot lane each on the Prachin Ratthaya Expressway and the Udon Ratthaya Expressway. In 2022, the percentage of toll payment with EMV card on the Prachin Ratthaya Expressway increased to 4 percent. Therefore, the Company has planned to install additional EMV Toll Collection Machine on the Prachin Ratthaya Expressway in 2023.
- The study was carried out to develop the barrier-free expressway toll collection system with Multi Lane Free Flow. The Company's installation of test lanes at two toll plazas by employing the automatic License Plate Recognition (LPR) to check the passage, was completed in August 2021, and the Company continued to follow up on the system's performance while also making constant adjustments to the parameters for the most precise detection and license plate recognition in any situation.
- The study project to analyze the origin-destination on expressways (Origin-Destination (OD)) was carried out to use the obtained information to improve the service by applying the data from the License Plate Recognition (LPR), which uses the origin information from the passage at the toll booth and the destination information from additional CCTV cameras installed at the expressway exit points, with the implementation starting on the Prachin Ratthaya Expressway in 2021. In addition, and development of data analysis software was completed in 2022. The software has perceived data on the origin and destination locations of service users on the Prachin Ratthaya Expressway; such data can then be analyzed to produce important traffic data, namely the average travel speed on the expressway, the average length of the journey per hour, the traffic density on the expressway per hour, and the most popular off-ramp and on-ramp locations for service users. The data would be presented as a dashboard to ensure ease of understanding for service users. In 2023, the plan has been prepared to extend such results to the Si Rat Expressway and Udon Ratthaya Expressway.
- Data processing improvements were made to the Easy Pass system software to increase the effectiveness of updating Easy Pass card status and account reserve balance, resulting in fewer problems using the Easy Pass channel while also resulting in fewer complaints. To that end, the software updates at the Si Rat and Udon Ratthaya Expressway Control Centers were completed in September 2022 and in November 2022 at the Prachin Ratthaya Expressway Control Center.



Easy Pass Lanes at Srinagarindra Toll Plaza
after Removing Toll Booths

- Improvements were made to the Easy Pass lanes without toll booths as a result of the toll booths' positioning, which obscured motorists' views of the price tags and required toll booth attendants to walk through the toll lanes, in order to prevent potential accidents involving toll booth collisions. In 2022, it has already been implemented in large toll plazas, namely Asoke 1, Asoke 3, Asoke 4, and Srinagarindra Toll Plazas, with a plan expanding to other toll plazas in 2023.



Location of Easy Pass Lanes
at Chiang Rak Toll Plaza (Outbound)
after Improvement

- Adjustment to the location of the Easy Pass lanes on the Udon Raththaya Expressway at Chiang Rak Toll Plaza (Outbound) was made as a result of the traffic cut behind the toll booth discovered by the Company, in the case where motorists using the Easy Pass lane 4 kept left to Pathum Thani while motorists paying with cash in lanes 1 and 2 kept right to Thammasat University. In order to prevent accidents and ensure convenience for service users, the Company therefore adjusted the location of the Easy Pass lane from lane 4 to lane 2, which was completed in September 2022, with a plan expanding the results to the Udon Raththaya Expressway's similar toll plazas in 2023.

- Software for the Manual Toll Collection System lanes was developed by the system engineering development staff of the system engineering department, to be used in place of the contractor's software, since the contractor's software was not flexible enough to work with changing hardware, and inconvenient to modify or add functionality. The development of the Manual Toll Collecting System would not only enhance the efficiency in the Company's work operations, but also reduce expenses for maintenance of the toll collection system as well as providing service users with high-quality, accurate, fast service. In 2022, the aforesaid software was further used at Ngamwongwan 2, Bang Sue 2, Asoke 2 Toll Plazas, and Chiang Rak Toll Plaza (Outbound), and with a plan expanding the results to other toll plazas in 2023.
- Additional 408 CCTV cameras are currently being installed, as part of the project of installation of CCTV cameras to cover the 100% area on the Si Rat Expressway, in order to monitor ongoing incidents on the expressway and to provide prompt assistance to motorists in case they need assistance. Its completion was scheduled for 2023.

o Price Strategies of Expressway Business

- Toll rates, including the calculation for revisions of the toll rates, are agreed upon and specified in the Agreements ahead of time. It is mutually agreed that the rates are considered reasonable and based on the feasibility study for the investment of each project.
- The Company continues to provide a discount on tolls on certain routes for a limited period of time to attract motorists to increasingly use the expressway services, especially such routes with connections between the expressway systems, e.g., At Narong 1 Toll Plaza (from the Chalong Rat Expressway to enter the Chalerm Mahanakorn Expressway around Bang Na).

o Distribution Strategies and Distribution Channels of Expressway Business

Payment of Tolls

The service users have three options for paying tolls: cash, Automatic Toll Collection System (Easy Pass) or credit or debit cards (EMV Contactless).

- Users of the Chalerm Mahanakorn Expressway and the Si Rat Expressway may choose to use the expressway services from various on- and off-ramps covering major areas in Bangkok throughout the total distance of 65.6 kilometers. Expressway users shall pay tolls at the on-ramps of toll plazas, totaling 52 locations, 20 toll plazas of the Chalerm Mahanakorn Expressway (e.g., Din Daeng, Bang Na, Dao Khanong, Sukhumvit, Rama 4 Toll Plazas, etc.) and 32 toll plazas of the Si Rat Expressway (e.g., Asoke, Rama 9, Srinagarindra, Yommaraj, Surawong, Hua Lamphong, Khlong Prapa, Yan Phahon Yothin, Prachachuen, Rama 3, etc.).

- Users of the Udon Raththaya Expressway which connects to the Si Rat Expressway System towards the North of Bangkok, for a total distance of 32 kilometers, with 10 toll plazas, shall pay tolls at the on-ramps for the inbound direction and at the off-ramps for the outbound direction. There are five on-ramps and five off-ramps.

- Users of the Prachin Raththaya Expressway which connects to the Si Rat Expressway System towards the West of Bangkok, for a total distance of 16.7 kilometers, with 9 toll plazas, shall pay tolls at the on-ramps.

The use of Easy Pass for toll collection makes paying tolls at the front areas of the toll plazas during the peak hours more convenient, rapid and efficient, and it would be able to accommodate the future increase in traffic volume. Currently, Easy Pass users represented approximately 50 percent.

Moreover, the Company, in collaboration with EXAT and the Department of Highways, carried out integration between the Easy Pass system and the M-Pass system to allow service users to pay tolls for seven expressway routes and two routes of the Intercity Motorways (Motorways) of the Department of Highways with a single pass.



EMV Toll Payment System Development

The Company, in association with EXAT and Krung Thai Bank, has developed a contactless-enabled credit or debit card toll payment system based on Euro Mastercard Visa (EMV) standards to facilitate the expressway users' travel, as a brand-new option for the expressway users, simply by tapping and paying tolls with one international standard card, both debit and credit cards of all banks embedded with contactless payment symbol, as well as to fulfill the requirements in the modern lifestyle that reduces use and touch of cash to minimize the risk of the spread of COVID-19. This system is available for use along the entire routes on the Si Rat Expressway, the Prachin Rattaya Expressway, and the Udon Rattaya Expressway.



Toll Collection Lane with EMV Toll Collection Machine (TCM)

Furthermore, the Company has developed a contactless credit or debit card toll payment model based on the EMV standard into the Tap and Go system, allowing each expressway user to execute a transaction by oneself without the service by toll booth attendants, known as the EMV Toll Collection Machine (TCM). When a motorist has successfully tapped an EMV-based credit or debit card, the automatic lane barrier will open for passing through, where the motorist may choose to print out a toll receipt by pushing a button at the toll booth. Currently, this system is in trial on the third lane at Bang Sue 1 Toll Plaza, the Prachin Rattaya Expressway, and on the third lane at the Chiang Rak Toll Plaza (Inbound), the Udon Rattaya Expressway.

• Marketing Condition and Competition of Expressway Business

The Company is a private expressway operator which operates the Si Rat Expressway, the Prachin Rattaya Expressway, and the Udon Rattaya Expressway, covering a total distance of 87.56 kilometers in Bangkok and its vicinity. In the meantime, there is another private sector company providing the same expressway service, with its total service distance of 28 kilometers. When compared to the Company, the other private company is one-third the size of the Company. The Company and the other private company's networks, on the other hand, have a connecting point above Makkasan on the Si Rat Expressway, allowing motorists of both networks to travel in a seamless, convenient, rapid and safe manner. In addition, both networks have their respective routes which connect to the north of Bangkok and run parallel to each other from the north of Bangkok into the center of Bangkok, giving the service users a travel mode choice. Physically, the Company's network is more connected to other expressways than that of the other private company, thereby allowing for comprehensive travel connections.

The COVID-19 outbreak continued to have an impact on all sectors of Thailand in 2022, particularly in the first half of the year, due to numerous measures, including the suspension of various activities and the stagnant increase in visitor numbers; as a result, there was constant impact on business across a variety of industries and the volume of traffic on the expressways; not to mention the escalating inflation resulting from the energy costs. However, the COVID-19 outbreak situation has subsided in the third quarter of 2022, and the government has relaxed several measures. One of these measures was making it convenient for visitors to enter the country by canceling the Thailand Pass registration for tourists, which has led to an increase in foreign tourists entering the country, causing the expansion of the tourism business, resulting in higher incomes of labor and business related to tourism (Thai economic forecast reports 2022 and 2023



by the Ministry of Finance), including different economic stimulus measures, continuous growth in exports, farm income insurance, along with the improved industrial confidence and consumer confidence indexes. These included the introduction of more new automobile models (www.mreport.co.th), resulting in an increase in 10-month auto sales (17% YoY), in line with the statistics of auto sales in the Motor Expo Exhibition which was annually held in December. In 2022, there was a 16% increase in auto sales from 2021 (www.autodeft.com). As a result, the people were spending more on travel and leisure activities both in the public and private sectors, and more people were driving in spite of rising oil prices, it had a positive effect on the traffic volume on the expressways in that it increased as compared to 2021 when the severe COVID-19 outbreak took place. However, although the traffic volume on the expressways increased from the previous year, it was still lower than the traffic volume on the expressways prior to the COVID-19 outbreak in 2019, with an average annual traffic volume of 1.2 million trips per day. Even if the Company was in an unusual situation, it still remained committed to ongoing expressway maintenance for the safety and convenience of service users. This was because of the Company's control over a number of costs so that they matched the economic environment while also being in line with the Company's revenues, which seemed still out of the ordinary. Nevertheless, the Company continued to work on maintaining numerous safety issues, which was treated as the Company's top priority for the highest level of safety for motorists, whether it be enhancing the lighting on the expressways, improving the road surface, developing new traffic lines, and so forth, including the introduction of the toll collection system with VISA PAYWAVE and MASTER CARD PAY PASS credit and debit cards, allowing motorists to pay tolls at the cash counter using a credit or debit card from any bank in order to provide motorists' convenience and alternatives for toll payment.

(4) Procurement of Products and Services of Expressway Business

EXAT is an authority responsible for the construction of expressways to provide service for convenient, rapid and safe traffic, as well as to mitigate traffic problems. EXAT invited interested parties to submit investment proposals; the Company then conducted a feasibility study and submitted its proposals for investment in projects with appropriate returns and conditions.

The three expressway projects under the Second Stage Expressway Agreement, the Bang Pa-in - Pak Kret Expressway Project Agreement, and the Concession Agreement for Investment, Design, Construction, Operation, Service, and Maintenance the Si Rat - Outer Ring Road Expressway Project are implemented on a BTO basis. According to the essence of the Agreements, EXAT shall have the duty to determine the characteristics of the expressways, expressway routes and areas to be used for construction and arrange for land expropriation for delivery to the Company for construction within the time specified in the Agreements. Thereafter, the Company would carry out construction in accordance with the designs approved by EXAT, subject to the supervision of the quality of construction work by EXAT's Consulting Engineer, Independent Certification Engineer, and Independent Design Checker. Upon completion of the construction, the Independent Certification Engineer shall inspect the work and issue Certificate of Completion to evidence that the construction work is completed in accordance with the standards.

The Company thoroughly studied the feasibility of the expressway and intercity motorway projects to jointly invest in government affairs in accordance with the government's operational plans, including the Kathu-Patong Expressway Project in Phuket Province of EXAT

to accommodate a greater number of tourists and population, and the Elevated Intercity Motorway Project, Srinakarin - Suvarnabhumi Section (M7), of the Department of Highways, in order to ensure the greater efficiency in travel on M7, a vital network that links the Bangkok area and its vicinity heading east, and to assist in the reduction of traffic problems at the entrance-exit linking path of Suvarnabhumi Airport.

They include the motorway projects of the Department of Highways under the Intercity Motorway Development Master Plan 2017-2036 consist of the Elevated Intercity Motorway Project: Western Bangkok Outer Ring Road, Bang Khun Thien - Bang Bua Thong Section (M9), the Intercity Motorway Project: Uttaraphimuk Elevated Way Extension, Rangsit - Bang Pa-in Section (M5), the Intercity Motorway Project: Bang Khun Thien - Pak Tho Section (M82), the Intercity Motorway Project: Nakhon Pathom - Cha Am Section (M8).

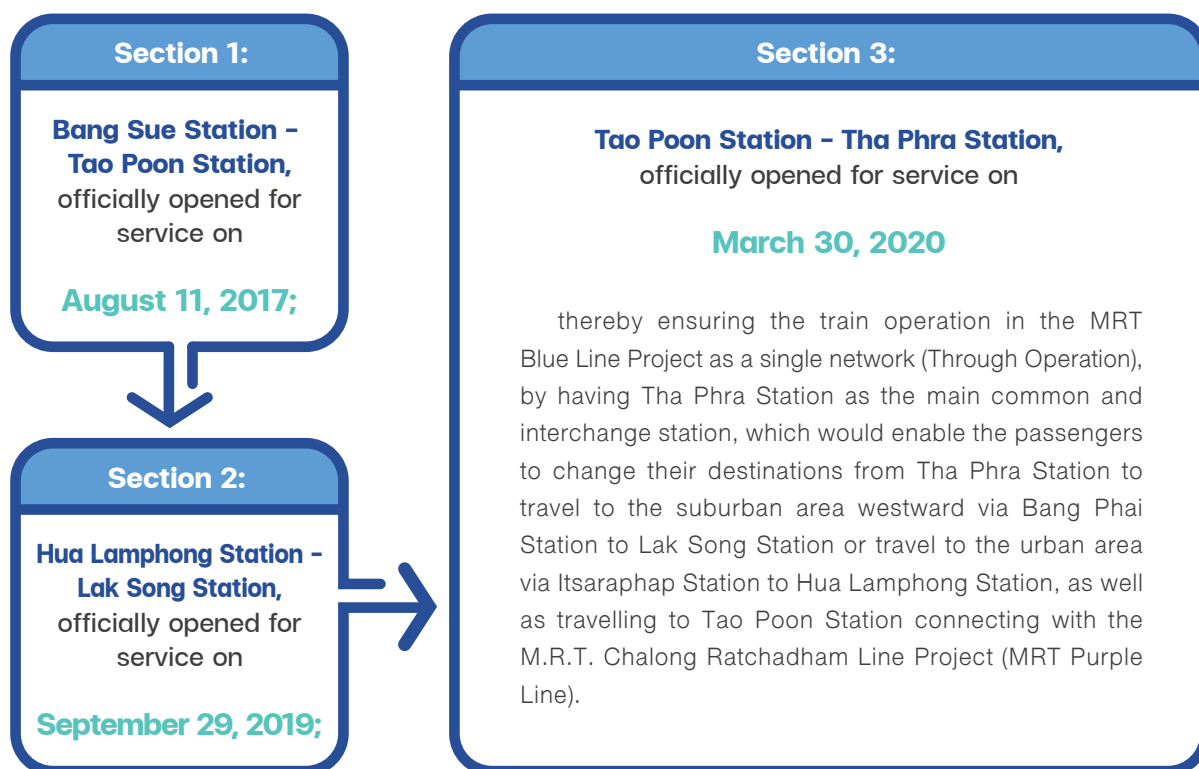
2. Rail Business

(1) Nature of Services

The Company has been granted concessions for two mass rapid transit rail system projects by the Mass Rapid Transit Authority of Thailand ("MRTA"), namely the M.R.T. Chaloem Ratchamongkhon Line Project and the M.R.T. Chalong Ratchadham Line Project, as per the following details:

- **The M.R.T. Chaloem Ratchamongkhon Line Project** ("MRT Blue Line Project"): The Company shall be responsible for supply, installation, testing and commissioning of M&E Equipment, provision of services to ensure a continuous operation as a single network (Through Operation), and the Company is entitled to farebox revenue as well as undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and trains throughout the concession period of 30 years from the date of the service opening of the entire route. In this regard, the M.R.T. Chaloem Ratchamongkhon Line Project is consisted of Hua Lamphong-Bang Sue Section (the existing MRT Blue Line), and Hua Lamphong-Bang Khae Section, Bang Sue-Tha Phra Section (the MRT Blue Line Extension), per the details below:
 - o **Hua Lamphong - Bang Sue Section (the existing MRT Blue Line)**, the first underground metro system of Thailand, covering the distance of 20 kilometers, with 18 stations, which was opened for service on July 3, 2004. The Company is entitled to farebox revenue as well as undertaking activities and commercial development, including advertising, leasing space and telecommunications services in the metro stations and trains.

- o **Hua Lamphong - Bang Khae Section and Bang Sue - Tha Phra Section (the MRT Blue Line Extension)**, the underground and elevated route, with a total of 20 stations, divided into 4 underground stations and 16 elevated stations, having a connection with the M.R.T. Chaloem Ratchamongkhon Line Project (the existing MRT Blue Line) at Hua Lamphong Station and Bang Sue Station, as well as connecting with the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line) at Tao Poon Station. The Company is responsible for investment, supply, installation, testing and commissioning of the M&E Equipment, and trial running, including the O&M Services by ensuring the continuous train operation (Through Operation). The supply and installation of the M&E Equipment for opening for service are divided into three sections, namely:



In this regard, the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line) was opened for full service, covering the total distance of 48 kilometers, with 38 stations and a total of 54 trains available for service every day from 06.00 - 24.00 hours.

- **The M.R.T. Chalong Ratchadham Line Project (“MRT Purple Line Project”), Bang Yai - Bang Sue Section (Khlong Bang Phai Station - Tao Poon Station)**, covering a distance of 23 kilometers, with a total of 16 elevated stations, where Tao Poon Station (Interchange Station) is located as an interchange station with Bang Sue Station of the M.R.T. Chaloem Ratchamongkhon Line (MRT Blue Line), which would make it possible for passengers’ interchange from the MRT Purple Line to the MRT Blue Line at Tao Poon Station, which in the future, would be connected with the MRT Purple Line Extension (Tao Poon - Rat Burana Section).

The Company has been granted the concession for investment, supply of M&E Systems and O&M Services for the MRT Purple Line Project, on a PPP Gross Cost basis. That is, MRTA invests in all civil works and the Company invests in the M&E Systems and the rolling stocks, including provision of the O&M Services in accordance with the service standards defined in the conditions of the Agreement. MRTA is entitled to all farebox revenue and commercial development revenue from the utilization of the civil infrastructure and the railway systems and MRTA shall make gradual repayment for the M&E Systems to the Company on a monthly basis for a period of 10 years, and engage the Company to conduct the operation and maintenance throughout the concession period of 30 years from September 4, 2013.

There is a total of 21 trains available every day without holiday, from 5.30 - 24.00 hours on Mondays - Fridays, and from 6.00 - 24.00 hours on Saturdays - Sundays and public holidays.

PROJECTS	CHALOEM RATCHAMONGKHON LINE (MRT Blue Line)		CHALONG RATCHADHAM LINE (MRT Purple Line)
	(Hua Lamphong Station - Bang Sue Station)	(Hua Lamphong Station - Lak Song Station and Bang Sue Station - Tha Phra Station)	(Khlong Bang Phai Station - Tao Poon Station)
Concession Type	PPP Net Cost	PPP Net Cost	PPP Gross Cost
Concession Period	33 years (2017-2050)		30 years (2013-2043)
Number of Stations	18 stations	20 stations	16 stations
Distance	20 kilometers	28 kilometers	23 kilometers

• Revenue

The Company's revenues from the rail business can be divided into two categories, comprising farebox revenue and revenue from O&M services.

o Farebox revenue

Pursuant to the Concession Agreement for the MRT Blue Line Project between the Company and MRTA, the Company has the right to operate the train and collect farebox revenue and undertake commercial development throughout the concession period. The Company is obliged to make payment of remuneration from fares and commercial development to MRTA at the rates as mentioned in the Concession Agreement.

The fare rates of the metro as of the commencement date would be in accordance with the basic reference fare rates in force at the time of the revenue service commencement date. Under the Concession Agreement, the reference fare rates would be adjusted every 24 months based on the actual changes of the Bangkok Non-Food Consumer Price Index compared to the basic reference fare rates.

o Revenue from O&M Services

The Company receives service fees for train operation and maintenance from the MRT Purple Line Project Concession Agreement, Contract 4, Concession for Supply of M&E Systems and O&M Services (Khlong Bang Yai Station-Tao Poon Station), Phase 2 (for a period of approximately 27 years). The service opening commenced on August 6, 2016.

(2) Innovative Development

Nowadays, innovation and technology are starting to play a key role in our daily lives; as a result, the behavior of electric train passengers has changed, such as placing on greater emphasis on convenience, safety, and speed of operation. Hence, it is evident that the existing payment system has shifted to electronic payment, also known as Digital Payment, resulting in a decrease in cash usage and the beginning of the transition to a cashless society. Therefore, the Company has developed a payment innovation which will be applied in conjunction with the payment of metro fares in order to provide passengers with additional payment options and to meet their needs. Over the previous period, the following actions were taken by the Company:

- EMV Contactless fare payment system has been designed, resulting from collaboration between the Company and Krung Thai Bank in developing a contactless credit or debit card fare payment system under EMV standards in order to better serve passengers.
- Top-up for tickets via TrueMoney Wallet, Krungthai NEXT, and Shopee Pay applications has been intended to make it easier for passengers to use their smartphones with TrueMoney Wallet, Krungthai NEXT applications and topping up tickets rather than paying with cash, as well as the offered spending promotions from the use of the applications.
- Payment of fares via the government-sponsored application "Bao Tang" has been intended to stimulate the economy and provide relief to those affected by the COVID-19 outbreak, for example, "Half-Half Co-Payment", "Section 33 We Love Each Other" or "We Win" projects, and others.
- Payment of fares using a state welfare card, a government assistance program for low-income people, who are eligible for benefits from public transportation.

(3) Marketing and Competition of Rail Business

- **Customer Characteristics and Target Customers**

Target customers of metro users are a group of persons who reside near the service routes and a group of persons who do not live around the routes but have a destination on the service routes.

The number of passengers using the metro service from January 1, 2022 to December 31, 2022 was classified as follows:

Number of Passengers
(million trips/year) **98.78**



Average Volume of Passengers (thousand trips/day)

270.62

The M.R.T. Chaloeam Ratchamongkhon Line Project
(MRT Blue Line)

Number of Passengers
(million trips/year) **16.12**



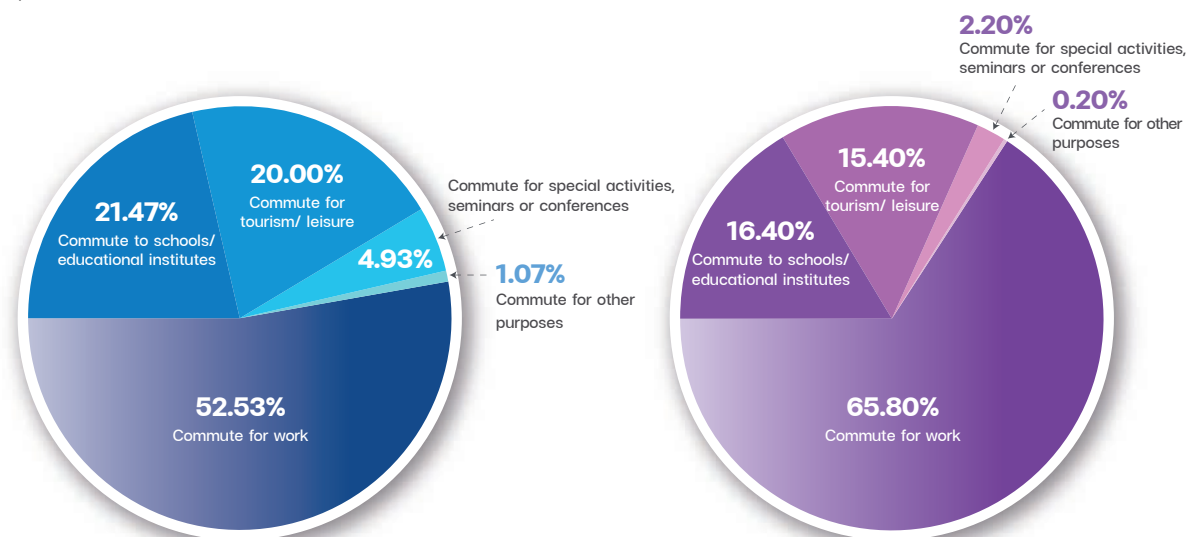
Average Volume of Passengers (thousand trips/day)

44.15

The M.R.T. Chalong Ratchadham Line Project
(MRT Purple Line)

In this regard, primary factors in choosing the metro system which influence service users' travel behaviors are the convenience of travel and time-savings, with the majority of their intended destinations being places of work and education.

Information from the passenger satisfaction survey in 2022 can be categorized by the following purposes of travel:



The M.R.T.
Chaloeam Ratchamongkhon Line Project
(MRT Blue Line)

The M.R.T.
Chalong Ratchadham Line Project
(MRT Purple Line)

Source: Information collected by the Company.



- **Marketing Strategies of Rail Business**

- The Company gives top priority to service quality with its commitment to safe, convenient, fast, reliable, and punctual services in order to be the best travel alternative to suit service users' needs.
- The Company has established strategies for strengthened relationships with passengers to ensure their satisfaction and engagement in using the service, contributing to support of the Company's revenue generation and an increase in the number of passengers. In the past year, the Company has cooperated with TAT and MRTA in organizing the **"Happy Journey with BEM"** campaign, a travel activity along the MRT Blue Line route, with the objective was to promote tourism in the highlighted landmarks around the MRT Blue Line route while also thanking the MRT service users.
- The Company has built good relationships with relevant parties, provided cooperation with business alliance, granted privileges to partner customers holding the MRT tickets, including general passengers, and offered additional benefits to boost passenger satisfaction.
- The Company has expanded its product line with ticketing for its customers as business entities, namely a commemorative metro card with a special printed card face; increased brand advertising opportunities; and joint business metro cards in collaboration with financial institutions, that can be used as all-in-one ID, debit and metro card.
- The Company has developed MRT souvenirs in the form of M Shop products in order to forge a connection with its passengers. In this regard, they may view or place an order for such products conveniently via online channels at the Company's website or Bangkok MRT Application, with home delivery available.

- **Marketing Condition and Competition of Rail Business**
Mass Rapid Transit Systems in Bangkok and its Vicinity

Bangkok is a large capital city with a dense population, and is the economic center, giving rise to a rate of rapid growth and expansion. As a result, Bangkok today has been extremely facing traffic problems, which have accumulated over many years, along with an ongoing increase in population, number of cars, motorcycles and other vehicles in Bangkok every year, without any declining tendency, not to mention the demand for travel of the people which was rising, while the traffic areas and public transport systems could not adequately accommodate such rising demand, which was considered the main problem occurring in other densely populated capital cities worldwide. From such problems, the government has therefore implemented a policy to emphasize the development of various public transport networks to resolve the traffic problems in order to accommodate an increase in the population, including the economic growth of the country. Currently, the problem of the COVID-19 outbreak is trending downward and beginning to be under control; the government sector has therefore implemented a policy to repeal social distancing measures in travel, resulting in a rise in the number of individuals using public transportation.

In this regard, travelling by residents in Bangkok can be divided into two modes of transport systems, namely, personal transport system and public transport system.

1. Personal Transport System

As a result of the people's residences in Bangkok and its vicinity which are spread all over, traveling, including the growing number of highly-paid population, coupled with the inadequacy of the existing mass transit systems, travelling by personal cars then remains popular, if comparing the expenses spent on traveling with personal cars, together with service quality and safety, as a result, the use of a personal car is still necessary and comfortable to travel. On the contrary, the expansion of traffic areas in Bangkok still remains limited and inadequate to accommodate the increasing number of vehicles.

2. Public Transport System

As a result of the traffic congestion problem, particularly during peak hours, and the growth of the real estate projects, particularly the real estate surrounding the electric train routes, consumers' demand for the public transportation system of certain types was considerably high, especially for the electric train system which was significantly expanding by reason of change in the urban people's behaviors of selection of residences and travelling by significantly focusing attention to convenience, rapidity, punctuality and shortened time in travelling.

- Buses

There are currently various types of public buses available for service at different service rates to provide passengers more alternatives; however, the number of public buses in service in Bangkok and its vicinity remains inadequate, owing to the fact that a certain number of buses are undergoing improvement and bus routes are being rearranged to ensure that they are appropriate and connected to build up a network to other mass transit systems, such as electronic train system, as well as access to new growing residential communities. Despite the fact that there are currently a total of 6,484 buses in service, more than 1,785 passenger vans gain tremendous popularity among people due to its availability as a fast and comfortable mode of transportation. Furthermore, the Bangkok Mass Transit Authority (BMTA) has incorporated technologies to enhance its service quality, by implementing an E-Ticket system, accepting payments via QR-Code mobile banking, and installing a GPS system to monitor bus operations on schedule, as well as installing CCTV cameras for passenger security monitoring, and so on. But due to the ongoing problems of traffic congestion on roads as a whole, especially during the morning peak hours from 6.30-8.30 hrs. and the evening peaks hours from 16.30-18.30 hrs. and during the rainy season, travelling is then time-consuming. (Source: Bangkok Mass Transit Authority, information as at November 2022)

- [Trains](#)

Over the past years, the government sector has implemented a policy to provide relief assistance to the low-income earners to enable them to spend through the government welfare smart cards, whereby the cardholders can use the service for both public service buses (bus), passenger vehicles served by The Transport Co., Ltd., trains and electric trains, free of charge in the amount not exceeding Baht 500 baht per system per month. However, the train system service still lacks the facilities and the safety for the service users, due to the fact that the conditions of the trains in use are currently not comfortable, not to the service users' satisfaction, and it takes quite a long time to travel, let alone the limited routes not covering the entire city. As a result, the State Railway of Thailand (SRT) expedited additional dual track rail system construction projects on many routes in order to enhance the capacity and accommodate the maintenance of the rising number of trains and to develop the Thai railway system in accordance with Thailand's transportation infrastructure development strategy. In this regard, the SRT's train service is not considered the Company's direct competitor owing to different service routes, namely, the SRT mainly aims to provide the service to suburban areas.

- [BTS](#)

BTS Skytrain is Thailand's first mass rapid transit rail system on the elevated dual tracks in separate directions, with its first service opening on December 5, 1999 on 2 lines, namely, Sukhumvit Line and Silom Line. On December 16, 2020, the line extension project of Mo Chit - Saphan Mai - Khu Khot Section was opened to the public for a fare-free trial for all stations, and the Saint Louis Station was opened for service on February 8, 2021. Then, it has the total service distance of 68 kilometers, with 60 stations. As such, traveling by BTS Skytrain is another option which facilitates commuters' travelling, and with the BTS Skytrain's route running to the heart of the city, it then becomes massively popular among people, and it also contributes to a factor in continuously increasing the service users.

- [ARL](#)

The Suvarnabhumi Airport Rail Link or Airport Rail Link is a special mass rapid transit rail system project, as part of the projects for construction of suburban rail system, operated by SRT. Presently, Asia Era One Co., Ltd. is the operator of the train operations. It is an electric train project which supports traveling from the eastern suburbs to the middle of the city by connecting travel and transporting passengers from the Suvarnabhumi Airport to Bangkok at Phaya Thai Station which is an electric train system with both underground and elevated structures, totaling 8 stations, with a distance of 28.6 kilometers. It was opened for service on August 23, 2010.

As a result of an ongoing increase in a number of the public transport system service users, it reflected the change in travel behavior of residents in Bangkok and its vicinity from using personal car to use the public transport system. This indicated the development in terms of convenience, rapidity, safety and the extended coverage areas of travelling to ensure transit in the through operation system at present. However, owing to the problems of traffic congestion, air and noise pollution, and potential accidents, the transit rail system is then viewed as a crucial turning point for transformation and growth of the mass rapid transit systems in Bangkok and its vicinity, which will help alleviate traffic problems, ensure service users' safe, convenient, rapid and shortened journeys, and also have a positive effect on the economy and environment. As a result, the electric train system offers a key travelling mode of choice which improves the quality of life of urban commuters while simultaneously minimizing fuel and national resource use.

- **Industrial Outlook and Government Policy of Rail Business**

2022 marks the first year that Thailand's overall economy has clearly begun to recover, with a growth rate of approximately 2.6 percent, improving from 15% in 2021 mainly attributable to the people receiving adequate vaccinations, a decline in the severity of infections, resulting in a revival of the domestic economy, as well as welcoming the arrival of foreign tourists. (Source: Office of the National Economics and Social Development Council)

In terms of transportation system development, the Ministry of Transport has strived to develop the transportation systems of Thailand to serve as a mechanism to drive the country's economy to achieve balanced and stable growth. The infrastructure development for transportation would cover areas across the country, accommodate constant transportation and travelling which are connected together in a variety of modes, whether it be primary, secondary, and sub-tours, within the area, especially the mass transit system by electric train, one of the strategic plans for transportation development and as another important instrumental in driving the economy and reviving the country. In this regard, the M.R.T. Chaloem Ratchamongkhon Line (MRT Blue Line Extension), Hua Lamphong - Bang Khae Section (Lak Song Station), and Bang Sue - Tha Phra Section, one of the projects to which the government gives priority, was officially opened for the entire route on March 30, 2020; therefore, the MRT Blue Line Project is able to provide complete train service for the entire route as the single network (Through Operation). As such, traffic problems in Bangkok, which is the urban center of all activities, will be alleviated, and it will then become the network center for transportation and travel. In addition, the MRT Dark Green Line Extension Project, Mo Chit - Saphan Mai - Khu Khot

Section, was opened to the public for a fare-free trial on December 16, 2020. Moreover, there are many major electric train projects which have been pushed forward, namely, the MRT Purple Line (South), Tao Poon - Rat Burana (Kanchanaphisek Outer Ring Road); the MRT Brown Line, Khae Rai - Lam Sali (Bueng Kum); the MRT Grey Line, Watcharaphon - Thong Lor Section; and the Bangna-Suvarnabhumi Line Project. Currently, they are in the process of proposing a budget and study of project details, including investment format, whereby all the projects have been accelerated by the government sector to ensure compliance with the strategic plans for infrastructure development for transportation of the country, in order to build an electric train network which covers more areas, and it serves as another option for traveling which can be scheduled, remains convenient, rapid and safe, as well as helping diminish environmental problems, improving the quality of life of the people in the pursuit of the country's continual development and sustainability.



Progress of Development of the Mass Rapid Transit Systems under the Government Policy

PROJECT	CURRENT STATUS OF PROJECT
SRT Red Line	<p>Bang Sue-Rang Sit, with 10 stations, for a distance of 26.30 km.</p> <ul style="list-style-type: none"> - It was opened to the public for a fare-free trial on August 8, 2021. - It was officially opened for service on November 29, 2021. <p>Bang Sue-Taling Chan, with 3 stations, for a distance of 15 km.</p> <ul style="list-style-type: none"> - It was opened to the public for a fare-free trial on August 8, 2021. - It was officially opened for service on November 29, 2021. <p>Taling Chan-Salaya, with 4 stations, for a distance of 14.8 km.</p> <ul style="list-style-type: none"> - The project was already approved on February 26, 2019. - Currently, SRT is planning to open the project's construction work for bidding in 2023. <p>Taling Chan-Siriraj, with 3 stations, for a distance of 5.7 km.</p> <ul style="list-style-type: none"> - The project was already approved by the Council of Ministers on March 5, 2019. - Currently, SRT is planning to open the project's construction work for bidding in 2023. <p>Rangsit-Thammasat University (Rangsit Campus), with 4 stations, for a distance of 8.84 km.</p> <ul style="list-style-type: none"> - The project was already approved on February 26, 2019. - Currently, SRT is planning to open the project's construction work for bidding in 2023. <p>Bang Sue-Phaya Thai-Makkasan-Hua Mak Section, and Bang Sue-Hua Lamphong Section</p> <ul style="list-style-type: none"> - Currently, the construction design is being reviewed.
MRT Brown Line	<p>Khae Rai - Lam Sali (Bueng Kum), with 20 stations, for a distance of 22.1 km.</p> <ul style="list-style-type: none"> - January 3, 2019, the Commission for the Management of Land Traffic (CMLT) resolved to assign the OTP to incorporate the development plan for the MRT Brown Line Project, Khae Rai-Lam Sali (Bueng Kum) into the Mass Rapid Transit Master Plan in Bangkok Metropolitan and its vicinity, Phase 1. - Currently, the project is under consideration for the Environmental Impact Assessment Report (EIA). - It is expected that an open bid will start within 2024, and that the construction will start in 2025, and that it will open for service by 2028.

PROJECT	CURRENT STATUS OF PROJECT
MRT Purple Line Extension	<p>Tao Poon-Rat Burana (Kanchanaphisek Outer Ring Road), with 17 stations, for a distance of 23.6 km.</p> <ul style="list-style-type: none"> - On July 25, 2017, the Council of Ministers passed a resolution granting approval for MRTA to carry out the construction of civil works for the MRT Purple Line Project, Tao Poon-Rat Burana Section (Kanchanaphisek Outer Ring Road). - SRT signed the Civil Work Contracts, Contracts No. 1-6 on March 11, 2022 as follows: <ul style="list-style-type: none"> Contract 1 : Design and Construction of Railway Tunnels and Underground Stations, Tao Poon - National Library Section, carried out by CKST-PL Joint Venture, comprising CH. Karnchang Public Company Limited and Sino-Thai Engineering & Construction Public Company Limited, as the successful bidder; Contract 2 : Design and Construction of Railway Tunnels and Underground Stations, National Library - Phan Fah Section, carried out by CKST-PL Joint Venture; Contract 3 : Design and Construction of Railway Tunnels and Underground Stations, Phan Fah - Saphan Phut Section, carried out by ITD-NWR MRT Joint Venture; Contract 4 : Design and Construction of Railway Tunnels and Underground Stations, Saphan Phut - Dao Kanong Section, carried out by Unique Engineering and Construction Public Company Limited; Contract 5 : Construction of Elevated Railway Structures and Stations, Dao Khanong - Khru Nai Section, Stabling Yard and Park & Ride, carried out by Italian-Thai Development Public Company Limited; Contract 6 : Design and Construction of Railway System for the Entire Project Route, carried out by Italian-Thai Development Public Company Limited. - It is expected to open for service by the end of 2027.
MRT Grey Line	<p>Watcharaphon - Thong Lor, with 39 stations, for a distance of 39.91 km.</p> <ul style="list-style-type: none"> - Currently, BMA is in the process of meeting to consider concluding the project, with a tendency to transfer the project back to MRTA to implement in its place, due to Bangkok Governor Chadchart Sittipunt's policy aimed to address structural problems, particularly the transfer of unnecessary and redundant projects back to the government, as well as the solution to the debt issue concerning the BTS Skytrain project, to which BMA still owes.
Bangna-Suvarnabhumi Line Project	<p>Phase 1: Bang Na - Thana City Section, with 12 stations, for a distance of 14.6 km.</p> <p>Phase 2: Thana City – Suvarnabhumi (South Terminal), with 2 stations, for a distance of 5.1 km.</p> <ul style="list-style-type: none"> - Currently, the project is in the process of studying and preparing report on the Public-Private Partnerships (PPP).

(4) Procurement of Products and Services of Rail Business

The Company has performed procurement of travel ticket manufacturers through bidding to recruit and engage ticket manufacturers in a transparent, fair, and verifiable manner, with it mainly engaging domestic manufacturers in the past.

The Company has offered a variety of train ticket formats to match the usage and to be another convenient and cost-effective travel option for service users, namely:

- Single Journey Token: a smart, contactless coin used for a single travel
- Stored Value Card: a smart card which can be stored and topped up value for multiple rides
 - Adult Card available for the general public, with regular fare rates according to distance;
 - Student Card available for students (aged not over 23 years old), will be offered a 10% discount off the normal fare rates on all trips;
 - Elder Card available for the elderly (aged 60 years old or more), will be offered a 50% discount off the normal fare rate on all trips;
 - Child Card available for children aged under 14 years old with a height of 91-120 cm., will be offered a 50% discount off the normal fare rate on all trips;
 - Business Travel Card and Business Alliance Card, which are issued in collaboration with business alliances, and are used in the same way as Adult Card.

Moreover, the Company has offered a variety of journey ticket promotions to fulfill the demands of passengers for MRT PLUS and MRT tickets for the general public as another alternative mode of transportation, as follows:

CATEGORY	DETAILS		
	NUMBER OF TRIPS	PRICE (Baht)	AVERAGE/TRIP
PL Adult Pass	15 trips	450	Baht 30
	25 trips	700	Baht 28
	40 trips	1,040	Baht 26
	50 trips	1,100	Baht 22
	60 trips	1,200	Baht 20
BL Adult Pass	15 trips	450	Baht 30
	25 trips	700	Baht 28
	40 trips	1,040	Baht 26
	50 trips	1,250	Baht 25
ML Adult Pass	15 trips	810	Baht 54
	25 trips	1,300	Baht 52
	40 trips	2,000	Baht 50
	50 trips	2,250	Baht 45

3. Commercial Development Business

The Company has appointed its subsidiary, namely, Bangkok Metro Networks Limited (“BMN”), as the management representative in the commercial development in respect of the expressway system and the commercial development in the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line commercial area), comprising procurement and/or production of advertising media of various forms, lease and service of retail spaces, provision of event space service, provision of automated machine installation space service, and provision of service and maintenance of telecommunications networks. In addition to the commercial areas where the Company has obtained concessions from EXAT and MRTA, BMN has also catered advertising media spaces and rental spaces for other purposes in order to serve interested customers.

(1) Nature of Services and Innovation Development

- **Commercial Development Relating to Expressway System**

As for the commercial development in the area of the expressway system, the Company and one of its subsidiaries, namely, NECL, allowed private entities and individuals to take on the lease of spaces for commercial operation, as follows:

- **Installation of Intelligent Traffic Signs and Advertising Boards**

Private entities are allowed to install Intelligent Traffic Signs on the main routes and in front of expressway toll plazas, as well as advertising boards in a variety of locations, such as, in front of expressway toll plazas, in front of expressway toll booths, on expressway columns, on expressway retaining walls, and in the front area of expressway toll booths, and so forth.

- **Retail Areas around Toll Plazas**

There are four locations with retail stores and public restrooms for the convenience of expressway users, namely the Srinagarindra, Prachachuen (Inbound), Bang Pa-in (Inbound), and Bang Pa-in (Outbound) Toll Plaza areas.

- **Other Business Operations**

Private entities which are the contractual parties to the Company are allowed to use the expressway areas for installation of 3G signal distribution systems, etc.

- **Commercial Development Relating to Metro System**

The Company has appointed its subsidiary, namely, BMN, as the sole management representative in the commercial development of the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line), per the following details:

- **Procurement and/or Production of Advertising Media**

Energy prices are continuing to rise as a result of significant changes such as technological advancement, the emergence of epidemics, and Russia and Ukraine war. Energy prices are an important cost of all types of production factors which are contributing to an increase in the cost of products and services while slowing down business or household income. Such major causes have an impact on how entrepreneurs conduct their businesses and behavior of both customers or people in that they must effectively control their costs. Because of such situations, the service industry, as well as all forms of advertising media, including traditional, cinema, out-of-home, mobile, and digital media, and others, are all fiercely competitive to retain market share this year.

From such situations, the procurement and/or production of advertising media of various forms must be then carried out to fulfill and meet the needs of customers in an appropriate and cost-effective manner, both in terms of raising or increasing awareness of products and services, adding value to those products and services, as well as upholding corporate image in order to achieve effective communication, forge relationships, and foster confidence and trust in those products and services to the point that customers ultimately opt to select such goods and services.

Therefore, BMN has developed public relations materials in the innovative form, utilizing a variety of technologies and creativity on a regular basis, as well as improving digital media formats to ensure that they can be published in 3D format or enlarging the size of advertising media inside MRT stations, alongside the modernization of media formats in main MRT stations with a dense population of service users, and expanding to other MRT stations with the development of their surrounding areas, for example, Queen Sirikit National Convention Center Station, in order to effectively communicate with the target groups. In addition, the strength of MRT advertising media in a closed setting with a vast area is the capacity to develop a wide range of innovations and creative tricks, technique while also prioritizing the safety of MRT service users. Another one of its strengths is the capacity to contribute to surrounding connected media to create the power of communication; awareness among MRT service users, impressive sharing, creating a positive online reputation with social media, and achieving their engagement with those products and services. Additionally, BMN has increased the reach of its advertising in both digital and static media by placing advertisements promoting its brands and corporate image above MRT stations in different prominent places to reach more target groups.

Collaboration with partners is another strategy that is extremely important to the business operations, both at present and in the future, in order to ensure sustainable growth, in addition to advertising media development strategies. To that end, BEM develops event marketing in a variety of ways in collaboration with its partners to increase the number of MRT service users, which would bring commercial benefits to the MRT system business.

- Lease of Retail Areas in MRT Stations

Despite the fact that in 2022, the COVID-19 outbreak situation would improve, businesses and people's travel would return to normal, causing the higher number of the MRT service users than that in the situation of the ongoing disease outbreak, the number of MRT service users still remained below the normal range. The number of passengers; nevertheless, continued to rise. This year, the number of the service users was rising as a result of the opening of retail stores for service within Metro Mall at Kamphaeng Phet Station, Chatuchak Park Station, Phahon Yothin Station, Lat Phrao Station, Thailand Cultural Centre Station, Phra Ram 9 Station, Phetchaburi Station, Sukhumvit Station, and Khlong Toei Station. As such, operators renting spaces within MRT stations have seen an increase in income from sales of products and services. Furthermore, the provision of event space services both inside and outside the Metro Mall area or rental space in the Unpaid Area such as Phra Ram 9 Station, Chatuchak Park Station, Phetchaburi Station, Huai Khwang Station, and other stations, etc., received more attention from operators who were organizers or business owners themselves. As a result, the Company's rental space and service revenue grew over the prior year. The Company's initiatives to reduce rental and service fees only applied to a subset of the stores who were still affected thereby.

BMN has renovated the Metro Mall area, Phahon Yothin Station, into a "Destination" in the "Metro Art" style by combining the use of space among spaces for displaying works of art by various artists, an art learning center, and service shops to suit the lifestyle of the new generation who are more interested in art. In addition, it entails the development of an art learning center for interested high school students, university students, and general public, which would encourage an increase in the MRT system use. At the same time, it also serves the general public in a similar way to Khlong Toei Station, where people can easily and rapidly travel in order to obtain foreign passports.

Moreover, BMN is studying the service opening of a Metro Mall area at Queen Sirikit National Convention Centre Station because the Queen Sirikit National Convention Centre has currently been in service since September 2022, resulting in a significantly rising number of passengers using the service at the Queen Sirikit National Convention Centre Station.

- **Provision of Service and Maintenance of Telecommunications System Equipment**

The Company, a Type II Telecommunications Business Licensee with its own network permitted by the Office of The National Broadcasting and Telecommunications Commission (Office of the NBTC), has improved efficiency, quality of mobile phone service within the M.R.T. Chaloem Ratchamongkhon Line Project, by installing a telecommunication network to receive, transmit and distribute mobile phone signals to support 5G technology services at 22 underground stations, covering areas both inside MRT stations and MRT tunnels, where they can support the current frequency bands such as 700 MHz, 850 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2600 MHz that the Office of the NBTC has licensed to the private sector. As a result, even in underground MRT stations, MRT service users can access information, news, or use their mobile phone to communicate at any time while on board.

Other than this, the Company also provides rental space service on 15 elevated stations of the MRT Blue Line Extension Projects to private operators providing mobile phone services for the installation of signal distribution equipment in order to provide quality service to the MRT passengers.

(2) Marketing and Competition of Commercial Development Business

• **Marketing Policy of Commercial Development Business**

- **Advertising Media**

The target audiences of advertising media in the MRT system are goods and service owners with their target audience is MRT service provider, such as employees of the government sector and private companies, high school and university students, self-employed individuals, and others. The goods and service owners will use the budget to purchase advertising media for the main purposes, namely to boost sales, build recognition for image, products and services, and corporate image.

The MRT public relations media are placed in positions where the service users pass by, i.e., where they first enters the MRT stations in up-down areas until they reach the platform, board MRT trains, and finally arrive at their destinations. It was discovered through research and analysis that the spaces inside MRT stations or inside MRT trains are ideal for static media, such as light box media, sticker media installed in areas where passengers pass by, and the like, or dynamic media in the form of digital screens in order to ensure effective or profitable use of customers' advertising media. What's more, BMN has been developing its creativity, tactics, innovations, and use of various technologies together to make its advertising media engaging, unique, and capable of impressing customers' consumers or target audiences. The MRT public relations media serves as more than just a place for customers to present news updates; it can also be used to promote storytelling, goods and services, or corporate image via advertising media with a broad area, connecting the efficient use of services in each leg of their travel.

The Company's patterns of purchasing advertising media include purchasing media through an agency, an agent of the owner of the products and services in analysis of target audience, advertising media in various locations in order to satisfy the most advertising requirements of owners of products and services. This group is the largest group accounting for 60 percent, and another group, owners of products and services, accounts for approximately 40 percent, which BMN will undertake a study to better understand the qualifications, characteristics of products and services, advertising goals, and target audience, in order to share information to agencies or owners of products and services about choosing to use advertising media that will benefit or succeed. The top 5 products and services using MRT advertising media are composed of credit and debit card group, followed by telecommunications (mobile phone), (non-alcoholic) beverage, website, and skin care product groups, respectively.

Customers are crucial "partners", according to the guiding principle for the Company's business operations; whenever customers are successful and are satisfied, the Company's goals are achieved in that regard. Therefore, the Company's marketing policy is aimed at striving to "improve the quality of services for customers even further."

- Lease of Retail Areas in MRT Stations

The development of rental space and services within MRT stations (Metro Mall) is based on a model that places great emphasis on services for passengers, by offering them products and services that can respond to their lifestyles and bring them a happy journey. To that end, Metro Mall is designed to be a resting place with a clean, beautiful, safe environment and amenities like Free Wi-Fi accessible to passengers or those who are using the service within Metro Mall.

According to the COVID-19 outbreak situation, which has persisted since 2020, operators renting space in Metro Mall have consistently been good partners, and the Company has taken into account the operators' operational operations in the rental area. In 2022, despite the fact that the situation caused by the virus outbreak would ease; businesses could resume their regular operations; there would be more passengers and users of the service at Metro Mall, resulting in better operating results than during the severe outbreak, fewer people used the service than they did prior to the virus outbreak. The Company continued to support in aid of particular groups of entrepreneurs, such as providing discounts on rental and space service fees, extending the time for paying for rental and service fees, as well as organizing promotional marketing campaigns to encourage more passengers to use the service in the area.

BMN focuses on co-marketing with entrepreneurs, developing marketing initiatives which help support and promote rental spaces and services to make them dynamic, engaging, colorful, and lively, bringing joy to passengers, as well as adding value to such area.

Furthermore, the Company continues to develop Metro Mall by providing a distinctive design in suitable stations to make the MRT station areas bring happiness in travel to service users, giving opportunities to groups with particular interests, and creating a learning space for high school students, university students, and the general public, as is the case with Metro Mall, which has been renovated as "Metro Art" at Phahon Yothin Station.

- Provision of Service and Maintenance of Telecommunications Equipment

Another primary mission of the Company is to offer MRT passengers efficient and high-quality mobile phone use when traveling. To achieve such mission, the Company has a team of experts specialized in maintaining telecommunications networks and also collaborating with a specialized team of mobile phone service providers which have been licensed by the Office of the NBTC to regularly monitor the quality of service signal. This enables passengers to use their mobile phones when inside MRT stations throughout the travelling.

• Industrial Outlook and Competition of Business Development Business

- Advertising Media

Even though in 2022, the COVID-19 outbreak situation would lessen; business operations would resume to normal; and the tourism industry would begin to recover, some businesses were still negatively impacted. The country's economy was still facing the problem of inflation due to the steadily rising energy price crisis, substantially attributable to the war crisis between Russia and Ukraine, as such, business costs, prices of goods and services were rising. Because of such predicament, the private sector and households must effectively manage their expenditure; the use of the public relations budget would be evaluated in terms of worthiness and maximum benefits.

The overall advertising industry during January to October 2022, which the media with a higher growth rate included cinema media, mobile media, in-store media, and out-of-home media; while the media with the declined growth rate were cable and newspapers media, had a growth rate of 10 percent (Source: Nielsen) as compared to that during the same period as the previous year. Yet, the competitive circumstances were extremely intense, as evidenced by the use of discounts of more than 50 percent or a variety of giveaways in order to retain the current clientele while also attracting new ones.

The advertising media industry in 2023 would likely continue to face the risk of global conflict about the “Russian-Ukrainian War”, which has considerably escalated the energy prices globally, followed by raw materials prices, inflation, and interest rates, having an impact on the rate of economic growth both in Thailand and worldwide. As a result, it is expected that in 2023, the advertising media industry, which is likely to grow in a direction consistent with the pace of economic growth, would still face intense competition and continue to use a variety of promotions to maintain or increase market share. Additionally, the provision of other services or joining forces with partners to undertake activities for promotion of customers’ businesses will be another strategy that will be more heavily implemented the following year, so as to allow customers to see the value of the use of their budget and to build long-lasting healthy relationships with them.

- **Space for Lease and Services**

Rental and space service businesses in 2022, namely Enclosed Mall, Community Mall, Department Store, On-Site Retail, Super Store, have showed signs of slow improvement. After the COVID-19 outbreak situation has abated, people feel more comfortable living outside, more tourists are visiting, and the government has made investments in various forms of infrastructure, all of which have provided a kickstart for the country’s economic recovery. As such, the demand for retail space increases accordingly, and it is expected to grow from the previous year by 2-3 percent (*Source: Krungsri Research Report, September 2022*).

The Metro Mall in the MRT stations is a distinctive location where services are provided to the primary target audience, namely MRT users, with it being directly affected by the severe COVID-19 outbreak in terms of both decreased passenger numbers and business closures as a result of government measures. In 2022, the number of passengers started to be on the rise, the businesses were able to resume providing the services as usual, and the space rental and service provision began to improve. Even though some entrepreneurs were still somewhat affected by a certain number of passengers who have not returned to pre-epidemic conditions or some of them departed the area, there were interested new entrepreneurs using the area, and the activity area started to become alive once more. In this regard, the Company continues to prioritize the development of Metro Mall area to meet the needs of service users and entrepreneurs in regard to the facilities area, safety measures, maintaining a good image and good relationships as a good business partner in the long run.

• **Provision of Service and Maintenance of Telecommunications Network**

The mobile phone service industry in the country will have public and private operators licensed by the Office of the NBTC, which will compete in providing services to the public in terms of quality and service rates under supervision of the Office of the NBTC.

Provision of service and maintenance of the Company’s telecommunications network is to ensure the availability of an efficient and quality network which is accessible to those who have secured mobile phone business licenses. As a result, business competition in terms of service quality will be a factor driving the Company to maintain its telecommunication network in accordance with the standards as given commitment with the Office of the NBTC and its business partners.

(3) Procurement of Products and Services of Business Development Business

• **Nature of Procurement of Products**

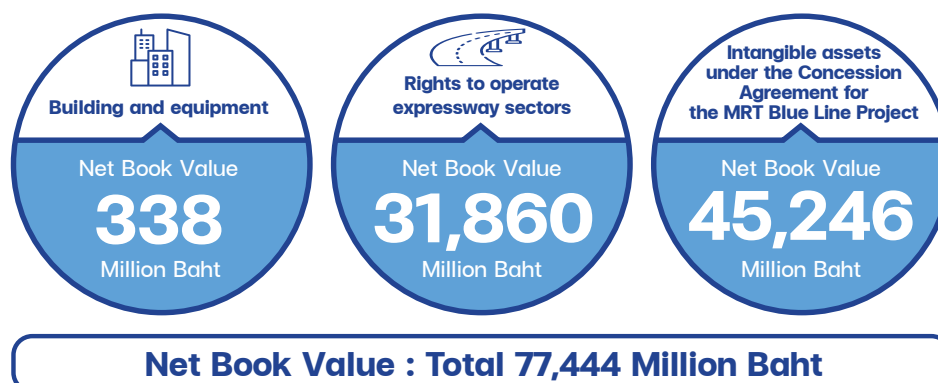
The Company has obtained the concession from MRTA for operation and commercial development in the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line), with the Company conducting commercial development in respect of 1) procurement and/or production of advertising media of various forms; 2) lease of retail areas in the MRT stations; 3) provision of service and maintenance of telecommunications system equipment; and 4) other commercial activities, by authorizing Bangkok Metro Networks Limited as the Company’s representative to conduct the commercial development.

With respect to the expressways, the Company and its subsidiary (NECL) have allowed private entities and individuals to take on lease of expressway areas for installation of Intelligent Traffic Signs and billboards of different types, including retail areas around toll plazas, and other business activities, such as, the use of the expressway areas for installation of 3G signal distribution devices, etc.

(4) Operating Assets

4.1 Main Assets

As of December 31, 2022, the Company and its subsidiaries had main assets used in business operations, as follows:



The main assets of the Company and its subsidiaries as indicated above can be classified into class of assets and companies, as follows:

4.1.1 Building and Equipment

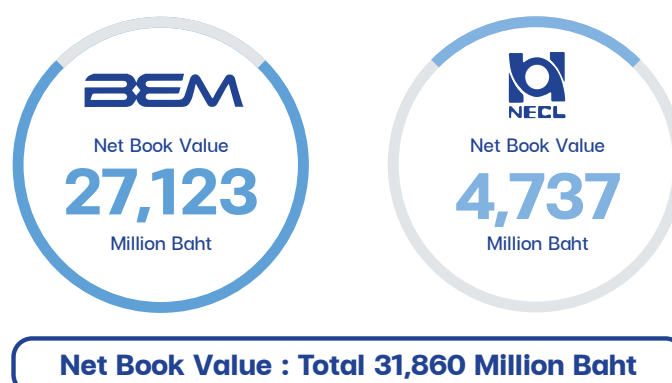
The book value of the building and equipment is classified by each company as follows:

COMPANY	NET BOOK VALUE (MILLION BAHT)	OWNERSHIP	ENCUMBRANCE
BEM	325	Owner *	None
NECL	2	Owner *	None
BMN	11	Owner	None
Total	338		

Remark: * The Company and the subsidiaries take a lease on building spaces for use as their Head Offices. For the operation buildings, the Company and its subsidiaries have been granted the right to use the operation buildings by the Concessionaire under the conditions of the respective Agreements.

4.1.2 Rights to Operate Expressway Sectors

The rights to operate expressway sectors are considered the costs of construction of the Expressways and amortized according to the nature of utilization within the Concession period. The book value of the rights to operate expressway sectors is classified by each company as follows:



On February 20, 2020, the Company/NECL and EXAT signed the Second Stage Expressway Agreement (Amendment) and signed the Bang Pa-in - Pak Kret Expressway Agreement (Amendment), for the respective specified concession periods of 15 years and 8 months from February 20, 2020, which are entitled to be extended under the remaining entitlement in the existing Agreements.

The essence of revenue sharing and renewal of the concession periods under the respective Agreements (Amendments) is as follows:

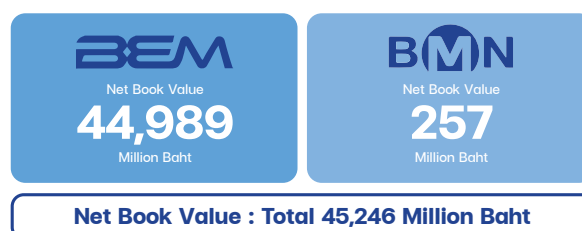
EXPRESSWAY	REVENUE SHARING THE COMPANY/NECL : EXAT	EXTENDED PERIOD	REMAINING EXTENSION ENTITLEMENT *
Si Rat (Sectors AB, C and D)	First Stage and Second Stage	15 years and 8 months to October 2035	4 years and 4 months
	Sector AB 40 : 60		
	Sector C 100 : 0		
	Sector D 100 : 0	8 years and 6 months to October 2035	11 years and 6 months
Udon Ratthaya (Bang Pa-in - Pak Kret)	100 : 0	9 years and 1 month to October 2035	10 years and 11 months

Remark: * The remaining period under entitlement to full extension of the respective Agreements as specified in the existing Agreements.

Toll rates have been revised to increase at a fixed rate every 10 years from September 1, 2018 for the Second Stage Expressway Agreement and every 10 years from November 1, 2018 for the Bang Pa-in - Pak Kret Expressway Agreement at the rates specified therein.

4.1.3 Intangible Assets under the Concession Agreement for the MRT Blue Line Project

The intangible assets under the Concession Agreement for the MRT Blue Line Project are considered the costs of construction of the MRT Blue Line Project and the installation of the equipment for commercial developments and amortized according to the nature of utilization within the Concession period. The book value of the intangible assets under the Concession Agreement for the MRT Blue Line Project is classified by each company as follows:



4.2 Investments in Subsidiaries

As of December 31, 2022, the book value of the Company's investments in subsidiaries under the separate financial statements amounted to Baht 768 Million, of which Baht 154 Million was invested in NECL, and Baht 614 Million was invested in BMN. Details of the subsidiaries are given in Attachment 4.

The Company's policy on investment:

- To invest in businesses which are related, similar, or beneficial, and support the Company's business operations, in order to provide opportunities and long-term yields, and strengthen the Company's stability and operational results.
- To invest in projects or acquire ordinary shares in project operators, in a manner of long-term investments.
- To invest up to the minimum proportion to allow the Company to participate in setting out policies, monitoring and inspecting operations of such companies so invested;
- Not to invest in any project giving rise to environmental impact or contrary to the good moral of the society.

(5) Work Pending Delivery

- None -

1.3 SHAREHOLDING STRUCTURE OF COMPANY GROUP



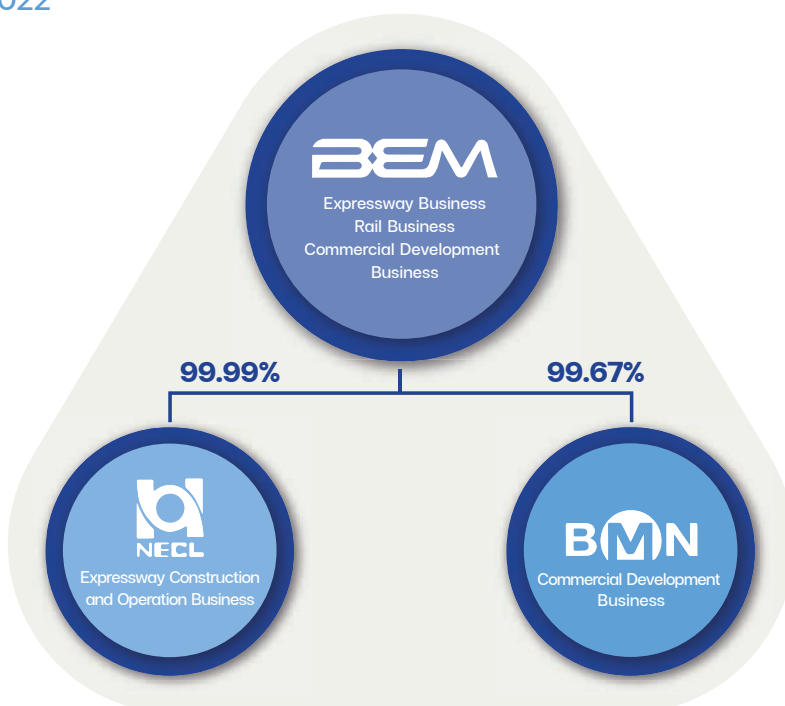
1.3.1 SHAREHOLDING STRUCTURE OF COMPANY GROUP

1. Operational Policies of Companies within the Group

The Company has invested in its two subsidiaries, namely NECL and BMN. The business operations of the subsidiaries are of the following nature:

1. NECL is a company founded to carry out construction and management of the Udon - Rattaya Expressway under the Bang Pa-in - Pak Kret Expressway Agreement; and
2. BMN is a company founded to operate the commercial development business, which is mostly related to the Company's current concession agreements for both MRT and expressway systems.

2. Chart of Shareholding Structure and the Company's Shareholding Percentage as of December 31, 2022



3. Holding Company

-N/A-

4. Legal entities in which the Company holds 10 percent or more of shares

Company	Northern Bangkok Expressway Company Limited (“NECL”)
Business Operation	Construction and operation of the Udon Ratthaya Expressway
Head Office	587 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
Registered Capital	Baht 6,000 Million, Baht 5,250 Million of which is paid up.
Total Shares	294 million ordinary shares 306 million preferred shares
The Company's	
Shareholding Percentage	99.99 percent
Telephone	0 2641 4647
Fax	0 2641 4646

Company	Bangkok Metro Networks Limited (“BMN”)
Business Operation	Procurement and production of advertising media in various forms; commercial development in the MRT and expressway systems
Head Office	832 Sutthisarn Road, Ratchadaphisek Subdistrict, Dindaeng District, Bangkok 10400
Registered Capital	Baht 254 Million, which is fully paid up.
Total Shares	25.4 million ordinary shares
The Company's	
Shareholding Percentage	99.67 percent
Telephone	0 2690 8200
Fax	0 2690 8212
Website	www.bmn-mrt.com

Company	TTW Public Company Limited (“TTW”)
Business Operation	Production and distribution of water supply to the Provincial Waterworks Authority and investment in companies operating the business of other public utilities
Head Office	30/130 Moo 12, Buddhamonthon 5 Road, Tambon Rai Khing, Amphoe Samphran, Nakhon Pathom Province 73210
Registered Capital	Baht 3,990 Million, which is fully paid up.
Total Shares	3,990 million ordinary shares
The Company's	
Shareholding Percentage	18.47 percent
Telephone	0-2019-9490-3, 0-2019-9484-9
Fax	0 2420 6064
Website	www.ttwplc.com

Company	CK Power Public Company Limited (“CKP”)
Business Operation	Investment by holding shares in other companies (Holding Company) operating the business of production and distribution of electricity from various types of energy
Head Office	587 Viriyathavorn Building, 19 th Floor, Sutthisan Winitchai Road, Dindaeng Subdistrict, Dindaeng District, Bangkok 10400
Registered Capital	Baht 9,240 Million, Baht 8,129 Million of which is paid up.
Total Shares	9,240 million ordinary shares
The Company's	
Shareholding Percentage	16.82 percent
Telephone	0 2691 9720
Fax	0 2691 9723
Website	www.ckpower.co.th

1.3.2 A PERSON WHO MAY HAVE A CONFLICT OF INTEREST

-None-

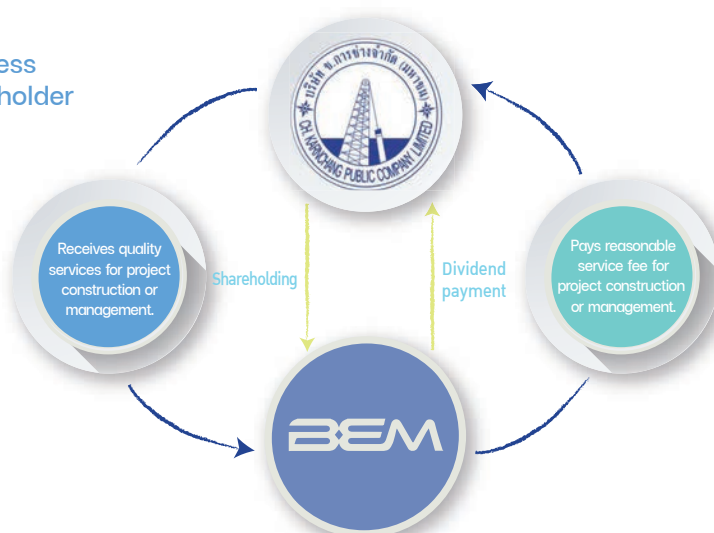
1.3.3 RELATIONSHIP WITH BUSINESS ALLIANCE OF MAJOR SHAREHOLDER

The Company's major shareholder is CH. Karnchang Public Company Limited ("CK"), and as of December 31, 2022, CK was holding 4,947,389,484 shares in the Company, representing 32.37 percent of the Company's paid-up capital. From the past until the present, the Company has engaged CK to conduct construction and operation of various projects, as CK is a large construction company in Thailand, which has potential, knowledge, expertise, and thoroughly experience in the civil infrastructure of the expressway and metro projects, including M&E Equipment. In addition, CK is experienced in the contractual operations on a Lump Sum Turnkey basis, and can deliver

quality works on schedules, and is also the Company's strategic investment partner. As a result, CK has taken on responsibility for and commitment to great success in the projects.

Therefore, in the future, it is possible that the Company will further engage CK to conduct project construction or management. However, in execution of transactions with CK, which is considered a person which may have a conflict of interest with the Company, the Company has strictly complied with its policy on execution of connected transactions.

Relationship with Business Alliance of Major Shareholder



1.3.4 SHAREHOLDERS

1. List of Major Shareholders

As at October 31, 2022, which was the latest closing date of the share register book, the first 10 major shareholders were as follows:

NO.	SHAREHOLDERS	NUMBER OF SHARES (Shares)	SHAREHOLDING PERCENTAGE (Percent)
1.	Group of CH. Karnchang Public Company Limited ⁽¹⁾	5,067,049,436	33.15
2.	Mass Rapid Transit Authority of Thailand	1,256,259,584	8.22
3.	Thai NVDR Company Limited	971,447,811	6.36
4.	Krung Thai Bank Public Company Limited	815,356,075	5.33
5.	Social Security Office	535,297,600	3.50
6.	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	400,531,149	2.62
7.	Mr. Wichai Wachiraphong	316,825,657	2.07
8.	Bangkok Bank Public Company Limited	303,448,709	1.99
9.	STATE STREET EUROPE LIMITED	219,186,556	1.43
10.	Mr. Min Tianworn	160,000,000	1.05
Total		10,045,402,577	65.72
Others		5,239,597,423	34.28
Grand Total		15,285,000,000	100.00

Remarks:

⁽¹⁾ CH. Karnchang Group's shareholding in the Company represented 33.15 percent of the Company's paid-up capital, with the details as follows:

CH. Karnchang Group	Number of Shares	% of Paid-up Capital
1. CH. Karnchang Public Company Limited ⁽²⁾	4,947,389,484	32.37
2. CH. Karnchang-Tokyu Construction Company Limited ⁽³⁾	119,659,952	0.78
	<u>5,067,049,436</u>	<u>33.15</u>

⁽²⁾ CH. Karnchang Public Company Limited ("CK") operates the general construction business, with Trivisvavet Group holding shares representing 33.84 percent of the Company's paid-up capital (information as of August 29, 2022), with the details as follows:

Trivisvavet Group	Number of Shares	% of Paid-up Capital
1. Mahasiri Siam Co., Ltd. ⁽⁴⁾	241,512,365	14.258
2. CH. Karnchang Holding Co., Ltd. ⁽⁵⁾	189,396,530	11.181
3. CK. Office Tower Co., Ltd. ⁽⁶⁾	86,048,212	5.080
4. Mrs. Sopida Trivisvavet	15,383,225	0.908
5. Mr. Plew Trivisvavet	11,231,497	0.663
6. Mrs. Saikasem Trivisvavet	6,061,142	0.358
7. Mrs. Pranee Tongkittikul	4,614,342	0.272
8. Mr. Nattavut Trivisvavet	3,465,785	0.205
9. Miss Walainut Trivisvavet	3,177,484	0.187
10. Miss Supamas Trivisvavet	2,700,000	0.159
11. Mr. Sittidej Trivisvavet	2,000,000	0.118
12. Mr. Kritsada Trivisvavet	1,366,145	0.081
13. Mr. Kris Trivisvavet	1,363,070	0.080
14. Mr. Puwanet Trivisvavet	1,129,855	0.067
15. Mr. Thanawat Trivisvavet	1,000,000	0.059
16. Miss Kanthanat Trivisvavet	973,600	0.058
17. Miss Thanatchsorn Trivisvavet	780,040	0.046
18. Miss Sawanya Trivisvavet	600,025	0.035
19. Mr. Prasert Trivisvavet	204,285	0.012
20. Mr. Phromphon Trivisvavet	105,000	0.006
21. Mrs. Saranthorn Trivisvavet	100,000	0.006
22. Miss Suratha Trivisvavet	61,100	0.004
23. Mrs. Bangorn Trivisvavet	20,000	0.001
24. Miss Siraporn Trivisvavet	10,000	0.001
25. Mrs. Chayanich Trivisvavet	1,742	0.000
	<u>573,305,444</u>	<u>33.844</u>

Shareholders may view additional information of CK in Form 56-1 One Report available on the website of the SEC Office (www.sec.or.th) or the website of the Stock Exchange of Thailand (www.set.or.th).

⁽³⁾ CH. Karnchang-Tokyu Construction Company Limited operates the business of construction of all types, having a total of 1,000,000 shares, with its 549,999 shares representing 55 percent held by CH. Karnchang Plc.

⁽⁴⁾ Mahasiri Siam Co., Ltd. operates the investment business, having a total of 9,000,000 shares, with its 7,782,987 shares representing 86.48 percent held by Trivisvavet Group.

⁽⁵⁾ CH. Karnchang Holding Co., Ltd. operates the investment and consultation business, having a total of 8,400,000 shares, with its 2,100,000 shares representing 25 percent held by Mahasiri Siam Co., Ltd., and its 5,250,000 shares representing 62.50 percent held by Trivisvavet Group.

⁽⁶⁾ CK. Office Tower Co., Ltd. operates the business of investment and consultancy, having a total of 3,000,000 shares, with its 750,000 shares representing 25 percent held by Mahasiri Siam Co., Ltd., and its 1,875,000 shares representing 62.50 percent held by Trivisvavet Group.

2. Shareholders' Agreement

-None-

1.4 NUMBER OF REGISTERED CAPITAL AND PAID-UP CAPITAL

1.4.1 The Company has the registered capital of Baht 15,285 Million, which has fully been paid up, divided into 15,285 million ordinary shares at the par value of Baht One per share.

1.4.2 As at December 30, 2022, the Company's 1,143,341,030 ordinary shares were used as underlying securities for the issuance of Non-Voting Depository Receipt or NVDR, representing 7.48 percent of all shares in the Company. Such shares entitle their holders to receive dividends from investment in NVDR in the same amount as such dividends received by Thai NVDR Company Limited from the Company, provided that NVDR holders shall not be entitled to vote at any shareholders' meeting of the Company. Investors may check the number of NVDR from the Stock Exchange of Thailand's website at www.set.or.th/nvdr.

1.5 ISSUANCE OF DEBENTURES

As of December 31, 2022, the Company has unsubordinated, unsecured debentures in the amount of Baht 41,585 Million which have not yet been due to redeem. In this regard, TRIS Rating Co., Ltd. assigned the "A-" rating to the Company's debentures with a "stable" outlook on April 5, 2022. The summary of the key details of the debentures is as follows:

DEBENTURE	ISSUE DATE	DUE DATE	MATURITY	AMOUNT (Million Baht)	INTEREST RATE	CONDITIONS
BEM236A	24 Jun 16	24 Jun 23	7 years	2,000	3.00 %	-
BEM266A	24 Jun 16	24 Jun 26	10 years	3,335	3.30 %	-
BEM286A	24 Jun 16	24 Jun 28	12 years	2,750	3.61 %	-
BEM286B	11 Aug 16	24 Jun 28	12 years	500	3.61 %	-
BEM250A	21 Oct 16	21 Oct 25	9 years	2,500	3.78 %	-
BEM270A	21 Oct 16	21 Oct 27	11 years	3,000	3.95 %	-
BEM249A	7 Sep 17	7 Sep 24	7 years	3,000	3.10 %	-
BEM234A	5 Apr 18	5 Apr 23	5 years	3,500	2.46 %	-
BEM254A	5 Apr 18	5 Apr 25	7 years	3,500	3.01 %	-
BEM245A	9 May 19	9 May 24	5 years	2,000	3.18 %	-
BEM265A	9 May 19	9 May 26	7 years	1,000	3.59 %	-
BEM295A	9 May 19	9 May 29	10 years	1,000	3.84 %	-
BEM246A	10 Jun 20	10 Jun 24	4 years	1,000	2.88 %	-
BEM306A	10 Jun 20	10 Jun 30	10 years	1,300	3.50 %	-
BEM326A	10 Jun 20	10 Jun 32	12 years	700	3.78 %	The debenture issuer has the early redemption right on the fifth anniversary from the issue date or on any date thereafter.
BEM244A	28 Apr 21	28 Apr 24	3 years	2,000	1.56 %	-
BEM264A	28 Apr 21	28 Apr 26	5 years	2,000	2.24 %	-
BEM284A	28 Apr 21	28 Apr 28	7 years	1,000	2.91 %	-
BEM314A	28 Apr 21	28 Apr 31	10 years	1,000	3.33 %	-
BEM259A	5 Sep 22	5 Sep 25	3 years	1,000	2.76 %	-
BEM279A	5 Sep 22	5 Sep 27	5 years	1,500	3.33 %	-
BEM329A	5 Sep 22	5 Sep 32	10 years	1,000	4.01 %	-
BEM349A	5 Sep 22	5 Sep 34	12 years	1,000	4.15 %	-
Total				41,585		

1.6 POLICY ON DIVIDEND PAYMENT

1. The Company's Policy on Dividend Payment

The Company has the policy to pay a dividend at not less than 40 percent of the net profit of each year, taking into account the operational results, financial structure and obligations, investment, as well as regular payment of dividends to shareholders. In this regard, the Board of Directors may pay an interim dividend to shareholders when it is of the view that the Company has sufficient profit and cash flow to pay a dividend. Once the dividend payment has been made, such dividend payment shall be reported to the following shareholders' meeting.

The Company's previous dividend payment was as follows:

DIVIDEND FROM OPERATIONS	DIVIDEND DECLARED (Million Baht)	DIVIDEND PER SHARE (Baht)	NET PROFIT (Million Baht)		NET PROFIT PER SHARE (Baht)		PERCENTAGE OF DIVIDEND TO NET PROFIT	
			SEPARATE FINANCIAL STATEMENTS	CONSOLIDATED FINANCIAL STATEMENTS	SEPARATE FINANCIAL STATEMENTS	CONSOLIDATED FINANCIAL STATEMENTS	SEPARATE FINANCIAL STATEMENTS	CONSOLIDATED FINANCIAL STATEMENTS
2017								
- First half	917	0.06	1,442	1,425				
- Second half	1,070	0.07	1,533	1,698				
Total in 2017	1,987	0.13	2,975	3,123	0.20	0.20	67%	64%
2018								
- First half	917	0.06	1,695	1,714				
- Second half	1,376	0.09	1,412	3,603				
Total in 2018	2,293	0.15	3,107	5,317	0.20	0.35	74%	43%
2019								
- First half	917	0.06	1,626	3,977				
- Second half	1,376	0.09	1,298	1,458				
Total in 2019	2,293	0.15	2,924	5,435	0.19	0.36	79%	42%
In 2020	1,529	0.10	1,698	2,051	0.11	0.13	90%	75%
In 2021	1,223	0.08	772	1,010	0.05	0.07	158%	121%
In 2022 ⁽¹⁾	1,834	0.12	2,313	2,436	0.15	0.16	79%	75%

Remark: ⁽¹⁾ An agenda to be proposed to shareholders for consideration in the 2023 Annual Ordinary General Meeting of Shareholders.

2. Policy on Dividend Payment of the Subsidiaries

NECL and BMN have the policy on dividend payment at the rate of approximately 40 percent of net profit after deducting statutory reserves, by taking into consideration the operational results in the fiscal year of the separate financial statements as at the end of the fiscal year and under the conditions of the credit facility agreement, subject to the investment plan, necessity and appropriateness in other aspects as the board of directors of the subsidiary deems appropriately.



2. RISK

MANAGEMENT

2.1 RISK MANAGEMENT POLICY AND PLAN

The Company realizes the significance of the management of risks from business operations under the changes of internal and external factors affecting its operational results. Risk management is considered a key instrument for business administration to ensure efficient and effective achievements and promote its competitiveness, as well as a key factor of the Good Corporate Governance. The Company thus arranges for the systematic risk management, monitoring, and measures to minimize risks continuously. The Board of Directors has appointed the Corporate Governance, Risk Management and Sustainable Development Committee for policy-level consideration on the adequacy and appropriateness, with the Management to supervise the overall risk management process of the organization and perform daily routine work on behalf of the Corporate Governance, Risk Management and Sustainable Development Committee to monitor, evaluate and prepare a report on risk management to the Board of Directors for information.

The Company has prepared an annual risk management plan, a risk management handbook as guidelines in the operations, and regularly monitors, evaluates, reviews risks to be in line with the ever-changing internal and external circumstances, including a backup plan in case of emergency, in order to ensure prompt action in solving problems and coordination with relevant units at all times. The Company's risk management policy is made available on the Company's website at www.bemplc.co.th.

2.2 BUSINESS RISK FACTORS

Risk factors that may have a significant impact on the achievement of the Company's business goals are as follows:

2.2.1 RISKS TO BUSINESS OPERATIONS OF THE COMPANY

CURRENT RISKS FACTORS

- **Risk from Business Operations under Concession Agreements with Government Sector**

The Company has operated its businesses under the relevant Concession Agreements which are supervised by EXAT and MRTA; however, due to government policy, the Company may not be able to comply with the terms and conditions of the Concession Agreements, and as a result, the Company may have to change its operations or incur additional costs, which could impact the Company's performance.

The uncertainty of political stability and changes in government administration by political parties in charge of supervision has resulted in changes in related policies, laws and regulations. This may have an impact on the specified contractual terms that EXAT or MRTA may be unable to meet or has other intentions for the Company to take actions other than those stipulated in the contracts or agreements.

In this regard, the Company has created a joint operating system with the government agencies, both at the administrative and operating levels, by sharing sufficient information with each other to ensure good understanding towards each other, as well as regularly and closely monitoring the political situations and policy changes, and reasonably reviewing the strategic and operational plans to suit the situations and ensure the mutual interest in the long run.

- **Risk Relating to Revenues less than Projections**

The Company provides both expressway and metro services, therefore, the Company's core revenues are tolls, fares and commercial development, all of which may be vulnerable to a number of external factors that are beyond the Company's control, such as, the expansions of electric train networks, the availability of a good constant transport system, the alternative fare rates of other transit systems which passengers can choose from, road traffic congestion, oil prices, expansion of real estate, condominiums and businesses surrounding the metro routes which enable people to reach their travel goals, or serious epidemics, etc., all of which affect the volume of the Company's service users. Moreover, the Company generates commercial development revenue, which may vary depending on the local and overseas economic conditions, competition in advertising media and retail space lease business, as well as the progress in opening of retail shops in the stations, several factors of which are beyond the Company's control. Therefore, should the Company's revenues differ from study results or projections, it may affect the liquidity and serviceability management with respect to the existing obligations owed to the lending financial institutions or creditors according to the mutually agreed schedule.

Currently, after the country's opening, various economic activities have started to recover, resulting in an increase in the volume of vehicles on expressways and the volume of metro passengers that has been steadily approaching before the COVID-19 outbreak. The disease's spread remains yet unknown, though, and such uncertainty could have an impact on the Company's revenue.

To minimize such risk, the Company has established a unit to closely monitor any impact which may affect various factors and formulated appropriate strategies. In addition, the Company can limit potential impacts from risk factors, such as oil prices, road traffic congestions, and alternative fare rates of other transit systems available for passengers, due to the Company's full services of expressways and metro, both of which are considered substitute products. With respect to the commercial development, the Company has developed new advertisement media to increase its commercial development revenue. In addition, the Company has set aside cash bank deposits and has undrawn credit lines with many financial institutions; as a result, the Company has no liquidity problems, while also maintaining strict cost management and expenditure control.

- **Risk Relating to Interest Rate and Foreign Exchange Rate Fluctuations**

The Company is obliged to service interest-bearing liabilities to lenders and also has plans for future investment in many projects, which may require a large amount of long-term loans. Thus, the Company's interest expenses are considered its significant expenditures. Any significant fluctuation in the interest rate could have an impact on the Company's financial cost and operations. The Company has therefore implemented risk management by restructuring the loans so that the loans are divided into floating interest rate-bearing loan and fixed interest rate-bearing loan to suit economic conditions, as well as by issuing for sale sustainability debentures for the environmental conservation and social development projects, thereby resulting in a lower financial cost lower than the issuance for sale of general debentures.

Foreign-currency expenses that the Company has incurred include maintenance costs for the M&E systems, some insurance premiums. If the value of Baht currency depreciates, the Company's expenses will increase accordingly. Then, the Company has implemented risk management by reducing the percentage of foreign-currency expenses and foreign exchange future trading at a predetermined exchange rate in order to prevent the risk of fluctuating exchange rates (Forward).

- **Risk from Serious Accidents, Public Unrest, or Natural Perils**

The Company's businesses of both construction and management of the expressways and metro are exposed to an event or external factor which results in an emergency, for example, perils, serious accident, earthquake and such events which may be caused by terrorism, sabotage as bombing, riot, including gathering of insurgent groups, which may force the Company to suspend its services, thereby giving rise to loss of revenue, damaging assets, tarnishing image and destroying reliability of the Company. For this reason, the Company has set forth emergency plans in response to any such events which may suddenly occur, including preparation to ensure that the staff in charge can take prompt actions to resolve any emergency which arises, by practicing emergency drills on how to deal with emergency situations by way of simulation of such various situations as emergency inside a metro station from a bomb threat and an explosion inside a metro station or rolling stock, fire inside a rolling stock, flooding in a tunnel, etc., as well as installing metal detectors, CCTV cameras, with security guards in charge covering all areas, as well as establishing an

alarm monitoring agency and coordinating with relevant agencies to prevent any serious accidents and to be ready for rescue operations.

The Company has transferred the risk by taking out insurance against the potential damage to business property, which includes coverage for income lost due to business interruption, public liability, including terrorism in relation to the expressway and rail businesses.

- **Risk in respect of Personnel**

As the government realizes the significance for solving problems on traveling and traffic in Bangkok by using the mass rapid transit system, it thus expedited the expansion of the metro network and the connecting system to other transportation systems. Therefore, it would be highly possible that there would be governmental organizations or private agencies operating the mass rapid transit system business which require additional personnel with knowledge, expertise, and skills in the technical field in the rail business. As a result, it would be likely that the Company's main personnel would be enticed away from the Company.

The risk from a shortage of competent personnel is considered one of the Company's risks, as personnel are a key factor in driving our organization towards success and supporting the business expansion. This is owing to the inability to recruit knowledgeable, capable or competent staff to accommodate the business growth; an unsystematic employee competency development, performance management, and training, development processes which fail to meet users' needs. Therefore, it is crucial to prioritize personnel risk management, beginning with defining the procedure for creating and reviewing job descriptions, job specifications, and scopes of work to cover all job positions in accordance with the organizational structure; determining the process for nominating and selecting employees for each job position so that they have the qualifications in accordance with the job description and job specification, as well as having a test to measure the level of knowledge and aptitude according to the job position of the applicant; having a suitable remuneration management system to attract and retain knowledgeable, competent personnel; building a Training Matrix collaboratively with the original work unit and the Office of Human Resources to ensure a structured training program for staff that meets the needs of the work unit; and providing training to staff prior to their start at work; having a procedure for creating an OJT system; while also having supervisors, mentors oversee

the work operations of new hires; and establishing a procedure for building a license system in place to control the standard level of employees' competency in positions related to the train operation service.

- **Risk in respect of Information Security**

The change in work styles to rely on advanced technology to support work operations in order to assure steady delivery of the services with the highest efficiency could pose a risk in the event of failure in critical work systems, for instance equipment of the toll collection control system, traffic control system, M&E systems and equipment, electrical power system, signaling system, communications system, SCADA system, platform screen door system, automatic fare collection system, signage system, the Company's internal computer system, including unauthorized attempts to access information systems, or computer virus attacks which could render the toll collection system inoperable or disrupt the M&E systems. As a result, the services are either unavailable or delayed due to a time needed to resolve such defaults. To remedy it would be a waste of the Company's resources and would harm the Company's image and creditability.

The Company has established a policy on technology system usage and prepared a manual specifying procedures and methods for the information system security which are in conformity with the Computer Act and in accordance with the ISO/IEC 27001:2013 standard framework; providing the access prevention/control system which protects information from intrusion or attacks on the server from both inside and outside (Firewall); forming a work unit directly responsible for handling security matters, while also inspecting, monitoring information security activities by internal auditors and external agencies at all times; and following up on cyber threat news in order to take precautions and make preparedness to handle them, including provision of support plans and drills for recovery incidents of the toll collection system and the automatic fare collection system (AFC) in order to accommodate any potential incidents which could harm the M&E equipment so that employees in charge can take promptly remedial actions if any such incident occurs; as well as designing a system which enables standalone data storage for all fare collection devices; handling tickets substituting for travel passes; and having control over the system users' rights.

Additionally, personnel development in terms of technology security management is carried out to promote employees' knowledge about technology system security.

- **Risk from Serious Epidemics**

The emergence of a serious epidemic is unpredictable, and when it strikes, it will have spread over a large area, thereby harming business operations and people's well-being, and it will take a long time to address, which requires cooperation from all parties involved, including the public, private, and people sectors. One example, among others, is the occurrence of the COVID-19 outbreak.

The Company has established procedures for monitoring any serious epidemic situations and has also formulated epidemic preventive measures, remedial measures, and communication measures accessible to those involved, including specifying details of epidemic prevention, epidemic control, and post-treatment monitoring of staff to confirm that they have epidemic sterility, all of which are incorporated in the work rules and regulations regarding prevention and containment of dangerous communicable diseases. The Company has also prepared a business continuity management plan and has defined the work rules regarding business continuity plan to accommodate any emergency in the case of occurrence of a serious disease outbreak in order to ensure that they are handled in conformity with the practices in the situation of the COVID-19.

- **Risk from Return on Investments in Companies less than Projections**

The Company may be exposed to a risk from return on investments in various companies less than projections in the event that the operational results of such companies whose shares are held by the Company do not meet the expectations, thereby affecting the investment plan and the implementation of the strategic plans of the Company. To minimize such impact, the Company will take into account the proportion of its investments in such companies in line with the Company's investment policy that allows the Company to receive a long-term return on investment, as well as monitoring, inspecting the operations of the companies invested in by the Company or considering reclassifying investment type from investments in associates to investments in available-for-sale securities in order to reduce the risk from interest recognition from the operational results which may show a loss to revenue recognition from dividends.

In this regard, the decrease in the shareholding percentage to be the investment in the available for-sale securities is deemed to minimize the risk from return on investments in various companies whose shares are held by the Company less than projections in the event that the operational results of any such companies are below expectations. However, the Company has dispatched its representative to serving as a director in those companies invested in by the Company, with the duty to acknowledge their operational results on a regular basis.

- **Risk Relating to Fluctuation of Cost of Rail Business**

The cost of farebox is deemed the main expenditure in the Company's mass transit system project management business operation, consisting of repair and maintenance costs for the metro system and civil infrastructure, public utility cost, personnel cost, and payment of remuneration from fare revenue.

As for the maintenance costs under the M&E contract, the Company's contract is in foreign and Baht currencies, subject to adjustment based on the Consumer Price Index as specified in the contract. Given the long-term contract, the Company will be then exposed to risk due to changes in such indices.

The public utility cost mainly comprises the cost of electricity used at the metro stations and for train operations. The cost of electricity may be adjusted according to the electricity rates of the Metropolitan Electricity Authority, which may result in the Company's increased cost.

In the Concession Agreement for the MRT Blue Line Project, the service fees for the O&M Services payable by MRTA to the Company are calculated and based on the projections of operating expenses estimated by the Company, whereby such service fees may be adjusted only based on the actual inflation rate and electricity charge rate under the method specified in the Concession Agreement. Therefore, profits from the Operation Service will vary according to the Company's ability to manage the actual costs and expenses to mirror the specified projections. Should the actual costs and expenses be different from the projections, the Company's operational results may be affected since the Company is not able to request compensation or increase the service fees from MRTA.

However, with the expertise and experience in the management of the MRT Blue Line Project, the Company is confident in its ability to efficiently manage costs and expenses for operations to be close to the projections.

- **Risk from Engagement of Outsourced Experts as Main Contractors for Supply and Maintenance of the M&E Equipment**

The Company has entered into the agreement for the procurement of the M&E Equipment and an agreement for maintenance of the M&E Equipment with outsourced contractors, namely, Siemens Limited, Thailand, and Japan Transportation Technology (Thailand). Thus, if such outsourced contractors are unable to provide services to the Company under their respective agreements or if there is any change in the maintenance agreement, the Company's business operation may be affected; and if the trains cannot be made operational, it may have an impact on the Company's fare box revenue, reputation, and image.

In this regard, the Company has managed the risk by studying information from the members of the international federations of public transport operators, such as UITP, APTA, NOVA Group of Metros, including the advice from Lloyd's Register Rail, the highly experienced consultant. The Company can then select and procure other manufacturers' M&E Equipment which is compatible with its existing system. To that end, the Company has also adopted a personnel development policy to ensure that its employees have the sufficient capabilities in collaborating with both local and overseas equipment manufacturers and contractors in the maintenance and repair of the M&E Equipment and the rail system in order to achieve efficiency without reliance on the sole existing manufacturer.

- **Operational Risk**

The Company takes into account the operational risks in the expressway and rail businesses which may arise from both internal factors and external factors, including the work process, staff, work system or information technology system, and external events or factors which may give rise to monetary and non-monetary damage, having an impact on the services, and as a result, the Company loses revenue; its image and reputation are harmed; the service users lose their trust in the Company. Therefore, it is imperative to have a careful and thorough supervision system in place to deal with potential incidents, for example, when the collection system may be disrupted, there is a problem with traffic congestion on the expressway, service users who are not ready to drive vehicles endanger safety of the staff and suppliers operating on the expressways, station structures, tunnels, weirs and piers are destroyed due to weathering, a metro

collision occurs due to faulty or non-functional braking systems, a metro is derailed, thereby resulting in reduced or interrupted performance, injured staff, injured or killed passengers. As such, the incident scene must be closed for an extended period of time.

In this regard, the Company has studied risk factors and analyzed the cause of potential problems in a manner of Preventive Maintenance in all cases which may result in the prolonged system failure or disruption in order to prepare preventive plans and remedial measures in advance, identify Knowledge Management (KM) solutions to cover all risk issues, that is, improving the efficiency of the toll booths, developing a program to help inspect the efficiency of the transmission system to make it rapidly operational without cumulative traffic, increasing the size of the protection vehicle to better protect the staff working on the expressways while ensuring the safety for motorists, improving the protection work instructions by providing front-back blocking cars, providing safety equipment for staff, such as safety helmets, reflective vests, scheduling a regular visual inspection of the tunnels, checking for breaks and cracks in concrete, with the metro and propulsion systems being designed to have an ATP system, setting a preventive maintenance plan for the propulsion system, requiring the train controllers and officers to undergo training/refresher programs by controlling the Qualified Person according to the relevant license, establishing emergency handling procedures, monitoring and measuring the Stray Current at specified intervals, visually checking the condition of the tracks as scheduled and the measuring tools, inspecting damaged structures of the tunnels, column structures and track structures.

EMERGING RISKS FACTORS

Currently, the Company is in the process of monitoring environmental and social risks, covering respect for human rights, good corporate governance, and corruption, which may have an impact on the business operations or on the corporate strategies or goals of the Company, in order to be prepared to prevent while also being resilient to handle various risks as well as to seek business opportunities from those risks on an efficient basis, and to review the Company's risk management plan to ensure that the Company's risk management covers a wide range of issues completely and effectively to reflect business changes.



2.2.2 RISKS TO INVESTMENT OF SECURITIES HOLDERS

SHAREHOLDERS' RISKS

- **Risk from Uncertainty of Return on Investments to be Derived by Shareholders**

The Company bases its operations primarily on taking shareholders' interests into account. However, the Company's share price may rise or fall, depending on various factors which are beyond the Company's control, in terms of economic conditions and unusual global situations, such as the spread of COVID-19 or the outbreak of war, including government policies and changes according to applicable policies, laws or conditions. All these factors result in decrease and/or increase in stock prices. Therefore, investors may be at risk of receiving returns that do not meet their expectations.

- **Risk from Dividend Payment Inability to Meet Investors' Expectations**

The Company's ability to pay dividends is dependent upon its operational results, net profit and annual cash flow, structure, financial commitments, as well as investments. If there are other factors that affect the Company's ability to pay dividends may expose investors to the risk of receiving annual or interim dividends at the rate lower than what investors have expected. However, the Company has a policy to pay dividends of not less than 40 percent of the net profit each year, by taking into account the operational results, structure, financial commitments, as well as investment, along with the regular payment of dividends to its shareholders.

DEBENTURE HOLDERS' RISKS

Given that the Company issues financial instruments such as debentures, the securities holders may be exposed to the following risks:

- **Credit risk**

It is a risk that the financial instrument issuer may be unable to pay interest or be unable to repay the principal if the financial instrument issuer declares bankruptcy or defaults on payment, and the financial instrument offered for sale is not covered by the Deposit Protection Agency, granting the financial instrument holder the right to claim debt repayment equal to that of other unsubordinated and unsecured creditors. On the other hand, securities holders can view credit ratings provided by risk rating agencies to help their investment decisions in assessing the credit risk of the debt instrument issuer. Furthermore, before investing, securities holders should research information, namely, the debt instrument issuer's operational results and financial status and also should follow up on news, including changes in credit ratings which are available on the websites of the SEC Office or credit rating agencies. On April 5, 2022, TRIS Rating Co., Ltd. announced the results of its credit rating review, by affirming the Company's corporate rating and issue rating at "A-" with a "Stable" outlook.

- **Price risk**

It is a potential risk when securities holders wish to redeem their securities before the redemption maturity date, where the securities may be sold for more than their par value or purchase price. As a result, securities holders do not receive interest and returns or receives interest and returns at a lower rate.

- **Liquidity risk**

It is a potential risk when securities holders wish to redeem their securities before the redemption maturity date, where the securities can be resold to other interested parties in the secondary market, which poses a risk that securities holders may not be able to sell their securities immediately at the desired price.

2.2.3 RISK TO INVESTMENT IN FOREIGN SECURITIES

- None -

3. DRIVING BUSINESS

FOR SUSTAINABILITY

3.1 POLICIES AND GOALS OF SUSTAINABILITY MANAGEMENT

3.1.1 SUSTAINABILITY POLICY

The Company, as an expressway and metro service provider, is committed to developing the transportation network for convenient journeys and alleviating traffic problems in Bangkok and its vicinity as a means to improve the quality of life of the service users. The Company has continuously improved and developed the efficiency of its services to ensure safe, convenient, and rapid journeys, in order to deliver the services through the state-of-the-art mass transit system network and create the good quality of life to people as the **“Happy Journey with BEM : Better Trips for Better Life,”** always subject to its business operations with social and environmental responsibility, as the best practices adhered to by the Company for sustainable business operations.

The Company is committed to operating businesses on the basis of sustainability by primarily taking into account corporate governance, efficient risk management, and social and environmental responsibility, including coordination for mutual benefits of all stakeholders in every dimension and segment as appropriate, as follows:

1. To lead the organization with the concept of sustainable development through communication and exchange of best practices with all of the Company's stakeholders;
2. To integrate the sustainable development concept into every aspect of the work and decision processes of the Company;
3. To comply with the Company's corporate governance policy and risk management policy, including the environmental policy, as well as taking into account the applicable social/community responsibility in terms of human rights, occupational health and safety and the Company's business value chain;
4. To promote training, knowledge development and counseling, focusing on practices according to the sustainable development guidelines;
5. To support the operations and collaborate with all groups of stakeholders for sustainable development;
6. To monitor and assess the implementation of the Company's sustainability performance for continued improvement and development, and disclose its sustainability information that meets international standards to stakeholders.

3.1.2 CORPORATE SUSTAINABILITY GOALS

The Company has set out clear goals to focus on sustainability in 3 dimensions, namely environmental, social, and governance and economic dimensions, as follows:



Environmental Dimension

To minimize the environmental impact and focus on climate change

Goal :

Greenhouse gas emission to achieve carbon neutrality by 2050



Social Dimension

To maintain the quality and safety in the provision of services, and good relationships with stakeholders

Goal :

Zero accident in the provision of services each year



Governance and Economic Dimension

To focus on risk management and secure information technology system management

Goal :

No infringement of personal data or leakage of the Company's material information each year

3.2

MANAGEMENT OF IMPACT ON STAKEHOLDERS IN BUSINESS VALUE CHAIN



3.2.1 BUSINESS VALUE CHAIN

Analysis of Core Activities

CORE ACTIVITIES	APPLICABLE PROCESS	STAKEHOLDERS
Management and Production/ Service Factors (Inbound Logistics)	<ul style="list-style-type: none"> Analysis, development and management of expressway and metro projects Metro service planning 	<ul style="list-style-type: none"> Customers, e.g., passengers/ expressway users, commercial development customers, etc. Regulatory authorities Staff
Operations	<ul style="list-style-type: none"> Traffic management Metro operations Asset management and repair and maintenance of routes, structures, tunnels, rails, trains, systems and equipment 	<ul style="list-style-type: none"> Staff Regulatory authorities Customers, e.g., passengers/ expressway users, commercial development customers, etc. Traders/suppliers/partners, e.g., main contractor for repair and maintenance, etc. Communities adjacent to the metro and expressways
Distribution of goods/services (Outbound Logistics)	<ul style="list-style-type: none"> Station operations Services in stations Toll collection and toll plaza operations 	<ul style="list-style-type: none"> Staff Customers, e.g., passengers/ expressway users, commercial development customers, etc. Traders/suppliers/partners, e.g., main contractor for repair and maintenance, etc.
Marketing and Sales	<ul style="list-style-type: none"> Marketing and commercial development Fare and toll management 	<ul style="list-style-type: none"> Shareholders Creditors Regulatory authorities Customers, e.g., passengers/ expressway users, commercial development customers, etc.

CORE ACTIVITIES	APPLICABLE PROCESS	STAKEHOLDERS
After-Sale Services	<ul style="list-style-type: none"> Handling of feedbacks from customers and stakeholders 	<ul style="list-style-type: none"> Customers, e.g., passengers/ expressway users, commercial development customers, etc. Staff Press Communities adjacent to the metro and expressways

Analysis of Support Activities

SUPPORT ACTIVITIES	APPLICABLE PROCESS	STAKEHOLDERS
Procurement	<ul style="list-style-type: none"> Procurement and engagement 	<ul style="list-style-type: none"> Traders/suppliers/partners, e.g., main contractor for repair and maintenance, etc. Staff
Information Technology	<ul style="list-style-type: none"> Information technology development 	<ul style="list-style-type: none"> Staff Customers, e.g., passengers/ expressway users, commercial development customers, etc.
Human Resources	<ul style="list-style-type: none"> Personnel recruitment Personnel development Personnel retention 	<ul style="list-style-type: none"> Staff
Infrastructure	<ul style="list-style-type: none"> Internal management Accounting, finance and revenue audit Law and compliance 	<ul style="list-style-type: none"> Shareholders Creditors Staff

The Company has given importance to each and every step of acquiring products and services in its business value chain, from upstream to downstream, based on the belief that the business value chain management serves as a key strategy to increase value in terms of safety, convenient and rapid transportation services.

In addition, the business value chain management has taken into account major stakeholders' requirements and expectations as key factors towards development of various processes, as follows:

Core Activities

(1) Management and Production/Service Factors (Inbound Logistics)

- The Company has analyzed, developed and managed its projects for expansion of the expressway and rail businesses through design and selection of sophisticated technology, systems, equipment and tools for development of the quality of services, with the focus on safety and environmental impact reduction.
- The Company, currently as the metro and expressway service provider, has developed and planned for the provision of services as appropriate to service users' commuting demands during different periods to facilitate their journeys at the time in need.

(2) Operations

- The Company has introduced an asset management system standard to the provision of safe services, for enhancement of efficiency and prolonged useful life of the systems and equipment.
- The Company has managed traffic on the expressways for convenient journeys, communicated the route traffic congestion to motorists for information in support of their route selection and commute time management. Moreover, there are traffic teams available to facilitate and manage congested routes, along with rescue teams to help motorists in need of urgent assistance in case of emergency, as well as render the expressway operations safe and ready for public service throughout the routes.
- The Company has ensured the availability of the metro, its systems, equipment, and managed, controlled the metro operations with efficiency, safety, convenience, rapidly, reliability and punctuality according to the metro timetable scheduled by personnel who are knowledgeable, competent and capable of efficiently managing every situation.

(3) Distribution of Goods and Services (Outbound Logistics)

- The Company has given priority to the process of services, and as such, put in place such management process to facilitate passengers and service users.
- The vicinity within the expressways has been managed and improved to enhance the efficiency in the provision of services to meet standards in terms of convenience, rapidity and safety to motorists in response to their needs and to the satisfaction of expressway users to bring about their confidence, impression and return to regularly use the expressway services. At present, the expressway business has developed the provision of services in 3 areas, namely toll collection, traffic management and facilitation, and repair and maintenance.
- The vicinity within the metro stations has been managed by staff ready to facilitate the journeys, manage the density of service users actively and attentively in the provision of services for convenient and safe journeys to their desired destinations.

(4) Marketing and Sales

- The Company issues various types of MRT cards in the metro systems to accommodate demands of each respective group of customers, and to attract more occasional customers using tokens to purchase MRT cards for their journeys. This strategically increases the number of service users traveling with MRT cards for convenient journeys, and minimize physical contact and consumable resources by providing MRT card holders with benefits in collaboration with business alliances, e.g., MRT card top-up discount, cash back, credit card point redemption, discounts at shops, department stores, theaters or events along the routes.

- The Company has developed and added a variety of top-up channels, e.g., mobile banking application as payment options for both expressway and metro service users, electronic payment system to minimize physical contact, including EMV payment system whereby service users may directly use credit cards to pay service fees at toll booths and/or fare collection gates.
- The Company has offered toll discounts in certain routes to attract target customers to regularly use the expressway services as their routine and eventually become regular customers. In this regard, a new promotion is launched in the form of special price coupons with a Baht 10 discount for 1 year from January 1 to December 31, 2022 for all types of vehicles. Moreover, the toll rates on the Prachin Ratthaya Expressway were revised since December 15, 2021 under the Concession Agreement for Investment, Design, Construction, Operation and Maintenance of the Si Rat – Outer Ring Road Expressway Project with EXAT, namely from Baht 50/80/110 to Baht 65/105/150 for four-wheeled vehicles, six-wheeled to ten-wheeled vehicles, and more than ten-wheeled vehicles, respectively.
- The Company has supported the government policy to less people's cost of living by maintaining the existing toll rates in the form of coupons for 1 year from December 15, 2021 to December 15, 2022. Coupon books containing 20 coupons each are available for sale from December 1, 2021 to November 30, 2022 at all 9 Toll Plaza buildings on the Prachin Ratthaya Expressway. The Company has publicized the promotions and various privileges via offline media, such as, newspaper, radio, leaflets, public relations signboard, and online channels, to ensure that customers are fully and widely informed of news and updates.
- The Company has organized such activities to build relationships with service users, communities/society around the metro stations, and MRT Club members, in various campaigns, e.g., Happy Journey with BEM to promote tourism businesses along the service routes, and allow the neighboring communities/society to link such activities with service users and the Company in order to encourage spending in such vicinity, and as a result, people in such communities/society generate more income and improve their environment. These activities were organized in collaboration with public authorities, e.g., MRTA, Tourism Authority of Thailand ("TAT") and business alliances.
- The Company gives top priority to the quality of services by ensuring the safe, convenient, rapid, reliable and punctual services as the best journey alternative in response to the service users' needs. Due to the COVID-19 pandemic, the Company thus focused on building confidence among passengers in the use of the metro services under such safety measures as full vaccination of 100% of its staff, improved sanitation measures, spraying of disinfectants, including campaign for passengers to wear face masks at all times while in the stations and using the services.

(5) After-Sale Services

The Company has continued to improve the quality of services from feedbacks of service users in both expressway and metro systems via the customer relations service centers in the stations and other communication channels of the Company, in order to take such suggestions for process development, system and equipment upgrades, including development of the quality of staff to improve the services.

(6) Administration and Procurement

The Company has a procurement policy to ensure integrity, ethics, transparency and auditability, with clear criteria and procedures. The procurement regulations have been prepared as practical guidelines for selection of vendors, service providers and contractors to become good traders/suppliers/partners in response to demands for goods and services to the best interests of the Company with quality and punctuality. Such goods and services which are legal and produced locally shall be the first priority, with fairness towards related stakeholders, taking into account the occupational health, safety and environment. The green procurement is supported, traders' performance is evaluated, and risk assessment in the procurement process is regularly conducted, with the focus on supply chain management to support the sustainable business development.

(7) Information Technology Development

- The Company has allocated information technology resources to support the operations of various units in the Company to enhance the efficiency and effectiveness of their operations, and also introduced the safety management system that meets international standards to develop its information technology system.
- With regard to the development of EMV Contactless toll payment system, the Company has carried out technology development to support the provision of services with efficiency, convenience in the journeys, and compliance with the government policies. In so doing, the Company, in association with the public authorities and Krung Thai Bank, has developed an EMV or Europay MasterCard and Visa Contactless fare and toll payment system which is designed as a more convenient fare and toll payment option for service users by simply tapping to pay with a MasterCard or Visa credit or debit card of any bank with the Contactless symbol. This is to not only minimize cash use and contact, and the risk of spreading COVID-19 infections, but also serve as an international standard payment format. At the moment, the Company is in the course of developing the system to support debit cards.
- The Company has developed the metro card top-up by applications, such as, TrueMoney Wallet, Krungthai NEXT, and ShopeePay, for convenience and promotions offered to passengers.

(8) Development of Human Resources and Organization

- Staff is regarded as invaluable resources in support of the Company's sustainable development and business competitiveness. Therefore, the Company has planned for competency development of staff at every level by establishing core competency, functional competency and managerial competency of each work position, performance evaluation process, and training as suitable for staff according to their work positions, duties and responsibilities, to ensure staff's in-depth and extensive expertise. Moreover, the Company has also promoted staff's behavioral expressions in line with the corporate culture, and established loyalty and engagement to retain talented staff with the Company, which will lead to the Company's potential to drive its businesses towards becoming a leading, fully-integrated transportation service provider in Thailand and ASEAN.
- The Company is committed to becoming a learning organization, and thus has developed its business specific knowledge for staff. Given its focus on personnel development, in each year, the Company has laid down training and development plan for staff at all levels, both on-the-job training and soft skill training, to ensure that staff has knowledge, understanding and is capable of efficiently applying the same to their works towards sustainable achievements. For instance, the knowledge management (KM) program requires a knowledge management system to be developed in the organization in order to manage various forms of knowledge, e.g., documents, electronic media, Intranet or personnel's insights, via the process of recruitment, transfer and sharing to ensure a systematic knowledge management with tangible storage and application thereof for development of the performance quality and improvement of the work procedures to be more efficient.

(9) Infrastructure of the Company

(9.1) Safety, Quality and Environment Management System

The Company has a quality, occupational health, safety and environment management procedure for the purpose of its internal management for efficiency and effectiveness to ensure reliability, availability, maintainability and system safety.

(9.2) Governance

The Company operates its businesses in compliance with the good corporate governance principles, takes into account the roles and responsibilities of the Board in its leadership capacity to create value to the businesses towards sustainable business operations. The management system and good internal control, regulatory and counter-balancing mechanisms for transparent and auditable administration, respect for rights and equitable treatment of shareholders, promotion and support of engagement and communications with shareholders, financial reliability and disclosure, as well as taking into account all groups of stakeholders are key factors to create the optimum and sustainable value and returns to the Company's shareholders in the long run.

Corporate Governance Structure

The Company has established and reviewed its management structure by realizing the organizational leadership roles, functions and responsibilities of the Board of Directors to create the sustainable value to the businesses. The Board of Directors is also required to ensure that all directors and executives perform their functions with a duty of care and a duty of loyalty, and supervise the Company's operations in compliance with applicable laws, articles of associations and resolutions of the shareholders' meetings.

The Company's corporate governance structure involves the Board of Directors and another four subcommittees which are appointed to help supervise the Company's administration in various aspects, namely the Audit Committee, the Executive Board, the Nomination and Remuneration Committee, and the Corporate Governance, Risk Management and Sustainable Development Committee, with the Managing Director serving as the top executive of the Management Team.

(9.3) Accounting and Revenue Audit

The Company has an accounting and revenue audit management procedure to ensure that the revenue recognition and proceeds from fare and toll collection are complete and accurate, and the revenue sharing to the regulatory authorities (MRTA and EXAT) complies with the terms and conditions of the relevant concession agreements.

(9.4) Finance and Investor Relations

- The Company's accounting and finance helps support its administration to ensure the Company's systematic and efficient operations by establishing proper accounting and finance policies and planning, and securing and managing funding in line with the Company's growth strategy. The Company also strictly maintains its financial discipline in respect of financial sponsors, namely lenders, debentureholders and creditors, and prepares financial reports which are accurate, complete, reliable, transparent and auditable, subject to the regulation by the Stock Exchange of Thailand ("SET") and the Office of the Securities and Exchange Commission ("SEC Office").
- With regard to Investor Relations, the Company communicates and provides sufficient, accurate, complete and up-to-date information which results in understanding, confidence and reliability, as well as creating good relationships with its shareholders, business partners, financial institutions, analysts, investors, both local and international institutional and individual investors, subject to the rules and regulations of the SET and the SEC Office, via various channels, e.g., the Company's website, Company Visit, Roadshows, Analyst Meetings, and Conference Calls, both in Thailand and abroad, as well as keynote presentations in major financial events, such as SET Opportunity Day, Money Expo and Analyst Meetings, etc.

3.2.2 ANALYSIS OF STAKEHOLDERS IN BUSINESS VALUE CHAIN

(1) Creation of Stakeholders' Engagement

The Company has a clear policy to give priority to and take into account the rights of stakeholders by conducting the businesses with social, community and environmental responsibility, as well as creating value added and maximum benefits to all groups of stakeholders in a fair and sustainable manner. The Company has classified stakeholders in order of priority into 9 groups, namely staff; suppliers or contractors; customers; society, community and environment; competitors; creditors; shareholders; press; and regulatory authorities and public sector.

(2) Engagement and Satisfaction of Expectations of Stakeholders

The Company recognizes and appreciates views and expectations, including human rights in economic, social and environmental aspects, to engage stakeholders by way of communications with the Company via the following channels:



STAFF

(Operating and Executive Levels)

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Survey on staff's engagement with the organization	(1) 1 times/year	<ul style="list-style-type: none"> To be fully and timely informed of accurate and precise news and updates in the organization through a variety of sophisticated platforms in line with staff of different ages, groups, levels and operating sites; 	<ul style="list-style-type: none"> To ensure that staff at all levels is accessible to news and updates at all times and in every location, whereby more than 70% of all staff must be fully and accurately informed of such news and updates;
(2) Internal communication via e-mail, public address system, journals, social media, HR4U, notice boards, INET, Application @Core @Work, notice boards in various areas	(2) All year round	<ul style="list-style-type: none"> To be fairly and equally treated; To be reasonably remunerated; To be informed of staff welfare benefits not less favorable than that provided by law or higher as applicable; 	<ul style="list-style-type: none"> To develop supervisors' care of their subordinates; To establish staff competency and conduct evaluation, and promote training and learning for competency development of staff at all levels;
(3) Welfare Committee and Executive Meetings	(3) 3 times/year	<ul style="list-style-type: none"> To afford an opportunity for career advancement; 	<ul style="list-style-type: none"> To establish staff's growth road map;
(4) Internal activities, e.g., Kaizen, work process improvement, SACTL, Big Cleaning Day	(4) As planned	<ul style="list-style-type: none"> To develop skills, knowledge and competency as appropriate; To be given and communicated with a clear operation policy throughout the organization in order to ensure consistent performance; 	<ul style="list-style-type: none"> To determine a fair remuneration structure; To provide welfare benefits more favorable than that provided by law;
(5) Staff grievances and opinions	(5) All year round	<ul style="list-style-type: none"> To be given challenging assignments; To be provided with the occupational health care in a good, safe and proper working environment; To have an efficient and effective management system towards the Company's vision, missions and sustainable development; 	<ul style="list-style-type: none"> To respect human rights without discrimination, and create a participatory work environment; To establish strategies, indicators and goals, and supervise their performance to achieve such goals and in line with the assigned obligations;
(6) Staff training, e.g., orientation, knowledge sharing, basic operation knowledge course	(6) As planned		
(7) Annual performance review	(7) 1 times/year		
(8) Quality Management System Committee Meeting	(8) 4 times/year		

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
		<ul style="list-style-type: none"> To have such business operation strategies in line with changing situations; To have a decent work environment, e.g., supervisors' good interactions with subordinates, active cooperation from other units. 	<ul style="list-style-type: none"> To monitor changing situations, and adjust the operation strategies and plans to be in line with those changing situations; To organize activities to encourage staff's behavioral expressions in line with the corporate culture.



SUPPLIERS DELIVERING GOODS/RAW MATERIALS OR CONTRACTORS

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Landlines/mobile phones/ meetings/applications, e.g., LINE, etc., and e-mails	(1) All year round	<ul style="list-style-type: none"> To have a procurement process which is transparent, equal and fair to all traders; To systematically proceed with the procurement process under the purchase/contract terms as mutually agreed upon; 	<ul style="list-style-type: none"> To establish and review the procurement regulations as practical guidelines in compliance with the Company's procurement policy; To have a policy that prohibits directors/ executives and staff from demanding any benefits from traders;
(2) Communication via procurement menu on the Company's website	(2) All year round		<ul style="list-style-type: none"> To establish the clear criteria for selection of suppliers, without discrimination, and treat them equally;
(3) Quality and job satisfaction evaluation	(3) Occasional	<ul style="list-style-type: none"> To be paid in a timely manner and under the conditions as mutually agreed upon; 	<ul style="list-style-type: none"> To ensure equal and fair competition;
(4) Supplier visit	(4) 1 times/year	<ul style="list-style-type: none"> To have a convenient communication and contact procedure; 	<ul style="list-style-type: none"> To prepare reasonable and fair contract forms;
(5) Suppliers expectations and satisfaction survey	(5) 1 times/year	<ul style="list-style-type: none"> To have convenient access to work sites; To comply with applicable laws on occupational health, safety and environment. 	<ul style="list-style-type: none"> To have a system on management, monitoring and review of full compliance with contracts or agreements; To have an internal control system to prevent any fraud and corruption; To make payments to traders in a timely manner and in accordance with payment terms as mutually agreed upon; To notify suppliers of the evaluation results, together with suggestions (in case of unsatisfactory results).



CUSTOMERS, E.G., PASSENGERS, MOTORISTS, COMMERCIAL DEVELOPMENT CUSTOMERS, ETC.

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Survey on satisfaction, needs and expectations, including suggestions, in the provision of services	(1) All year round	<ul style="list-style-type: none"> To ensure the quality of services (safety, convenience, rapidity, reliability and punctuality); 	<ul style="list-style-type: none"> To provide quality, safe and standard services to meet service users' expectations;
(2) Activity to strengthen relationship with customers	(2) All year round	<ul style="list-style-type: none"> To be informed of public relations news and information which are essential and fast to support customers' decision; 	<ul style="list-style-type: none"> To take the right actions in a timely manner without discrimination;
(3) Complaints via various channels	(3) All year round	<ul style="list-style-type: none"> To have payment products in response to service users' needs; 	<ul style="list-style-type: none"> To improve procedures for communication of key and essential information to customers, e.g., the metro timetable, etc.
(4) Company visit	(4) Occasional	<ul style="list-style-type: none"> To ensure customers' confidentiality; To attend the Company visit and business development direction. 	<ul style="list-style-type: none"> To improve payment systems by introducing EMV; To invite service users to attend the Company visit to view the Company's operations and management.



SOCIETY/ COMMUNITIES AND ENVIRONMENT

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Suggestions and complaints via various channels of the Company	(1) All year round	<ul style="list-style-type: none"> To carry out projects/activities on the basis of safety and taking into account social and environmental impact; 	<ul style="list-style-type: none"> To plan/set goals/hold activities with safety awareness;
(2) Meetings, discussions with and visits to communities affected by the Company's operations	(2) All year round	<ul style="list-style-type: none"> To include and support communities in the development of good quality of life in various areas, e.g., education – creating educational opportunities and learning, and reducing educational inequality; 	<ul style="list-style-type: none"> To study guidelines for activities in response to various needs of target groups;
(3) Discussion on guidelines for social contribution from government projects	(3) All year round	<ul style="list-style-type: none"> environment – minimizing air, noise, water pollution and disposing of wastes for communities; and public health – providing knowledge and understanding regarding pandemic prevention measures; 	<ul style="list-style-type: none"> To hold activities to cover all target groups of youth to ensure educational equality;
(4) Social and environmental contribution activities along the metro and expressway routes	(4) All year round	<ul style="list-style-type: none"> To suggest and promote learning of safe and sound journeys by public transport systems; 	<ul style="list-style-type: none"> To build staff awareness of voluntary actions for community and social contribution in collaboration with alliances in terms of health care and pandemic prevention;
(5) Assessment of activity-based satisfaction and engagement	(5) Occasional		<ul style="list-style-type: none"> To minimize conflicts with target groups;
(6) Community and social contribution initiatives in collaboration with public sector	(6) All year round		<ul style="list-style-type: none"> To promote good images in the business operations with a commitment to social responsibility;

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(7) Activities with target groups (via online)	(7) Occasional	<ul style="list-style-type: none"> To minimize impact and prevent air, noise, water and environment pollution from the Company's business operations by way of community relations activities for troubleshooting in response to needs of target communities and society; To support the government projects for human resources development. 	<ul style="list-style-type: none"> To support government policies in terms of budgets and areas for public participation in helpful projects.
(8) Activities for good relationship building with communities	(8) All year round		



COMPETITORS

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
Performance review	Occasional	<ul style="list-style-type: none"> To observe business ethics, operate businesses with transparency and on the basis of good and fair competition and legal frameworks. 	<ul style="list-style-type: none"> To comply with business competition ethics in a transparent and auditable manner.



Creditors

(Financial sponsors, investors, analysts)

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Disclosure of information in One Report and on the Company's website	(1) Monthly / annually	<ul style="list-style-type: none"> To achieve good operating results; To establish an investment plan for future growth; To communicate and disclose sufficient, accurate and complete information in a timely manner; To comply with the terms and conditions set forth in the credit facility agreements, or the terms and conditions for issuance of debentures; To afford financial institutions equal and fair opportunities to propose financial transactions. 	<ul style="list-style-type: none"> Prepare correct, complete and reliable reports; Communicate and disclose the Company's information through various channels in a sufficient, accurate, complete, and timely manner; Conduct service satisfaction survey in terms of investor relations; Strictly and completely comply with the credit facility agreements, terms and conditions that have been agreed upon.
(2) Company Visit, Roadshows, Analyst Meetings and Conference Calls, both in Thailand and abroad	(2) Occasional		
(3) Provision of information to investors and analysts via e-mail / Line Group	(3) All year round		
(4) Participation in keynote presentations in major financial events, such as SET Opportunity Day, Money Expo and Analyst Meetings, etc.	(4) Occasional		



SHAREHOLDERS

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Shareholders' Meetings (2) Disclosure of information in the Annual Report, performance reports via the Company's communication channels, e.g., website, etc. (3) Presentation of the Company's performance via marketing communication activities, namely, Roadshows, Analyst Meetings and Company Visit, etc.	(1) 1 times/year (2) All year round (3) Occasional	<ul style="list-style-type: none"> To operate businesses in compliance with applicable laws and regulations on the basis of transparency and the Company's long-term growth; To treat shareholders fairly and equally; To receive reasonable return on investment; To disclose accurate, complete and up-to-date information. 	<ul style="list-style-type: none"> To ensure compliance with the requirements, laws, notifications, the concession agreements and others applicable to businesses in a transparent, fair and auditable manner; To communicate information via the Company's channels accessible to shareholders; To have a clear dividend policy; To prepare accurate and complete reports on the Company's performance in various aspects.



PRESS

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Online/offline and social media <ul style="list-style-type: none"> - Press/photo releases - Scoops - Videoclips and radio spots - Press conferences - Interviews - Monitoring and collection of news clipping relating to the Company, affiliates, authorities and transportation business competitors 	(1) All year round	<ul style="list-style-type: none"> To be informed of accurate, complete and up-to-date information; To ensure the Company's regular update of information. 	<ul style="list-style-type: none"> To provide accurate and complete information in a rapid and timely manner; To regularly and accurately update the Company's information available to the media.



REGULATORY AUTHORITIES AND PUBLIC SECTOR

COMMUNICATION CHANNELS	FREQUENCY	EXPECTATIONS	RESPONSIVE ACTIONS
(1) Report on operating results to the regulatory authorities (2) Meetings with the respective authorities (3) Communication with government officials for mutual understanding (4) Regular participation in government activities and projects (5) Performance satisfaction evaluation	(1) Monthly, quarterly, and annually (2) Monthly (3) All year round (4) All year round (5) Monthly	<ul style="list-style-type: none"> To strictly comply with its commitments and obligations as agreed upon in its capacity as a contractual party; To provide cooperation and support in respect of any activities for common interest; To operate businesses in compliance with applicable laws and regulations; To follow the COVID-19 prevention measures. To strictly perform its contractual obligations towards the public sector, EXAT and MRTA, in its capacity as a contractual party, and in fairness to the relevant parties on the basis of equality and without discrimination; To comply with the concession agreements; To plan for systematic collaborative operations; To comply with the applicable laws; To ensure the efficiency in performance in respect of, for example, data accuracy and precision, equipment availability checklists, contact and coordination for operations by operators between two units in a clear and fast manner, etc.; To ensure the efficiency in the provision of the expressway services, e.g., consistent toll payment system, visible signboards on the expressways; To ensure that staff is capable of clearly answering questions to service users, maintaining a clean and tidy environment, etc. 	<ul style="list-style-type: none"> To ensure strict compliance with the requirements, laws, notifications applicable to businesses and the concession agreements; To collaborate with the regulatory authorities to develop the EMV payment systems, and with the TAT to organize activities to promote the metro journeys for tourism along the service routes; To strictly comply with the laws applicable to the business operations; To issue management measures to prevent the COVID-19 pandemic within the Company, both operating and service areas. To incorporate practical guidelines in the Company's code of conduct; To strictly comply with the concession agreements; To strictly comply with the laws applicable to the business operations.

3.3

MATERIAL SUSTAINABILITY ISSUES



3.3.1

IDENTIFICATION AND PRIORITIZATION OF MATERIAL ISSUES

(1) Steps for Assessment of Material Sustainability Issues

The Company assesses and reviews material sustainability issues to analyze their connection with the Company's business operations. The steps for assessment of material issues are described below.



Step 1 : Identification

The Company identifies and reviews sustainability issues by considering changes in both internal and external conditions of the Company, comparative data with companies in the same industry in international settings, demands and expectations of each group of stakeholders, requirements, laws and notifications applicable to the business operations, standard requirements for sustainable development, including future trends, as contributing facts to identify sustainability issues which may give rise to opportunities for or affect the Company's business operations.



Step 3 : Validation

The Company takes this step to validate the suitability of prioritization of the sustainability issues by way of discussions with the relevant units in the Company to consider the Company's internal and external conditions, comparative data with companies in the same business segment in international settings, future trends, and the results of prioritization of the sustainability issues. The outcome of such discussions will be presented to high-ranking executives for consideration and approval of formulation of guidelines for internal management for sustainable development.



Step 2 : Prioritization

The Company sets out the criteria for consideration of economic, environmental and social dimensions, and takes into account those expectations of each group of the Company's stakeholders to consider such issues which may affect stakeholders and the business operations for the purpose of prioritizing the sustainability issues.



Step 4 : Regular Revision

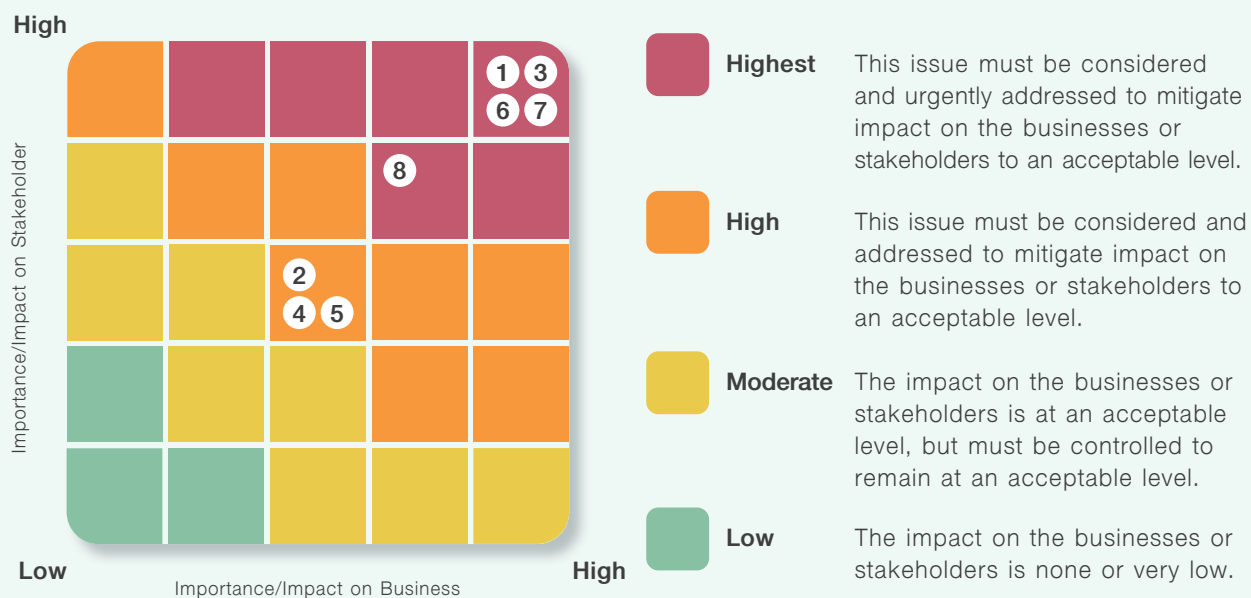
The Company has a strategic management process to review the material sustainability issues, and also review, revise and develop various processes to achieve the sustainability goals, including such goal to develop its sustainability report and review the sustainable development policy on a regular basis.

(2) Assessment Results of Material Sustainability Issues

The material sustainability issues for 2022 which have been identified in accordance with the above procedures, are as follows:

DIMENSIONS	SUSTAINABILITY ISSUES
Environmental	<ol style="list-style-type: none"> 1. Reduction of utilization of resources and energy 2. Greenhouse gas emission management
Social	<ol style="list-style-type: none"> 3. Safety of the services to customers, society and communities 4. Engagement of customers, communities and major stakeholders 5. Effective communications with major stakeholders
Corporate Governance and Economy	<ol style="list-style-type: none"> 6. Risks which affect the business operations 7. Maintenance of the quality of services 8. Information technology security

Materiality Matrix





3.4

SUSTAINABILITY MANAGEMENT IN ENVIRONMENTAL DIMENSION

3.4.1 ENVIRONMENTAL POLICY AND PRACTICES

(1) Environmental Policy

The Company engages in the service businesses and is committed to ecofriendly business operations to ensure a good quality of life for staff, service users, and communities along the expressway and MRT routes, including all groups of stakeholders. Therefore, the Company focuses on the environmental management through the following actions:

1. To give priority to pollution prevention and control to meet international standards and take into account the environmental impact of service users, staff and communities to least possible extent and in compliance with the laws;
2. To educate and raise awareness of staff and contractors, including parties concerned, in respect of their roles, duties and responsible tasks to prevent the environmental impact and promote the optimal use of natural resources;
3. To perform duties in compliance with applicable laws and other requirements regarding the environment;
4. To review the objectives and goals, measures on pollution prevention and control, and environmental protection to ensure that they have been put into practice for continued improvement, as well as the effective and cost-efficient use of resources;
5. To disseminate the environmental policy to the public and all parties concerned.

(2) Environmental Practices

- To set out policies, objectives, goals, practices, measures on pollution prevention and control, scope of duties and responsibilities for the environment, and comply with the requirements and laws relating to the environment, as well as supervise/follow up such arrangements to achieve the set goals, and report such performance to executives for regular improvement/development;
- To engage in the service business on an ecofriendly basis by focusing on prevention and control of potential pollution throughout the value chain, namely:
 - To set out a green procurement policy in the nomination and selection of vendors/service providers, and goods or services which are ecofriendly;
 - To establish an energy management committee to be in charge of energy management throughout the value chain;
 - To regularly study technologies, tools and equipment for use in the internal process improvement, with the focus on the optimal use of resources to ensure that resources are used cost-efficiently and effectively, and to minimize the environmental impact to the least possible extent in practice;

- To put in place a procedure for management of wastes from various activities for efficient waste disposal, including recycling for reuse, for example, recycling water used for washing trains, reusing water from other activities on plants, and processing wastes from waste sorting into biofertilizers, etc.
- To encourage staff and contractors to realize and behave themselves towards the optimal use of resources and the environmental impact reduction from internal processes, both directly and indirectly, to be extended to service users, society and communities along the metro and expressway routes through environmental promotion activities, e.g., MRT Green Station which promotes youth's waste sorting and recycle D.I.Y. contest, proper waste sorting in the Company's and contractors' areas, and passengers' plastic donations at the metro stations to be recycled as household appliances for communities, etc.;
- To promote the environmental awareness in society and communities, e.g., green barrier project along the metro and expressway routes, to reduce air pollution.

3.4.2 ENVIRONMENTAL PERFORMANCE

(1) Reduced Use of Resources and Energy

The Company emphasizes the management of its use of resources and energy since the Company primarily drives its businesses through the use of resources and energy, particularly electricity which mainly accounts for the Company's costs. The reduced use of resources and energy will help reduce the Company's costs, enhance its competency and business competitive advantage, share the common use of resources in society as a whole in the world, and lead to the cost-efficient and eco-friendly use of resources.

The Company has established the energy management team and related working groups in the Company to proceed with and manage the relevant arrangements to achieve the goals of reduced use of resources and energy, both electricity and fuels, including management of wastes, use of water, paper and green products, as well as the green office operations, with the overview below.



Prepare the annual energy management plan in line with the policy, objectives and goals of energy conservation



Liaise various units for operations and training / build awareness / follow up and evaluate the energy management / provide suggestions for review as appropriate



Report the results of the energy management to the Quality Management System Committee

1.1

ELECTRICITY MANAGEMENT

• IMPORTANCE

The Company takes the electricity management as an important issue, which represents an imported resource essential to the rail business, as the metro systems are regarded as ecofriendly systems, including the expressway business. The sources and the optimal use of electricity are thus crucial, and as such, the Company has regularly considered utilizing sophisticated and suitable technologies to support such management.

• OBJECTIVES, GOALS AND IMPLEMENTATION

The Company has implemented the electricity management since the opening of the rail and expressway systems for services to ensure the efficient use of energy, with short-term, medium-term and long-term goals to the reduced use of energy as the indirect source of greenhouse gas emission from the use of energy (Scope 2), as follows:



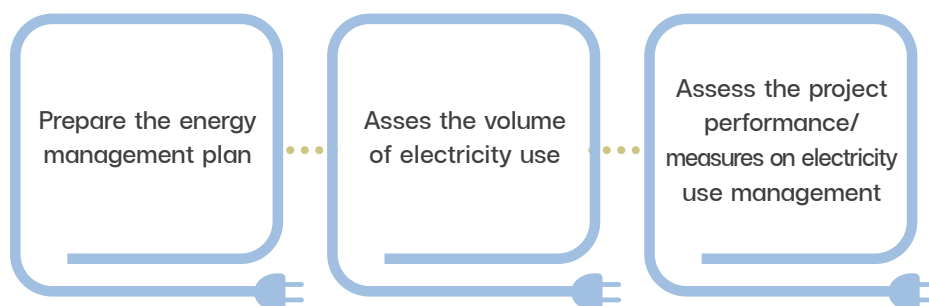
Rail Systems

PROJECTS	SYSTEMS	2022 (COMPARED TO 2021)	2025 (COMPARED TO 2022)	2030 (COMPARED TO 2022)
MRT Blue Line	MRT Blue Line	Reduced Energy Use Scope 2 : 1.9%	Reduced Energy Use Scope 2 : 5.96%	Reduced Energy Use Scope 2 : 5.52%
	Office Building	Reduced Energy Use Scope 2 : 2%	Reduced Energy Use Scope 2 : 20%	Reduced Energy Use Scope 2 : 30%
MRT Purple Line	MRT Purple Line	Reduced Energy Use Scope 2 : 4.4%	Reduced Energy Use Scope 2 : 11.6%	Reduced Energy Use Scope 2 : 10.98%
	Office Building	Reduced Energy Use Scope 2 : 10%	Reduced Energy Use Scope 2 : 4.4%	Reduced Energy Use Scope 2 : 4.28%



PROJECTS	SYSTEMS	2022	2025	2030
Si Rat Expressway (Base Year 2014)	Lighting	Reduced Energy Use Scope 2 : 35%	Reduced Energy Use Scope 2 : 39%	Reduced Energy Use Scope 2 : 49%
	Toll Plaza and Rescue Building	Reduced Energy Use Scope 2 : 23%	Reduced Energy Use Scope 2 : 35%	Reduced Energy Use Scope 2 : 81%
	Office Building CCB2	Reduced Energy Use Scope 2 : 35%	Reduced Energy Use Scope 2 : 43%	Reduced Energy Use Scope 2 : 43%
Udon Rathaya Expressway (Base Year 2014)	Lighting	Reduced Energy Use Scope 2 : 48%	Reduced Energy Use Scope 2 : 48%	Reduced Energy Use Scope 2 : 56%
	Toll Plaza and Rescue Building	Reduced Energy Use Scope 2 : 13%	Reduced Energy Use Scope 2 : 30%	Reduced Energy Use Scope 2 : 58%
	Office Building CCB5	Reduced Energy Use Scope 2 : 44%	Reduced Energy Use Scope 2 : 44%	Reduced Energy Use Scope 2 : 44%
Prachin Rathaya Expressway (Base Year 2017)	Lighting	Reduced Energy Use Scope 2 : 15%	Reduced Energy Use Scope 2 : 32%	Reduced Energy Use Scope 2 : 32%
	Toll Plaza and Rescue Building	Reduced Energy Use Scope 2 : 41%	Reduced Energy Use Scope 2 : 53%	Reduced Energy Use Scope 2 : 87%
	Office Building CCB7	Reduced Energy Use Scope 2 : 16%	Reduced Energy Use Scope 2 : 16%	Reduced Energy Use Scope 2 : 16%
Total (Base Years 2014 and 2017)		Reduced Energy Use Scope 2 : 32%	Reduced Energy Use Scope 2 : 39%	Reduced Energy Use Scope 2 : 56%

The implementation proceeds in accordance with the following management procedures:



• KEY INDICATORS AND PERFORMANCE

Rail Systems

In 2022, the rail systems' electricity use rate in Scope 2 increased by 1.33 percent as compared to that of 2021 (increased by 2,533 MWh from 190,052 MWh in 2021) due to the fact that the volume of electricity use in 2021 was less than usual as a result of the reduced service hours according to the government measures on prevention of the COVID-19 against the normal service hours in 2022.

Expressway Systems

In 2022, the expressway systems' electricity use rate in Scope 2 decreased by 32 percent as compared to that of 2014 and 2017 (decreased by 8,051 MWh from 24,875 MWh in 2014 and 2017).

• HIGHLIGHT/SUCCESSFUL PROJECTS

The Company has continued every year to implement projects on energy use reduction and/or upgrade of energy use efficiency in equipment, including such policy on renewable energy consumption by way of installation of solar rooftop panels on buildings or other appropriate locations to generate electricity from solar energy, which is a form of clean renewable energy without causing pollution or environmental impact, and helps reduce the Company's energy costs. In this regard, the Company launched campaigns to encourage staff and concerned parties to realize the significance of the optimal and cost-efficient use of energy, in order for them to proceed with energy management in the same direction towards an ongoing and sustainable development.

The Company's highlight and successful projects in 2022 are as follows:

Rail Systems

1. Electricity Use Management Project for the MRT Blue Line System

To reduce the energy use and to upgrade the energy use efficiency in equipment in the MRT Blue Line System, the Company has implemented various support projects with the results as follows:

- 1.1 The replacement of fluorescent light bulbs with lighting emitter diode (LED) bulbs in the tunnels of the MRT Blue Line reduced the electricity use by 3,471 units/month, or reduced the greenhouse gas emission by 2.08 tons of carbon dioxide equivalent/month.
- 1.2 The LED bulb installation to replace the existing light bulbs at the ground metro stations and the depot of the MRT Blue Line at Kallapaphruek reduced the electricity use by 81,863 units/month, or reduced the greenhouse gas emission by 49.01 tons of carbon dioxide equivalent/month.
- 1.3 The air ventilation system control in the tunnels to be compatible with the tunnel operations reduced the electricity use by 65,647 units/month, or reduced the greenhouse gas emission by 39.30 tons of carbon dioxide equivalent/month.
- 1.4 The lighting energy use control in the depot at Rama IX reduced the electricity use by 21,230 units/month, or reduced the greenhouse gas emission by 12.71 tons of carbon dioxide equivalent/month.
- 1.5 The lighting service control in the ground metro stations of the MRT Blue Line reduced the electricity use by 25,800 units/month, or reduced the greenhouse gas emission by 15.45 tons of carbon dioxide equivalent/month.
- 1.6 The wastewater treatment control in the MRT Blue Line stations reduced the electricity use by 13,800 units/month, or reduced greenhouse gas emission by 8.26 tons of carbon dioxide equivalent/month.
- 1.7 The temperature adjustment to be in line with the ambient temperature in the winter season in the service areas reduced the electricity use by 28,254 units/month, or reduced the greenhouse gas emission by 16.92 tons of carbon dioxide equivalent/month.

2. Electricity Use Management Project for the MRT Purple Line System

To reduce the energy use and to upgrade the energy use efficiency in equipment in the MRT Purple Line System, the Company has implemented various support projects with the results as follows:

- 2.1 The LED bulb installation to replace the existing light bulbs at Khlong Bang Phai Station (PP01) and Phra Nangklao Bridge Station (PP08) and the depot of the MRT Purple Line, including administration building, reduced the electricity use by 173,049 units/month, or reduced the greenhouse gas emission by 103.60 tons of carbon dioxide equivalent/month.
- 2.2 The lighting energy use control in the depot at Khlong Bang Phai of the MRT Purple Line reduced the electricity use by 2,500 units/month, or reduced the greenhouse gas emission by 1.50 tons of carbon dioxide equivalent/month.

- Office Building

Electricity Use Management Project for Administration Building at Rama IX

To efficiently reduce the energy use of the office building to achieve the goals (reduced use of electricity by $\geq 2\%$ compared to 2021), and encourage staff at all levels to be on their best behavior for the optimal use of electricity, the Company has established the annual electricity saving plan and promote energy saving measures, as well as campaign for staff's engagement in energy saving, by way of regular report on electricity use.

The performance in 2022, which involved the replacement of light bulbs with LED bulbs at fire exits and canteen building, scheduled power service, and effective temperature settings of air-conditioning system, including turning off lighting and air-conditioners where not in use, as well as routine energy saving campaigns, reduced the electricity use = 4.03% above target (the volume of electricity use in 2022 = 1,501,000 kWh, lower than that of 2021 by 63,000 units).



Expressway Systems

Energy Saving for Lighting System

To reduce the energy use in the lighting system for motorists, the Company has replaced the existing high pressure sodium (HPS) lamps to lighting emitter diode (LED) lamps, and since 2016-2022, a total of 6,979 lamps have been installed, and it is planned to install 1,830 lamps by 2025 and 3,360 lamps by 2030.

The lamp installation in the amount of 6,979 lamps which have been completed during 2014-2022 reduced the electricity use by 5,147 MWh/year, reduced the greenhouse gas emission by 2,573 tons of carbon dioxide equivalent/year, and reduce costs by approximately Baht 20.59 Million/year.

In 2025, it is estimated to further reduce the electricity use by another 689 MWh/year, reduce the greenhouse gas emission by another 345 tons of carbon dioxide equivalent/year, and reduce costs by approximately Baht 3.44 Million/year, and in 2030, to reduce the electricity use by another 1,146 MWh/year, reduce the greenhouse gas emission by another 573 tons of carbon dioxide equivalent/year, and reduce costs by approximately Baht 5.73 Million/year.



- **Office Buildings**

**Air-Conditioning System Upgrade and LED Bulb Replacement
at Si Rat – Expressway Control Center Building (CCB2)**

For the purpose of management of efficient electricity use at the office building, the Company has substituted the existing air-conditioning system in the building from a package unit with a standalone unit based on variable refrigerant volume (VRV) in order to independently control temperature for different areas, using an inverter compressor to adjust the electric power based on various use scenarios. In addition, the existing fluorescent light bulbs in the building have been replaced by LED light bulbs. These arrangements helped reduce the electricity use by 500 MWh/year, reduced the greenhouse gas emission by 250 tons of carbon dioxide equivalent/year, and reduced costs by approximately Baht 2 Million/year.

1.2

FUEL MANAGEMENT

• IMPORTANCE

The Company finds it essential to respond to climate change since fuels are resources which are consumable and non-renewable, not to mention that fuels can also cause air pollution. In this regard, the Company has a plan to reduce its fuel use by way of reduction of the number of vehicles and/or when they reached their useful lives, replacement of the existing fuel-based vehicles with electric vehicles (EV Car), which are more efficient based on ecofriendly and sustainable technology.

• OBJECTIVES, GOALS AND IMPLEMENTATION

To mitigate air pollution caused by fuel use and to optimize and save the operating costs, the Company sets the following goals:



Rail Systems

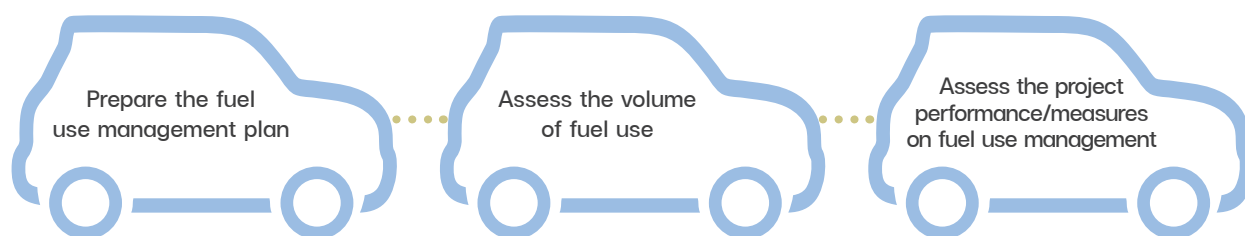
PROJECTS	SYSTEMS	2022 (COMPARED TO 2021)	2025 (COMPARED TO BASE YEAR 2022)	2030 (COMPARED TO BASE YEAR 2022)
Total : MRT Blue Line and Purple Line	Common Vehicles	Reduced Use of Fuels : 15%	Reduced Use of Fuels : 50%	Reduced Use of Fuels : 90%



Expressway Systems

PROJECTS	SYSTEMS	2022	2025 (COMPARED TO BASE YEAR 2022)	2030 (COMPARED TO BASE YEAR 2022)
Total : (1) Si Rat Expressway (2) Udon Rattaya Expressway (3) Prachin Rattaya Expressway	Operations Vehicles	Under study on replacement of fuel-based vehicles with electric vehicles	Reduced Use of Fuels : 5%	Reduced Use of Fuels : 20%
	Common Vehicles	Reduced Use of Fuels : 15%	Reduced Use of Fuels : 50%	Reduced Use of Fuels : 90%

The implementation proceeds in accordance with the following management procedures:



The measures on fuel use management comprise such measures on fuel saving and replacement of fuel-based vehicles with electric vehicles upon expiration of their useful lives.

Fuel saving measures include the following:

- Routine vehicle checkup by drivers;
- Distance-based vehicle checkup (by service center);
- Use of appropriate speed (not exceeding 80 km/hr);
- Selection of vehicle size fit for the purpose of use;
- No off-route driving (requiring route review before departure);
- No engine idling for a long time (always switching off the engine upon arrival at the destination).

Measures on replacement of fuel-based vehicles with electric vehicles include the following:

- Review of expiration of the useful lives of fuel-based vehicles;
- Preparation of a replacement plan for electric vehicles;
- Preparation of premises and equipment in support of electric vehicles;
- Substitution upon expiration of the useful lives of fuel-based vehicles.

• KEY INDICATORS AND PERFORMANCE

Rail Systems

In 2022, the fuel use rate in Scope 1 of the rail systems:

- In respect of common vehicles decreased by 9.60 percent as compared to 2021 (decreased by 5,830 liters from 60,687 liters of fuels used in Scope 1 in 2021), below target, or reduced costs by approximately Baht 116,600.

Expressway Systems

In 2022, the fuel use rate in Scope 1 of the expressway systems:

- In respect of operations vehicles decreased by 7.16 percent as compared to 2021 (decreased by 54,023 liters from approximately 753,993 liters of fuels used in Scope 1 in 2021, excluding traffic police vehicles), or reduced costs by approximately Baht 1.78 Million;
- In respect of common vehicles decreased by 16.47 percent as compared to 2021 (decreased by 1,878 liters from 11,403 liters of fuels used in Scope 1 in 2021) above target, or reduced costs by approximately Baht 37,560.

HIGHLIGHT AND SUCCESSFUL PROJECTS

The Company has implemented projects in 2022 and established its fuel use management plan in 2023, as follows:

Rail Systems

Fuel Use Management for Common Vehicles

For the purpose of fuel use management for the Company's common vehicles, the Company has applied such measures on fuel saving, collected data on the volume of fuel use, and presented the analytical results of fuel use on a monthly basis. As for the MRT Blue Line, the fuel use reduced $\geq 15\%$ from target, as compared to 2021 (target in 2022, the average volume of use is 3,179 liters/month = 38,148 liters/year). The performance in 2022 decreased the fuel use by 18%, above target (volume of use in January-November 2022 = 31,338 liters, less than target by 6,810 liters). The MRT Purple Line is in the course of regularly collecting data on the volume of fuel use, which will be further analyzed in the following year.

Expressway Systems

1. Improvement of Operations Plans

For the purpose of reducing the number of operations vehicles and fuel use, the Company has gathered and reviewed the operations plans of the respective units to consider which units can share their operations vehicles because certain units operate during the daytime and some during the night time and as such, they may share the operations vehicles, or some tasks can be carried out at the same time. In 2022, the Company reduced the fuel use by 54,023 liters, reduced the greenhouse gas emission by 150 tons of carbon dioxide equivalent, and reduced costs by Baht 1.78 Million/year.

2. Use of Electric Vehicles

In order to reduce the fuel use by fuel-based vehicles to be replaced by electric vehicles, which are more efficient in terms of energy consumption than fuel-based vehicles, without any emission, the Company has applied such measures on replacement of fuel-based vehicles with electric vehicles in three phases. Phase 1 (2022) involves a study and testing of the use of electric vehicles in repair and maintenance, operations and office units to identify actual impact and prepare for various infrastructures, e.g., parking spaces and charging stations. Phase 2 by 2025 proceeds with replacement with 18 electric vehicles, which would reduce the fuel use by 42,504 liters, and Phase 3 by 2030 would add another 62 electric vehicles, totaling 80 vehicles, which would reduce the fuel use by 145,748 liters, reduced the greenhouse gas emission by 400 tons of carbon dioxide equivalent, and reduced costs by Baht 4.80 Million/year.

The reduced use of fuels will increase the electricity use at the expressway control center buildings by 102,514 kWh in 2025, and by 475,356 kWh in 2030, in respect of which the Company will further initiate the electricity management measures to support such increase accordingly.

1.3

WATER MANAGEMENT

• IMPORTANCE

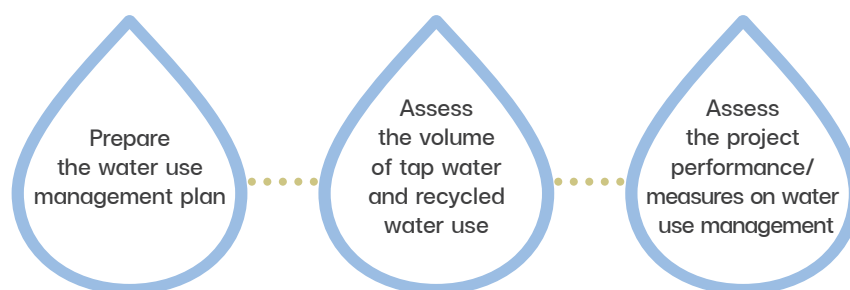
Water and water sources are valuable resources for the businesses and stakeholders, e.g., communities and society. Water management begins with the upstream sources of clean, safe and sufficient water for business operations, on the basis of optimal use and effective recycling in the businesses as well as wastewater management that meets standards for discharge to the public drainage system without any environmental impact, which represents the Company's responsibility to the businesses, society and the environment.

• OBJECTIVES, GOALS AND IMPLEMENTATION

To ensure the optimal, cost-efficient and effective use of water, including wastewater management to meet the quality requirements for recycling and reuse in certain appropriate activities according to ISO 14001: Environmental Management System Standard, the Company has set out the following goals:

1. The volume of tap water use reduced by $\geq 5\%$ as compared to that of 2021.
2. Treated wastewater has been reused to water plants = 100% (pilot site is Administration Building at Rama IX of the MRT Blue Line Project, while other sites would be scheduled for implementation later on).

The implementation proceeds in accordance with the following management procedures:



The measures for water use management are to build awareness and campaigns for water saving. Such measures on water saving awareness and campaigns include:

- Checking any leakage of equipment, including scheduled repair and maintenance for cost control;
- Adjusting the flow rate of basin taps in restrooms on every floor to be shortened to reduce the volume of running water in vain;
- Planning for and installation of water-saving devices fit for use;
- Poster campaign for staff to help save water;
- Reducing ground cleaning activities around office building;
- Reusing treated water to water plants around office building (pilot site);
- Recording the volume of monthly tap water use;
- Recording the volume of monthly recycled water use (pilot site).

• KEY INDICATORS AND PERFORMANCE

WATER SAVING PROJECT	INDICATOR	VOLUME OF WATER USE IN 2021	VOLUME OF WATER USE IN 2022	INCREASE/ DECREASE
Rail Systems	≥ 5%	15,005 m ³	13,576 m ³	Decrease by 9.52% (1,429 m ³)
Expressway Systems	N/A	29,820 m ³	28,653 m ³	Decrease by 3.91% (1,167 m ³)

WATER RECYCLING (ONLY PILOT SITE)	INDICATOR	VOLUME OF WATER RECYCLING IN 2021	VOLUME OF WATER RECYCLING IN 2022	INCREASE/ DECREASE
Volume of Treated Water	N/A	2,543 m ³	2,013 m ³	Decrease by 20.84% (530 m ³)
Volume of Treated Water Use for Plants	100%	2,543 m ³	2,013 m ³	N/A

HIGHLIGHT/SUCCESSFUL PROJECTS

The Company has implemented the following water use management projects in 2022:

Rail Systems

Tap Water Management and Water Recycling at Administration Building at Rama IX

To efficiently save water, preserve resources and reduce costs, the Company has implemented such measures on water saving awareness and campaigns for Administration Building at Rama IX, as a pilot site, with a target in 2022 to reduce tap water use by ≥ 5% as compared to 2021, and use 100% of recycled water to water plants.

The performance in 2022 reduced tap water use by approximately 9.52%, above target (volume of use in January-December 2022 = 13,576 units, less than 1,429 units in 2021), saved costs by approximately Baht 10,000/year, and 100% of recycled water was used to water plants around office building (with no discharged to public drainage). The volume of recycled water use in January-December 2022 = 2,013 units helped save costs by Baht 14,000/year and saved overall costs by Baht 25,000/year.



Expressway Systems

Tap Water Management at Si Rat - Expressway Control Center Building (CCB2), Udon Raththaya - Expressway Control Center Building (CCB5) and Prachin Raththaya - Expressway Control Center Building (CCB7)

To reduce the Company's costs and use of natural resources, the Company has implemented such measures on water saving awareness and campaigns at CCB2 in respect of the water saving, excluding the recycled water use in suitable activities (such measures would be implemented on a full-scale basis in 2023), with a target in 2022 to limit the volume of water use not to exceed 13,249 units.

At CCB5 and CCB7 regularly recorded the volume of water use, with a target and schedule for measures on water saving awareness and campaigns to be implemented in 2023.

The performance in 2022 reduced tap water use above target (volume of use in January-December 2022 = 7,953 units, less than target by 5,296 units), saved costs by approximately Baht 90,000/year from target.

1.4

GARBAGE AND WASTE MANAGEMENT

• IMPORTANCE

Presently, wastes are regarded as a critical community, national and global issue, which cause pollution and need urgent measures for proper management, and as such, the reduction of the volume of wastes becomes one of the topmost steps for efficient environmental management. The Company thus focuses on waste management under the 3 R principles, namely reduce wastes, and sort them out for reuse or recycle, so as to save resources and substantially reduce wastes, minimize the greenhouse gas emission as part of the global warming mitigation, with positive impact on the environment, society/communities, and the Company.

• OBJECTIVES, GOALS AND IMPLEMENTATION

For the purpose of integrated garbage and waste management under the 3 R principles along with the environmental conservation awareness and effective engagement of personnel for environmental protection, the Company has implemented an office environmental management under the green office project for waste management to reduce wastes from the source, promote office waste sorting, and encourage the awareness and engagement in waste management with responsibility to the ecosystem, ecofriendliness and appreciation of the value of environmental protection towards sustainability. The Company has first launched the green office project in Administration Building at Rama IX as a prototype, and will expand the project implementation to other office buildings in the future. The Company's goals for the green office are as follows:

1 Volume of general wastes



Goals Decrease by $\geq 3\%$ (compared to 2021)

2 Volume of recycled wastes



Goals Increase by $\geq 10\%$ (compared to 2021)

3 Volume of disposable wastes for dry leaf compost



Goals Decrease by $> 2,000$ kg. per year

4 Volume of disposable wastes for biotrack and biosoil



Goals Decrease by $> 2,700$ kg. per year

5 Volume of disposable wastes for coffee grounds as fertilizer



Goals Decrease by > 240 kg. per year

6 Volume of plant propagation to increase green areas in the Company and/ or staff housing



Goals > 200 plants per year

7 Proper waste sorting by staff and contractors



Goals $> 70\%$

8 Recycled waste donations to external organizations

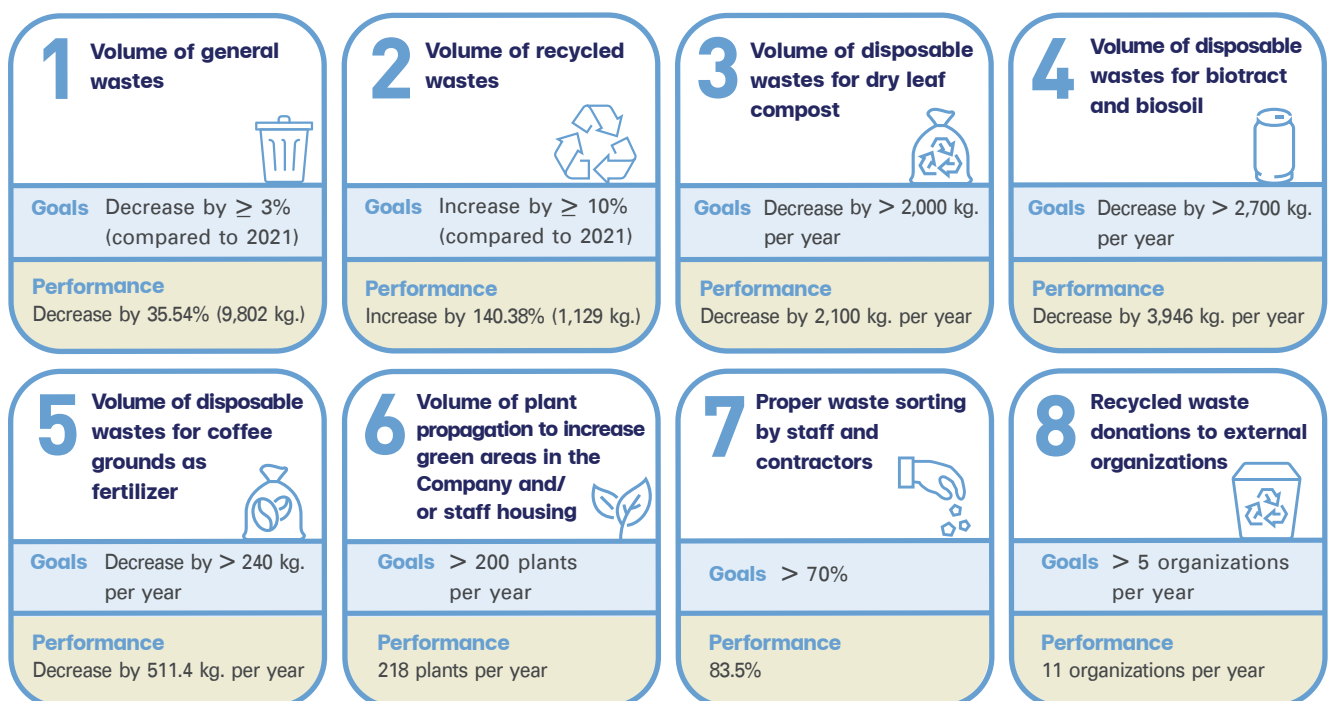


Goals > 5 organizations per year



The Company primarily relies on the office waste management concept under the green office project to mutually reduce wastes from the source and emphasize waste sorting by specified categories and waste management standards for discharge, sorting, storage, collection, handling, disposal and delivery. The recycled wastes are collected and delivered to public or private sector for reuse to get the most out of them. In addition, the disposable and recycled wastes are reused in various office activities. Staff, shops and contractors are encouraged to participate in those various activities under the 3 R principles : Reduce, Reuse and Recycle.

• KEY INDICATORS AND PERFORMANCE



• HIGHLIGHT/SUCCESSFUL PROJECTS

The Company places emphasis on the implementation of the green office project under various support projects or activities. In 2022, the Company has donated the recycled wastes for reuse to society, communities and staff via over 11 projects, which helped reduce carbon dioxide (CO₂) emission up to a total of 65.73 tons of carbon dioxide equivalent. Those highlight projects and activities may be summarized as the Waste Road Map 2022 as follows:



MONTH	DONATED RECYCLED WASTE	ORGANIZATIONS RECEIVING DONATION/ACTIVITIES	ITEMS MADE OF/FROM RECYCLED WASTE	TARGET GROUP
January	Carton box 290 kg.	The Mirror Foundation	12 fairy tale books	Child
February	Plastic cap 15 kg.	Patong Municipal School	4 surf skates	Child
March	milk carton, coconut milk carton 67.3 kg.	Recyclable UHT Milk Carton Project	Braille media	Persons with visual impairment
April	Plastic straw 31.5 kg.	Ban Phai Community, Rayong Province	63 straw pillows	Community
May	Plastic water bottle 38 kg.	Wat Chak Daeng, Samut Prakan Province	Buddhist monk robes	Community
June	-	Recycle exhibition	at the cafeteria	Employees and contractors
July	-	Vegetable planting activity, leaf bio-fertilizer	at the Auditorium	employee
August	Used coffee capsules 0.7 kg.	Nespresso	Coffee capsule	-
September	milk carton, coconut milk carton	BMA Office	Roof	Community
October	Plastic water bottle 177 kg.	Greenwave Radio Stations	Reflective uniforms	Bangkok street sweepers
	Plastic water bottle 2.4 kg.	Greenwave Radio Stations	Winter blankets	community
November	Plastic bag 2.5 kg.	Greenroad Project	Paving bricks	community
December	Used vegetable oil 65 liters	Deethai Oil	Bio Diesel	-

Rail Systems

1. Plastic Home Delivery Project

This project collects plastic caps, bottles and straws for delivery to various organizations, communities and society for processing as surfskates for children, buddhist monk robes, straw pillows for communities, and PPE suites for medical personnel, etc.

The Company sorted and collected a total of 570 kg. of wastes, which could produce 4 surfskates, 28 buddhist monk robes, 63 straw pillows, and others, and reduced carbon dioxide (CO₂) emission by 0.59 ton of carbon dioxide equivalent.



2. One Cap One Dream to Share Prosthetic Leg Project

This project collects aluminum wastes for donation to the Prostheses Foundation of Her Royal Highness Princess Mother and the Pollution Control Department for recycling as materials in the production of prosthetic legs for mobility impaired persons. The Company sorted and collected a total of 316 kg. of aluminium wastes for production of approximately 316 prosthetic legs, reduced carbon dioxide (CO₂) emission by 2.89 tons of carbon dioxide equivalent.

6. Green Barrier Activity

This activity engages staff, communities and society with the environmental protection awareness to allow for trees and people to grow together. The Company organized such activity for plant propagation and distribution to staff and the Department of Welfare and Labor Protection, and Bangkok Metropolitan Administration, to promote plantation of over 200 plants both in the Company, staff housing and surrounding communities/society.

3. shred 2 share Project

This project collects wastes in the form of unused confidential documents or used two-sided paper for delivery to the relevant authorities for recycling and new paper production. The Company collected a total of 17,344 kg. of paper, which helped save 260 trees from being cut, and reduced carbon dioxide (CO₂) emission by 61.57 tons of carbon dioxide equivalent.

4. Learning Activity and Campaigns via Various Channels

This activity is intended to build awareness of efficient waste management. The Company launched campaigns to regularly provide knowledge to staff and stakeholders, e.g., shop operators and contractors, via various channels.



5. Garbage Gang Project

This project collects beverage cartons, e.g., milk cartons and fruit juice cartons, for delivery to the Beverage Carton Recycling Center for recycling as green board in lieu of wood materials in the production of school supplies, e.g., desk and chair sets, for donation to schools in need. The Company sorted and collected a total of 162 kg. of cartons which produced 8 green boards, reduced carbon dioxide (CO₂) emission by 0.69 ton of carbon dioxide equivalent.



1.5

PAPER MANAGEMENT



• IMPORTANCE

Paper is a consumable natural resource and the production process causes the environmental impact. Therefore, paper management by way of paper use reduction and cost-efficient paper reuse helps reduce the Company's costs without wasting space for storage and disposal, including for mitigation of the environmental impact in the form of the greenhouse gas emission.

• OBJECTIVES, GOALS AND IMPLEMENTATION

The Company intends to continuously control and reduce office paper use, and raises staff's awareness of optimal use of office supplies and materials. The goals for office building of the rail systems are as follows:

- The volume of paper use decreased by $\geq 5\%$ as compared to 2021.

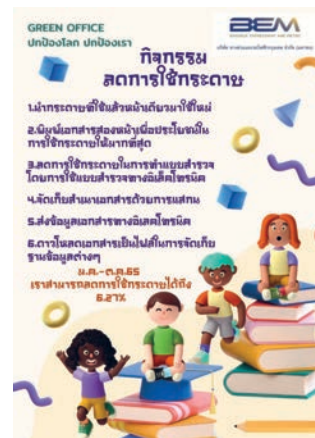
The Company has collected data on the monthly volume of office paper disbursements for comparison purpose.

• KEY INDICATORS AND PERFORMANCE

In 2022, the volume of paper disbursements in both rail and expressway systems decreased by 7.13%, and the Company reduced the amount of paper used by 235,550 sheets, and saved approximately Baht 43,000.

• HIGHLIGHT/SUCCESSFUL PROJECTS

The Company continuously launched campaigns for reduced and effective use of paper via various channels.





1.6

PROMOTION OF ECOFRIENDLY GOODS AND SERVICES

• IMPORTANCE

The Company incorporates the environmental awareness as part of its environmental policy for selection and promotion of ecofriendly products to minimize the environmental impact in the long run, which will be beneficial in return to the Company and society as a whole.

• OBJECTIVES, GOALS AND IMPLEMENTATION

To promote the use of ecofriendly products, the Company has launched a campaign to communicate with its personnel to realize the value and importance as well as provide them with alternatives for purchasing units to select ecofriendly goods and services, with the goals as follows:

- The purchase value of ecofriendly goods/services increased by $\geq 10\%$ as compared to 2021.

In this connection, the Company has implemented the Green Product Project to achieve such goals.

• KEY INDICATORS AND PERFORMANCE

The purchase value of ecofriendly goods/services in 2022 increased from 2021 by Baht 11.48 Million or representing an increase by 69.47%.

• HIGHLIGHT/SUCCESSFUL PROJECTS

In 2022, the Company has implemented the following project to promote ecofriendly goods and services:

Green Product Project

This project is a campaign for the purchasing units in the Company to select ecofriendly goods/services. Therefore, the Company has established a list of price validity of ecofriendly goods/services for 2022, which is available on the Company's website, to provide the procurement information under the Green Product menu, including public relations materials via its internal communication channels (Intranet).

The performance in 2022 displayed an approved list of price validity for ecofriendly goods for 2022 for a total of 195 items, with the purchase value of ecofriendly goods/services increased by more than 69%, above target.



(2) Management of Greenhouse Gas Emission

• Importance

Further to the widespread climate change, global warming, and climate variability, they are contributing factors behind severe natural disasters with high frequency of happening, such as, flooding, storms, PM 2.5 dust particles, earthquake, including land subsidence, particularly in Bangkok, which may affect the Company's business operations, e.g., the operating costs (namely, electricity consumption for the metro services), the management costs based on the efficiently disaster and flooding risk management measures, etc.

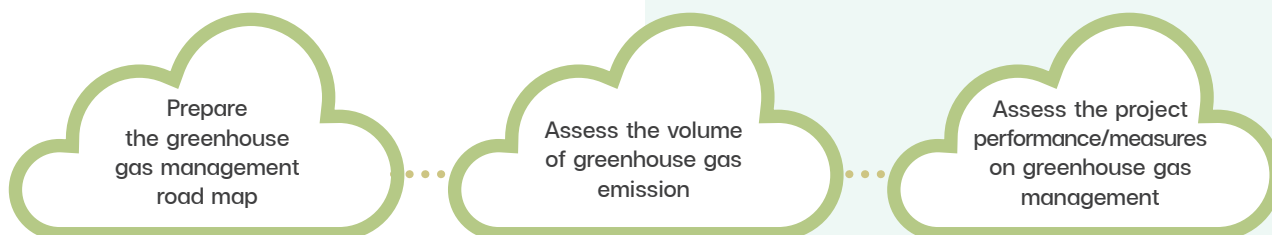
The Company recognizes the importance of sustainable energy use and environmental protection, and always focuses on and prioritizes reduction of the greenhouse gas emission. In the past, the Company has set out a policy and reviewed its goals of reduced energy use and emission of carbon dioxide equivalent on a yearly basis, and implemented projects for reduced energy use and environmental protection by introducing ecofriendly technologies. The Company also organized activities to engage staff and ensure their understanding in the Company's implementation in the same direction.

• Objectives, Goals and Implementation

The Company has the objectives of responding to the climate change by reducing the greenhouse gas emission and using the ecofriendly technologies towards sustainability. The Company thus sets out the goals of reducing the greenhouse gas emission by 3 percent by 2022 as compared to 2021. In doing so, the Company has continuously implemented various projects for energy conservation and environmental protection with the aim of reducing the greenhouse gas emission by 10 percent by 2025, and by 30 percent by 2030. The Company has also set its direction to achieve carbon neutrality by 2050, and thereafter, will establish future work plans to enhance the energy use efficiency in equipment, to use renewable energy, to manage its logistics by adopting technologies for its business operations, including reforestation on a regular basis, so as to achieve net zero emission by 2065).

2022	2025	2030	2050	2065
Reduced greenhouse gas emission in Scopes 1-2 by 3% (compared to 2021)	Reduced greenhouse gas emission in Scopes 1-2 by 5% (compared to 2022)	Reduced greenhouse gas emission in Scopes 1-2 by 10% (compared to 2022)	Carbon Neutrality	Net Zero Emission

The implementation proceeds in accordance with the following management procedures:

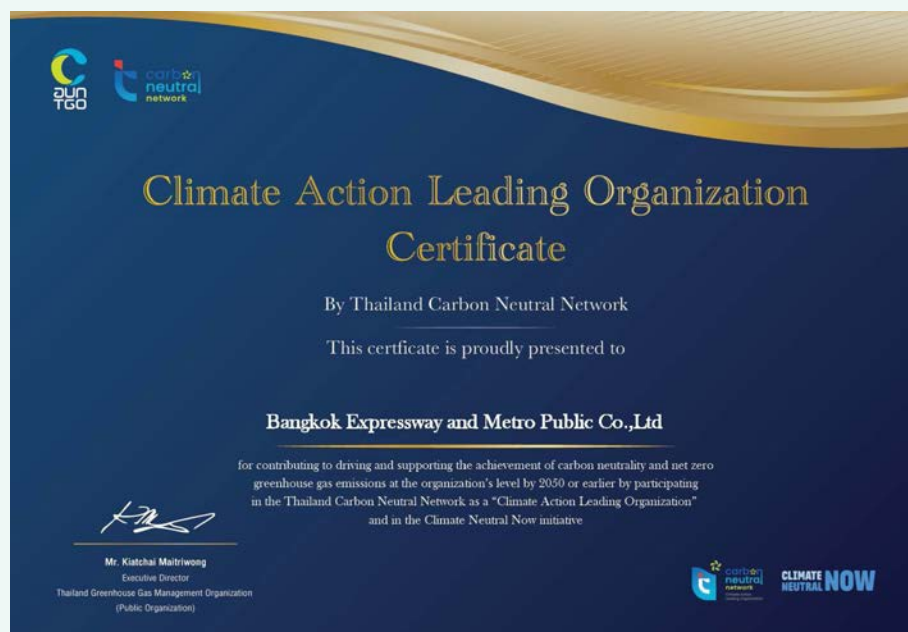
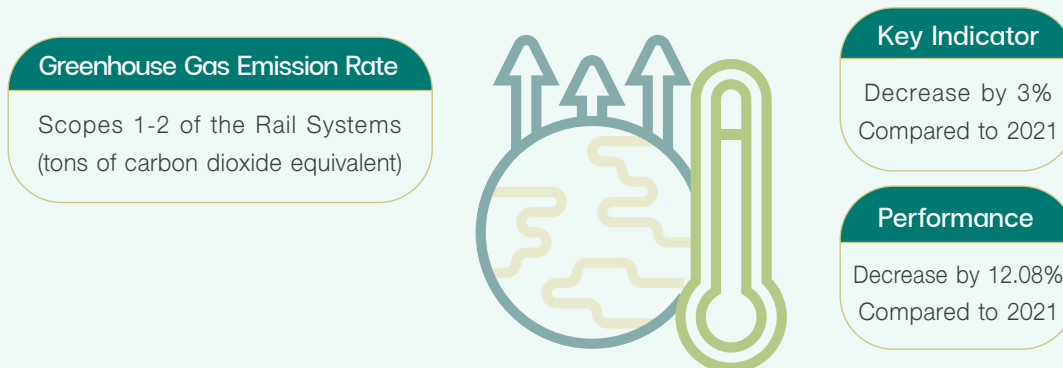


The measures on greenhouse gas management include the following:

- Promotion of renewable energy use, e.g., solar photovoltaic (Solar PV) technology;
- Enhancement of the efficiency in the provision of services and selection of raw materials or products with lower emission of carbon dioxide equivalent;
- Carbon absorption and containment by natural means, e.g., increase of green barriers along the metro routes to mitigate air pollution;
- Carbon compensation via carbon credit trading.

• Key Indicators and Performance

The greenhouse gas emission rate (tons of carbon dioxide equivalent) in Scope 1-2 (only the rail systems) decreased by 12.08 percent, as compared to 2021 (decreased by 13,798 tons of carbon dioxide equivalent from 114,196 tons of carbon dioxide equivalent in 2021).



In 2022, the Company has been certified as a Climate Action Leading Organization by Thailand Carbon Neutral Network in its Meeting No. 3/2022 on August 31, 2022.

Highlight/Successful Projects

The Company has implemented projects for reduction of greenhouse gas emission, other than the reduced energy use project in 2022, and also planned for further implementation in 2023, as follows:

Rail and Expressway Systems

1. Green Barrier Project

This project complies with the Environmental Impact Mitigation Measures and Monitoring Program (EMP) as approved by the Office of Natural Resources and Environmental Policy and Planning (ONEP) and the National Environmental Board, for the metro projects, which are the mass rapid transit project. Therefore, the Company has proceeded to increase the green barriers along the metro routes to mitigate air pollution and visual pollution, and soften the rigidity and appearance of the metro structures.



The green barriers have been installed around the entrances and exits of the metro stations.



The green barriers have been installed between columns along the metro routes on Rattana Thibet Road.

2. Solar Energy Project for Expressway Systems

In order to increase the use of renewable energy, the Company has installed the solar rooftop panels on 10 toll plaza buildings and 3 control center buildings of the expressway systems, and planned to install the panels on 34 more buildings by 2025 to generate electricity to the buildings.

The performance of the solar panel installation to generate electricity in all 13 buildings during 2017-2022 generated 633.64 MWh/year of electricity, reduced the greenhouse gas emission by 316 tons of carbon dioxide equivalent, and reduced costs by Baht 2.53 Million/year.

It is estimated that by 2025, the project would generate 773.00 MWh/year of electricity, reduce the greenhouse gas emission by 386 tons of carbon dioxide equivalent, and reduce costs by Baht 3.86 Million/year.

3. Solar Energy Project for Rail Systems

In order to increase the use of renewable energy, the Company plans to install the solar rooftop panels to generate electricity for all 3 depots by 2023.

The goals for the solar panel installation to generate electricity for all 3 depots to be completed by 2023 would generate 13.15 MWh of electricity, reduce the energy use by 18,888,090 kWh/year, reduce the greenhouse gas emission by 9,442 tons of carbon dioxide equivalent/year, and reduce costs by Baht 18.88 Million/year.

3.5 SUSTAINABILITY MANAGEMENT IN SOCIAL DIMENSION

3.5.1 SOCIAL POLICY AND PRACTICES



(1) Social Policy

The Company is committed to operating its businesses as a decent member of society with sustainable growth, taking into account the economy, society and the environment altogether. In the past, the Company has been taking care of society in various aspects, such as, human rights, occupational health and safety in accordance with the Company's policy, namely:



1. To build good relationships with stakeholders throughout the Company's business value chain, e.g., customers, suppliers, society/communities, and staff;



2. To support and jointly hold projects for public interest towards community, social and environmental development in various aspects on a regular basis;



3. To continuously promote awareness of and learning about the due and safe use of the mass rapid transit system by the metro to communities, society and educational institutes along the metro and expressway routes.

(2) Social Practices

The Company has determined the social practices in response to the needs/expectations of target groups to ensure the consistency and appreciation of target groups as well as their satisfaction and sustainable engagement, namely:

1. To build good relationships with local communities and organizations along the metro and expressway routes, and support the government projects;
2. To provide economic assistance to society and generate income to communities;
3. To encourage learning and provide educational support to children and youth;
4. To build society based on learning, giving and sharing;
5. To participate in and support environmental protection campaigns;
6. To build relationships with communities along the metro and expressway routes that sustain any environmental impact from the business operations.

3.5.2 SOCIAL PERFORMANCE

(1) Quality and Safety in Provision of Services to Customers, Society and Communities

• Importance

Given its key mission to provide services of the expressway and metro systems, the Company is well aware of the utmost importance of the quality and safety in the provision of services. The provision of quality and safe services will accommodate the service recipients' demands and/or expectations, thereby resulting in their satisfaction with the services, engagement and confidence through continued use of the services, which will enhance the Company's competitiveness towards sustainable growth.

Traveling by the expressway systems and the public transit by the metro systems becomes essential to people's way of life in the capital city with traffic congestion, particularly during rush hours. This not only enables service users to estimate their commuting time saving, but also constitutes the safest systems. The Company provides the services by focusing on safe and rapid traveling to ensure the satisfaction and confidence of service users, including stakeholders, e.g., staff and contractors, who are required to perform their duties in compliance with the occupational health, safety and environment requirements.

• Objectives, Goals and Implementation

The Company is committed to providing both expressway and metro services to achieve the objectives of its operations under the concessions granted by the public sector. Such services are provided with protective measures in terms of safety, which reflects the Company's goal of zero fatal accident throughout the concession periods. Should there be any accident, it must be promptly resolved by way of coordination with rescue teams or related organizations to have access and rapidly and safely provide assistance at the scene. The Company proceeds with development of staff knowledge, skills and competency in their work performance, supervision and provision of knowledge to contractors, and promotion of safety awareness to service users in both expressway and rail systems for their safe access to and use of the services. In this regard, the Company regularly keeps statistical records of lost time injury frequency rate (LTIFR) of staff and contractors (times/200,000 working hours or times/1,000,000 working hours). Major goals for safety of the rail and expressway systems are as follows:

Rail Systems

1. Passenger / Staff / Contractor Safety : Fatality = 0 throughout the concession period
2. Passenger Safety : Number of serious injuries per 1,000,000 passengers
3. Passenger Safety : Number of serious injuries per 1,000,000 passengers \leq 0.01 throughout the concession period

Expressway Systems

1. Occurrence of accidents = 0 throughout the concession period
(Accident refers to any serious accident caused by the Company's operations.)
2. Occupational Health and Safety Management System Certification: ISO45001: 2018 in 2025

The guidelines and procedures for implementation are as follows:

1. Potential risk assessment during commute;
2. Preparation of management plan and measures to minimize any occurrence or impact thereof;
3. Investment in technology or devices for accident prevention design.

• Key Indicators and Performance

Rail Systems

PROVISION OF SERVICES WITH QUALITY AND SAFETY AND ENVIRONMENTAL / COMMUNITY IMPACT	GOAL	PERFORMANCE	CUMULATIVE PERFORMANCE
Passenger/ Staff/ Contractor Safety : Fatality	0	0	0
Passenger Safety : Number of serious injuries per 1,000,000 passengers	\leq 0.01	0	0

Expressway Systems

Occurrence of serious accidents caused by the Company's operations = 0 (2022).

The statistical records of lost time injury frequency rate (LTIFR) of staff and contractors (times/200,000 working hours or times/1,000,000 working hours) in 2022 are as follows:

LOST TIME INJURY FREQUENCY RATE (LTIFR)	RAIL SYSTEMS	EXPRESSWAY SYSTEMS	TOTAL
LTIFR of staff (times/200,000 working hours)	0.1	0.02	0.03
LTIFR of staff (times/1,000,000 working hours)	0.52	0.09	0.16
LTIFR of contractors (times/200,000 working hours)	0	0.03	0.03
LTIFR of contractors (times/1,000,000 working hours)	0	0.16	0.15

Highligh/Successful Projects

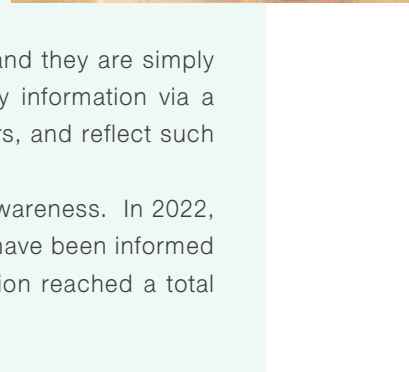
Rail and Expressway Systems

1. Proactive Safety Campaign

In order to provide service users with information in support of their decision to travel where there is any accident occurring in the systems, or to minimize accidents from the use of the expressway and metro systems, or to alleviate the accumulated congestion in the service areas, or should there be any accident in the systems, to prevent any potential multi-vehicle accidents, the Company has a plan for communication of key safety information to service users, including review of the communication channels and information to service providers, as well as public relations channels with access to essential information, and activities to ensure their understanding and safe use of the systems.

Such activities include Safety Share Take Care On Tour 2022 in the metro systems to support such policy on quality and safe services, take into account impact on society and communities, promote and encourage service users to properly use the services with maximum safety, provide suggestions and correct their understanding in case of any inconvenience or misuse on the part of service users, until they eventually adapt their behavior toward safety awareness. The major goals are to communicate safety information to service users and elderly people with increasing statistics to use the systems and they are simply accident-prone from the services, and to assess the communication of safety information via a variety of the organization's channels which are best accessible to service users, and reflect such safety measures by which service users encounter less accidents.

Based on the past activities, service users understand and have safety awareness. In 2022, those encountering accidents on escalators, which represent the target group, have been informed of safety news and information up to 74.8%, and the Company's communication reached a total of 692 elderly people.



2. Staff Engagement and Feedback Improvement Project

This project provides a procedure for feedback on the occupational health and safety management to promote their engagement and accessible to them, and to ensure that staff recognizes the significance of safety awareness, and provide suggestions in safety issues via the Company's channels under the charge of the Occupational Health, Safety and Environment Committee (OHSEC).

The project begins with announcing suggestion channels and restructuring the OHSEC to cover every unit, along with communication with staff to acknowledge their duties and their representatives in each work site. The duties of the chairman of the representative committee of employer and employees must be clearly described to support their engagement and opinions, including guidance and follow-up, as well as feedbacks to staff through the representative committee members and supervisors. The performance is assessed from the following 2 indicators:

1. The percentage of suggestions from staff increased by more than 25% as compared to 74.4% in 2021.
2. The percentage of resolved issues reported by staff represented more than 70% as compared to 59.34% in 2021, while pending issues required more time to resolve, and every issue was followed up in accordance with the Company's procedure.

3. Safety Reward System Project

This project establishes indicators to assess the compatibility of the safety management systems (SMS) of those 4 major repair and maintenance contractors of the metro systems to cover the Company's scope of responsibilities. Any gaps found from the assessment will be addressed by mutual plans between the Company and the contractors to improve their SMSs to meet the Company's expectations through collaboration and follow-up with the professional safety officer and the executives.

According to the assessment results based on such indicators, all 4 contractors received excellent scores beyond target, and such indicators with high level importance were completely improved at 100%, which marks the success of the project, to be followed up and assessed in 2023 accordingly.

4. Suggest for Success for Contractor Project

The Suggest for Success for Contractor activity is held to promote and encourage contractors in the metro systems to participate in the Company's activities by providing suggestions or reporting any issues found in their work sites or within the metro systems, in order to improve the work process, reduce costs and any loss from such work, enhance the efficiency and effectiveness to the organization in terms of quality, occupational health, safety and the environment. The Suggest for Success for Contractor activity continued as the 4th year and was always well received by contractors to send suggestions and improve their work processes. In 2022, there were a total of 17 issues suggested by contractors, all of which were considered, clarified and resolved 100%.

5. QS Center Project

This project sets up a Google Site for safety for staff to have faster access to desired information, which reduces 100% of time for contact and coordination to acquire information, comprising 3 systems as follows:

- (1) Safety patrol system to monitor and check various safety issues;
- (2) Safety help system to find medical clinics and accident reports;
- (3) Chemical database on safety information.



6. News Project

This project communicates information on the occupational health and safety to staff to ensure their understanding about safety by way of public relations via SHE News, SHE PR and SQ E-Magazine.



SHE News on lung cancer with the largest number of patients and deaths

SAFETY & QUALITY E - MAGAZINE :
Year 3, Issue 3: September 2022

7. Expressway Speed Camera Installation Project

The Company takes into account safety of expressway users through the system design and installation to minimize potential accidents. According to the analysis of accident data on expressways, speeding was a top contributing factor of accidents, therefore, the Company has installed speed cameras using high resolution IP cameras for real-time vehicle capture, which will show pictures of vehicles moving pass the CCTV and their respective speeds. If any vehicle moves faster than the speed limit, the system would record clear pictures of the violating vehicle with its appearance and license plate. Such data could be used as evidence to press charges against the driver of the vehicle for violating the traffic law.

The Company has installed such system at 4 locations on the Prachin Ratthaya Expressway and currently in the course of installation at another 4 locations on the Si Rat Expressway and another 2 locations on the Udon Ratthaya Expressway, to be completed by June 2023.

8. Additional CCTV and IVA System Installation Project

To rest service users assured that they would be taken care of along their journeys on the expressways and would be timely assisted in case of any accident or emergency, the Company plans for CCTV installation along the routes to cover the entire areas of the expressways for the purpose of checking traffic conditions and any events happening on all expressway routes. The Company has installed 116 and 245 CCTVs on the Prachin Ratthaya Expressway and the Udon Ratthaya Expressway, respectively, and currently, the Company is in the course of installing additional 408 CCTVs on the Si Rat Expressway, to be completed by 2023. Moreover, the Company has also installed an Intelligent Video Analysis (IVA) system around the expressways' on- and off-ramps without any toll plaza building to detect any motorcycles, people or animals entering the expressways or vehicles violating the traffic direction, so as to prevent any accidents from happening on the expressways. The Company has installed the IVA system on the Udon Ratthaya Expressway in 2021, and is in the course of installing the IVA system on the Si Rat Expressway, to be completed by 2023.



(2) Engagement of Customers, Communities and Major Stakeholders

Building good relationships with and handling feedbacks of stakeholders towards the Company are instrumental in supporting the Company's business operations to achieve its goals, and promoting sustainable development and growth. In the past, the Company has continuously held activities to effectively build engagement with the respective groups of stakeholders.

(2.1) Satisfaction and Engagement of Customers, Communities and Major Stakeholders

• Importance

The Company's key mission is to provide the expressway systems and the mass rapid transit systems by the metro. Therefore, the Company realizes the importance of building good relationships with customers, namely, motorists, passengers and commercial development customers, communities and major stakeholders. The Company has efficiently managed and responded to the expectations of customers, communities and stakeholders, and built good relationships with customers, communities and relevant stakeholders, which are essential to the Company's business operations to achieve the goals, and promote the Company's sustainable development growth along with customers, communities and major stakeholders.

• Objectives, Goals and Implementation

The Company has been implementing various projects to ensure satisfaction and engagement of customers, communities and major stakeholders, particularly the "Happy Journey with BEM" Project, through which the Company has collaborated with the groups of stakeholders, i.e., staff, customers, communities, general public and public sector, to build a prototype tourism route along the metro route, to stimulate the economy of those communities along the route, to connect service users, local society and the Company with one another, and particularly, to generate income to people in the communities, both short-term and long-term, by making such communities widely known and serving as highlight tourists' attractions to service users. As a result, those communities would thrive to improve their environment and surrounding areas, and collaborate with the Company to bring service users satisfaction for convenient journeys to various tourists' attractions along the metro stations. Moreover, the number of passengers would be increased to the Company in line with such campaign for use of the public transport systems like the MRT services, which would help reduce car use and also contribute to the environmental protection.

The Company has set goals for such performance based on the levels of customers' satisfaction and engagement with the Company. The annual survey results are as follows:

1. The percentage of customers' overall satisfaction is ≥ 95 ;
2. The percentage of customers' overall engagement with the Company is ≥ 80 .

With regard to the implementation, the Company has coordinated with its alliances, both public and private sectors, to implement various projects in which stakeholders are allowed to participate and provide suggestions on issues of general interest in a transparent and appropriate manner through the Company's activities or channels, e.g., information service center and/or social media of the Company, to be integrated with the Company's decision-making process and planning. This also helps minimize potential risks of damage to image and business interruption, and bring about equal benefits to all groups of stakeholders.

• Key Indicators and Performance

The Company has surveyed customers' satisfactions, needs/expectations and engagement with the Company on a yearly basis in respect of the MRT Blue Line and Purple Line, with the overall evaluation in 8 areas as follows:

1. Convenience;
2. Quickness, Reliability and Punctuality;
3. Comfort;
4. Safety;
5. Information;
6. Personnel : Station Operator;
7. Personnel : Checkpoints Officer, Guard, Cleaner;
8. Personnel : Information Service Center Officer.

The performance in 2022 is presented below.

Rail Systems

SYSTEMS	INDICATORS	GOALS	PERFORMANCE IN 2022
MRT Blue Line	Percentage of passengers' overall satisfaction	≥ 95	99.88 (Increase by 0.51% from 2021)
	Percentage of passengers' overall engagement with the Company	≥ 80	86.25 (Increase by 4.95% from 2021)
MRT Purple Line	Percentage of passengers' overall satisfaction	≥ 95	99.87 Decrease by 0.06% from 2021)
	Percentage of passengers' overall engagement with the Company	≥ 80	87.32 (Increase by 3.39% from 2021)

Expressway Systems

The Company plans to consider the suitability of work expansion for survey of satisfaction, needs/expectations and engagement with the Company to cover the expressway systems' customers accordingly.

HIGHLIGHT/SUCCESSFUL PROJECTS

The Company has implemented highlight and successful projects, which bring about satisfaction and engagement with the Company in respect of customers, communities and major stakeholders in various aspects in 2022, as follows:

1. “HAPPY JOURNEY WITH BEM” PROJECT



The Company has collaborated with its major alliances, e.g., the Mass Rapid Transit Authority of Thailand (MRTA) and the Tourism Authority of Thailand (TAT), to organize the ‘Happy Journey with BEM’ Project, which has been carried on by the Company to support the tourism policy of the public sector, and help generate income to communities and community enterprises along the routes. The project also stimulates the volume of use by service users for tourism to boost income not only for communities but also the Company. Furthermore, the Company strives to develop tourism in a sustainable manner through customers’ happiness, impression and good memories, both motorists and passengers.



In 2022, the Company has planned 5 historical routes and provided participants with knowledge under the ‘Happy Journey with BEM’ Project, namely tourism routes along Wat Mangkon MRT Station, Sanam Chai MRT Station, Sam Yan MRT Station, Hua Lamphong MRT Station and Itsaraphap MRT Station, with the goals of approximately 50 participants per route, and the performance indicators would be measured by the participants’ satisfaction at the level of ≥ 90 percent.



TRIP

1

TOURISM ROUTE AROUND WAT MANGKON MRT STATION

“Through Thai Chinatown along the Dragon Road”



TRIP

2

TOURISM ROUTE AROUND SANAM CHAI MRT STATION

“Gateway to Rattanakosin Island”



TOURISM ROUTE AROUND SAM YAN MRT STATION

“105 Years Old Chula Campus Tour”

TRIP

3



4

TRIP

TOURISM ROUTE AROUND HUA LAMPHONG MRT STATION

“Street Photo Walk to Imagination around
Hua Lamphong MRT Station”



5 TRIP

TOURISM ROUTE AROUND ITSARAPHAP MRT STATION

“Follow King Taksin’s Footsteps,
from Thonburi to Phra Nakhon”



Such activities helped directly develop good relationships among customers, communities and the Company, and remarkably created good value to the Company’s public relations against advertising media, and they were regarded successful to reach target groups, thereby leading to search results of ‘**Happy Journey with BEM**’ via Google Search, and creating good image and brand value to “**BEM**” as the Company that owns and holds such activities. This is particularly true of the good relationships built with stakeholders, including their engagement through special activities to build their brand loyalty, impression and positive perspective to the Company.

For the performance indicators measured by the participants’ satisfaction at the level of ≥ 90 , the project success was measured by the participants’ reception in each trip. According to the survey after the **Happy Journey with BEM** Project in respect of the public relations channels, attractiveness of the venues, and date and time of the activities, the average score represented high satisfaction, with the highest satisfaction in terms of the tourists’ attractions at 91.30 percent. The most popular activity was the Tourism Route around Hua Lamphong

MRT Station, with additional photo workshop with renowned guest speakers. The Company also surveyed potential participants about their desired form of such activities, and found that they would like the **Happy Journey with BEM** Project to be held in another form, according to the majority of the survey results, like ‘Let’s Eat Out Tasty, Popular and Secret Recipes’ along the routes.

Thanks to the Company’s continued management and activities, the Company was awarded the “**ASEAN and Thailand’s Top Corporate Brands 2022**” in the transportation and logistics sector for the third consecutive year, as an award to promote executives in the respective business sectors to focus on the corporate brand development for sustainable achievement in the long run.

In 2023, the Company has planned a more variety of activities for such target groups as the MRT passengers, BEM Facebook Fan Page followers and the MRT Club members, whereby the Company will collect information for grouping of specific areas of interest which would be beneficial to know more about the interest of specific groups of customers.

2. BEM CARING & FIGHTING COVID-19 PROJECT

BEM CARING

Vaccinate all for **FREE** to FIGHT AGAINST COVID-19



To support government measures to prevent the spread of the COVID-19 by building public immunity, the Company has coordinated with its alliances, both public and private sectors, to arrange for free vaccination services to the public since late 2021 continuing to 2022 at various locations, with the goals of providing approximately 30,000 doses of COVID-19 vaccine to the general public, including the goals of the participants' satisfaction and engagement with the Company at ≥ 95 and ≥ 80 percent, respectively.

With regard to the performance in 2022, the Company, in association with its alliances, has provided more than 30,000 doses of vaccine COVID-19 vaccine for free to the public, and the participants were

Performance

Participants' Satisfaction



95.65%

Engagement with the Company



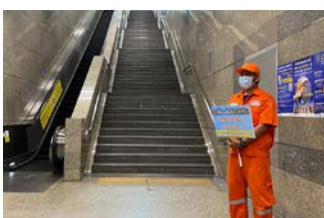
99.79%

satisfied with the activities at 95.65 percent and their engagement with the Company was achieved at 99.79 percent. The activities under the BEM Caring & Fighting COVID-19 Project may be summarized as follows:



1. "BEM Caring & Fighting COVID-19" Provides Free "Sinopharm" Vaccine to the Public

The Company, in association with MRTA and CK, provided 2,000 doses of "Sinopharm" vaccine to the general public, both Thai and foreigners domiciled and resident in Thailand, aged 18 years or older, who have never received the first dose of vaccination at Ratchadaphisek MRT Station, and also extended the period for "Moderna" vaccination to fully cover people in Thonburi area of Bangkok, administered by Bangpakok 9 Hospital, as the second dose of vaccination continuing from 2021.





2. BEM Provides Free Moderna Vaccine to Boost Immunity for Safe Songkran Holidays

The Company, in association with MRTA, CK, NECL and The Mall Group Co., Ltd., provided a total of 3,000 doses of free **“Moderna”** vaccine to the general public to support government measures to prevent the spread of COVID-19, at MCC HALL, 4th floor, The Mall Bangkok, near Lak Song MRT Station.



3. “Over 10,000 Doses” by “BEM Caring & Fighting COVID-19” Project

The Company, in association with CK and NECL, provided 3,000 doses of **“Moderna”** vaccine to the public as the fifth consecutive year. Over 10,000 doses of vaccine have been provided to the public. This project is to accommodate the safe and sustainable city reopening policy in line with 4 key measures, namely 1. Target Vaccination; 2. Universal Prevention; 3. ATK Testing; and 4. COVID Free Setting.



4. CK & BEM Provide “30,000 Doses for Public Immunity”

The Company, in association with CK and NECL, continued to stand by people and provided free vaccination under the **“CK & BEM Caring & Fighting COVID-19”** Project, namely Moderna vaccine, within Chatuchak MRT Station. CK & BEM has been carried on the free vaccination program over 30,000 doses to the public.





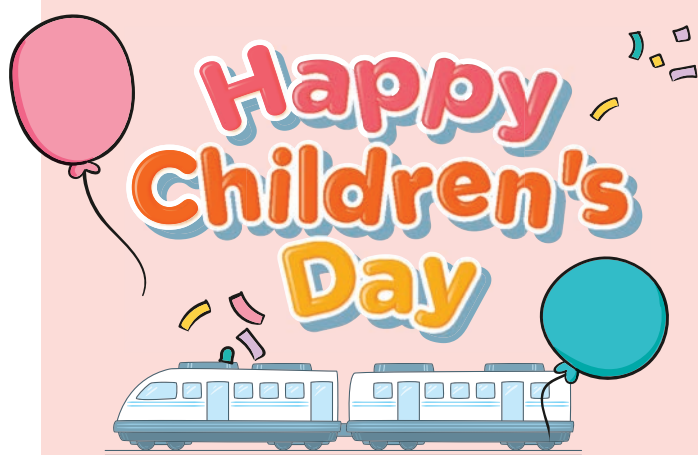
5. Distribution of 1 Million “Be safe Be happy” Alcohol Sprays

The COVID-19 pandemic has caused a global health emergency and put a number of business entities in difficult and challenging situations that need their full efforts to thrive and survive.



The Company is committed to complying with the health and nutritional policy, including the occupational health and safety, for staff, business alliances, and expressway users, MRT passengers, schools and communities around the routes, etc. Given the public health crisis, the Company is even more concerned and gives top priority to such issues to extend to all groups of stakeholders.

Following the 1 million face mask distribution project in response to the early outbreak of COVID-19, with high demand for face masks at that time, once the situations were easing up, the Company moves forward to support the government policy on “**Safe City Opening**” by distributing 1 million pieces of alcohol sprays under the concept ‘**Be Safe Be Happy**’ with modern design, easy to use, and unique scent, to the passengers of the MRT Blue Line and Purple Line, and the service users on the Chalmr Mahanakorn, Si Rat, Udon Rattaya and Prachin Rattaya Expressways, including various alliances, both public and private sectors, communities and schools along the expressways and the MRT routes.



3. MRT HAPPY CHILDREN'S DAY 2022

The Company realizes the significance of the environmental protection in parallel with strong and sustainable social development, and thus focuses on the target groups of children and youth, who are the nation's main forces, to have the opportunity to build their learning skills outside classroom, promote the interactions in families, communities and society as a whole, and acquire knowledge about the MRT system, as Thailand's major mass rapid transit system in the

future. In this regard, the Company has organized the online “**MRT Happy Children's Day**” 2022 to provide children with gifts, happiness and encouragement amidst the spread of COVID-19. In doing so, the Company has sent gifts to children and youth in such communities along the MRT routes, both MRT Blue Line and Purple Line, and held a creative photo contest under the title “**Happy Family against COVID-19**” inviting families to send their photos to the MRT Fan Page.

On the occasion of the Children's Day 2022, MRTA and the Company have arranged for free journeys on both the MRT Blue Line and the MRT Purple Line for children younger than 14 years and not higher than 140 cm. to allow children to enjoy their journey experience through the mass rapid transit system.

4. BEM DREAMWEAVING AND SHARING WITH CHILDREN IN LEARNING CENTER PROJECT



The Company gives emphasis on the development of the quality of life in terms of education for children and youth along the metro and expressway routes, and thus organizes the **“BEM Dreamweaving and Sharing with Children in Learning Center”** Project to improve and develop the educational institutes along the metro and expressway routes to be well-equipped as up-to-date learning centers to attract children and youth. The Company’s executives and staff are encouraged to participate in the activity to build good relationships with children and youth, and concurrently good relationships between the Company and schools, communities and government agencies. The goal is to carry out the project at 1 learning center with the goals of the participants’ satisfaction and engagement with the Company at ≥ 95 and ≥ 80 percent, respectively.

For the performance in 2022, the Company and Bang Sue District Office have held the **“BEM Dreamweaving and Sharing with Children in Learning Center”** 2022 activity, in association with communities along the routes, staff and volunteers, to improve and develop the Pre-School Children Development Center and contribute teaching and learning materials, electrical appliances, baby developmental toys, and scholarships worth over Baht 60,000, together with lunch sets for children at Pre-School Children Development Center, Soi Si Nam Ngoen 1 Community, located near the MRT Blue Line (Bang Pho MRT Station) and the Prachin Rathaya Expressway (Rama VII Bridge Toll Plaza). This activity is intended to promote and develop the quality of life in terms of education for children and youth along the routes to have a better quality of life, and also build good relationships with the communities along the MRT and expressway routes. In this regard, the Company’s staff is given an opportunity to volunteer, participate in and support snacks and essential supplies for delivery to children. According to the survey, the participants’ satisfaction was achieved at 98 percent and their engagement with the Company reached 100 percent, above target.



5. MRT HELPS STUDENTS CONQUER TCAS YEAR 14 BY BEM PROJECT

The Company has continued to promote the development of the quality of life for youth education, and thus organized the **“MRT Helps Students Conquer TCAS Year 14 by BEM”** Project, in collaboration with its alliances, to afford secondary school students an opportunity for educational counseling, academic knowledge and development of ideas beneficial to their TCAS examinations. Students from schools across the country and educational institutes along the metro routes are invited to attend the activity, with the goals of the participants’ satisfaction and engagement with the Company at ≥ 95 and ≥ 80 percent, respectively.



The performance in 2022 showed that the participants were satisfied with the activity at 96.35 percent and felt engaged with the Company at 97.66 percent, above target. The Company, in collaboration with MRTA and BMN, equipped them with intelligence and transformed young talents for the country through this free and premium tuition program titled **“MRT Helps Students Conquer TCAS Year 14 by BEM”** under the concept **“TCAS66 Multidimensional Tuition beyond Imagination”** by Teacher Somsri Thammasarnsophon (“Teacher Somsri”) to provide examination guides in TGAT1/ A-Level English Language, along with Teacher Wiset Keesukphan (Teacher P’Ae) and Teacher Surachet Phichitphongphao (Teach P’Yu) for knowledge, skills and preparations for exams in A-Level Applied Mathematics 1, Thai Language TGAT 2, 3. In addition, Dr. Peerapong Triyacharoen, former TCAS manager under the Council of University Presidents, also joined to lecture about changes in the TCAS66 exam system to the students thoroughly at C ASEAN Auditorium, Cyber World Tower, and online via Facebook Live and Metaverse, on August 6, 2022. Past tuition video clips can be replayed and exam prep textbooks for all 3 subjects can be downloaded at www.mrttcas.com.

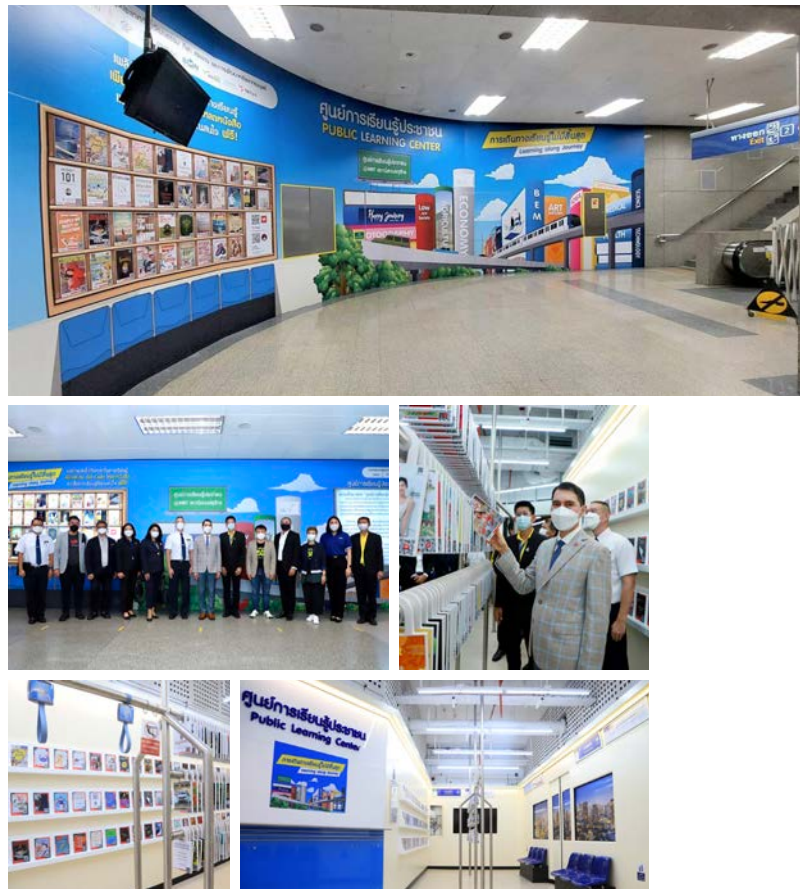


Moreover, the Company has also distributed the exam prep textbooks and MRT Helps Students Conquer TCAS VDOs for all 3 subjects to over 70 schools nationwide in order for more students in other provinces to have access to the TCAS exam tips.

6. “PUBLIC LEARNING CENTER” PROJECT

To support the government's National Reform Plan by the National Reform Committee in Culture, Sports, Labor and Human Resources Development, Office of the National Economic and Social Development, for the purpose of development of learning and community economy on the basis of cultural integration, with a concept to provide learning or reading space in the metro stations or public transport stations, including government buildings, conveniently and commonly available to children and youth, as well as those interested to seek knowledge from electronic books, the Company has participated as a member of the Subcommittee for Public Learning Center Development under the National Reform Plan, and thus initiated the **“Public Learning Center”** Project within the retail floor at Chatuchak Park MRT Station, which has been officially opened in 2022.

The Company, in association with the Subcommittee for Public Learning Center Development under the National Reform Plan, MRTA, CK, BMN, Chulabhorn Royal Academy, Office of Knowledge Management and Development (OKMD) and Thailand Knowledge Park (TK Park), has opened the **“Public Learning Center”** in the concept **“Endless Learning Journey”** to bring about learning experience and new inspirations to the MRT Blue Line passengers. The opening ceremony was officially inaugurated by Professor Nithi Mahanonda, MD, Secretary General of Chulabhorn Royal Academy, Chairman of the National Reform Committee in Culture, Sports, Labor and Human Resources Development, at Chatuchak Park MRT Station, on Tuesday, August 9, 2022.



For the purpose of implementation, certain areas in the Metro Mall, Chatuchak Park MRT Station, and in the metro trains are converted into a digital library where both Thai and English books are available from TK Park Digital Library. E-books can be downloaded from the

Public Learning Center @ Metro Mall, Chatuchak Park MRT Station, by scanning QR Code in the trains or from the Project's public relations materials, to read book samples. In order to borrow a book, just download **"TK Read"** application on iOS and Android and apply for membership at TK Park Digital Library in order to read tens of thousands of books and other learning materials

for free. Users at the Public Learning Center @ Metro Mall, Chatuchak Park MRT Station, can connect high-speed internet via AIS 5G Wi-Fi service for free, supported by AIS, in order to enable service users to have easy access to sources of knowledge and enjoy the endless learning journey in the Public Learning Center.

7.

COMMUNITY RELATIONS PROJECT

The Company appreciates the significance of promoting sustainable engagement with communities, and focuses on building relationships with target groups around the routes of the expressway systems and the MRT Blue Line and Purple Line, to be aware of the proper use of the expressway and/or metro services and safety thereof, including knowledge concerning public health and people's healthcare, to ensure the target groups' satisfaction/engagement and/or minimize conflicts with the target groups of affected communities or people to be directly affected by the Company's operations or activities.

In so doing, the Company has arranged for a plan on community relations activities, namely **"BEM Care for You and Thank You,"** **"BEM Brings Happiness to Society,"** and other community relations events, based on surveys and analysis of needs and expectations of communities in each area, with the success goals and/or participants' satisfaction and engagement with the Company at ≥ 95 and ≥ 80 percent, respectively.

The performance in 2022 in respect of the Company's community relations activities may be summarized as follows:

(1) "BEM Care for You and Thank You" No. 1 – Rang Bua Ville Community

The Company has delivered happiness and healthcare service to the community by taking the elderly people from Rang Bua Ville, a community adjacent to the MRT route, to journey on the route of the MRT Blue Line, learn about safety of the system, and attend the **"Healthcare 2022 for Elders,"** organized by the Company in association with Matichon Public Company Limited and Ban Phaeo Hospital, including leading alliances, for free health checkup, e.g., cataracts check, lung cancer screening by AI, at Sam Yan Mitrtown Shopping Centre. The participants' satisfaction and engagement with the Company achieved 97.36 and 100 percent, respectively.



(2) “BEM Care for You and Thank You” No. 2 – Yommarat Railway Community

The Company has taken a group of the representatives from Yommarat Railway Community adjacent to the Si Rat Expressway's Yommarat Toll Plaza, to journey and learn along the route of the MRT Blue Line, and attend the “National Anti-Cancer Day” event for free cervical cancer screening. There are various booths at the event to educate the participants with knowledge about cancer prevention, including a panel discussion about care and prevention of cancer, at Lat Phrao MRT Station. The participants' satisfaction and engagement with the Company achieved 96 and 100 percent, respectively.



(3) “BEM Brings Happiness to Society”

Given the deteriorating footpath in front of Wat Sanam Nai, which may be harmful to passersby, in order to provide convenient and safe passage, build good relationships with surrounding communities, and allow the Company's staff to participate in social contribution, the Company has renovated the existing footpath to return to its original complete, convenient, safe and ready-to-use conditions, and also carried out the landscape improvement in the surrounding vicinity by planting a variety of trees to decorate the entrance of the temple to serve as green and shading areas for aesthetic purpose.



(4) “Delivery of Motorboats for Public Service”

The Company has delivered 3 motorboats to the Civil Defense Volunteer Center (CDVC) for public service in Thonburi District's communities, e.g., flood relief, disaster mitigation, and moral support to all disaster victims and volunteers.





(5) "Buddhist Monk Robe Offering (Kathin) Ceremony"

The Company has continued the long traditional ceremony to preserve Buddhism by organizing the Buddhist monk robe offering (Kathin) ceremony every year. In 2022, the ceremony took place at Wat Choeng Krabue, Bang Kruai District, Nonthaburi Province (near the MRT Blue Line's Bang Or Station, and the Prachin Rattaya Expressway's Bang Kruai Toll Plaza) with monetary contributions for temple renovation and maintaining of Buddhism.

(6) "Buddha Relics Celebration Ceremony"

The Company has attended the Buddha relics celebration ceremony in Wat Nang Chi's Buddha image parade for 2022 at Bang Phai MRT Station. Wat Nang Chi's Buddha image parade is the annual festival of Thonburi residents and constitutes a sacred ceremony in which people and devotees jointly bring a decorated boat to celebrate the Buddha relics along the rivers and canals. This tradition has been carried on until the present day, and in 2022, the Buddha relics parade has passed Bang Phai and Bang Khun Non MRT Stations to bring good luck and to show appreciation of the Buddhists' long traditional ceremony.



(3) Communications with Major Stakeholders

• Importance

Communications with stakeholders are crucial for dissemination of information on the Company's operations regarding the services, marketing promotions and commercial development, including interesting projects, and are effective tools for sharing information, opinions and suggestions between the Company and stakeholders for mutual benefits to appropriately strengthen their good relationships.

• Objectives, Goals and Implementation

The Company has the objectives to build good relationships with the press and regularly develop communication channels via the Company's social media so that the press and the Company's social media will be instrumental in publicizing the Company's news, updates and activities to target groups, major stakeholders and/or the public with accuracy, rapidly, reliability and timeliness in the same direction to promote and build good image to the organization according to the Company's policies.

The Company has developed its proactive public relations strategies with the goals in 2022 to make at least 40 press visits on special occasions, and improve the contents for communication to increase followers on social media, namely Facebook, from 2021 by at least 2 percent (in 2021, the Company's Facebook had a total of 177,623 followers).

The Company's implementation procedures are as follows:

1. To design its contents and communication format in line with target groups' behavior;
2. To promote public relations to effectively reach intended audience as much as possible;
3. To coordinate and make the press visits on special occasions.

• Key Indicators and Performance

In 2022, the performance achieved the goals as follows:

1. The Company has made a total of 40 press visits on special occasions throughout the year;
2. The Company's Facebook has a total of 195,702 followers, increased by 10.18% from 2021, higher than target (increased by 18,079 followers from 2021).

Highlight/Successful Projects

1. Building Good Relationships between the Press and the Company

To build good relationships between the Company and the press in order to promote the Company's good image to the press to understand its business operations, and have direct access to the Company's sources which will be beneficial to the press's presentation of news with accuracy, rapidity and timeliness, the Company has scheduled for visits with editors and reporters on the Press Council's anniversary, the Chinese New Year's Day, Songkran Day and/or New Year's Day, and also invited the press to attend various activities and made press releases on the Company's news and incoming news through press conferences, media appreciation events, major activities or channels as appropriate.

The performance achieved the Company's goals of making 40 press visits as planned.

2. Relationship Building via Social Media

The Company realizes the importance of strategic development on communication via the Company's social media for both expressway and rail systems with efficiency and continued development, which is instrumental in publicizing accurate and timely information, news, activities within the Company to target groups, so as to rest them assured that the Company is a service provider of expressway and rail systems with world class quality and safety that meet international standards, to promote and build good image to the organization according to the Company's policies.

In 2022, the Company has created a new experience with its BEM brand, promoted the Company's information and activities to reach a wider variety of target groups, and rebranded its social platform by combining Facebook : MRT Bangkok Metro and Facebook : Bangkok Expressway to be renamed as Facebook : BEM Bangkok Expressway and Metro, with the goals of increasing the number of followers of the Company's Facebook by $\geq 2\%$ from the previous year.

The performance in 2022 has showed that the Company's Facebook has a total of 195,702 followers, increased by 18,079 followers from 2021 or 10.18%, above target.

BEM has received the WINNER Award for Best Brand Performance on Social Media, Transportation Segment, as a brand with excellent and creative performance on social media.



(2.2) Building Good Relationships with Staff

• Importance

Staff's engagement with their jobs and the organization reflects their energy and motivation to actively dedicate and contribute to their performance, with a sense of belonging to the organization and their responsibilities. This is the heart of attracting, developing and retaining talents of the organization, and extends to their participation and motivation towards the best performance such that they develop a sense of ownership which would then lead to their loyalty to the organization. Staff with employee engagement would feel bound by their performance and the organization, which would result in the following key positive behavior:

1. Say positive things about their organization, jobs and colleagues;
2. Stay with the existing organization despite a job offer from another organization;
3. Strive to fully dedicate to work, create or initiate new ideas, and be ready to outperform beyond expectations for work achievements.

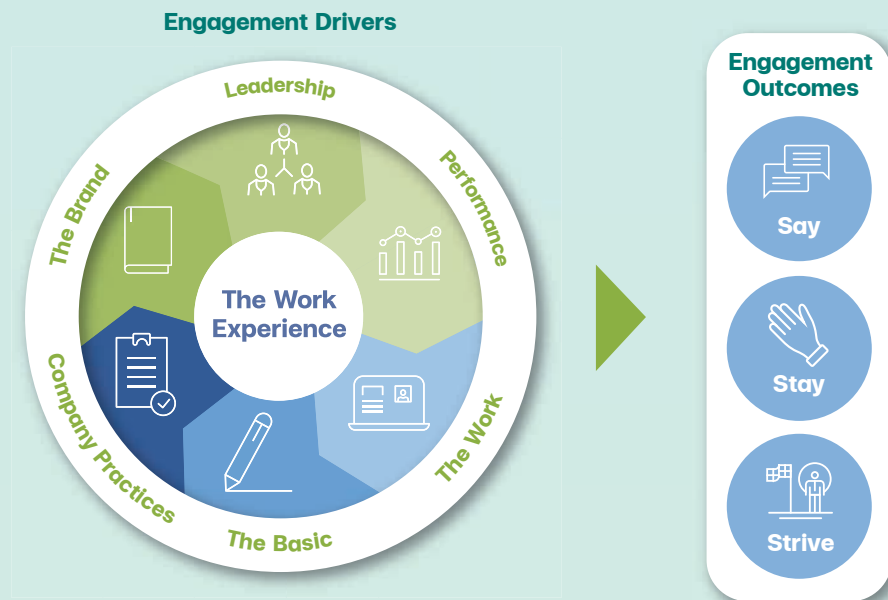
• Objectives, Goals and Implementation

The Company is committed to retaining staff with high engagement and focuses on development of employee engagement to enhance their efficient and effective performance for the Company, reduce staff turnover rate, and promote a good employer branding image to the Company.

The Company has set out its goals to carry on activities to provide basic needs to staff performance as engagement drivers towards engagement outcomes in the following 6 areas during a 5-year plan, as follows:

1. Brand (Organization);
2. Leadership (Supervisors and Heads);
3. Performance (Salary/Remuneration/Welfare);
4. The Work (Job Description/Duties and Responsibilities);
5. The Basics (Management of Work and Personal Matters);
6. Company Practices (Job Security).

The Company has also targeted to achieve the percentage of staff engagement with the Company classified by unit at $\geq 80\%$ every year. The Company plans to establish an action plan for communication on engagement, including relationship building activities in the organization, and employee engagement annual surveys known as "Heart Connected" (Stay Interview) on a yearly basis, and introduce the concept from Aon Hewitt (Empower Results) to initiate the survey, questions and data analysis as the model to address engagement drivers towards engagement outcomes, for every interval of 3 years, that is:



• Key Indicators and Performance

1. The action plan for communication on engagement, including relationship building in the organization, has been approved and fully implemented as planned.
2. The survey results on staff engagement and happiness in 2022 achieved 86 percent.



Highlight/Successful Projects

1. Junior Executive Development Training Course

Being a good, efficient and recognized supervisor requires a combination of skills, knowledge and qualifications in various aspects. Supervisors not only perform their own responsible tasks, but also need to manage resources, information and their subordinates for successful work performance in accordance with the same direction as set out by the Company's objectives and policies. Supervisors' skill development is thus essential to equip them with knowledge, understanding and ability to efficiently apply those skills and adjust themselves to keep pace with the rapidly and ever-changing business competition environment.

The Company has set out the following four key training courses for junior executives for a total of 10 hours of training, namely:

1. Training course on skills of quality supervisor and delegation, assignment and follow-up;
2. Training course on communication, persuasive presentation and conflict management;
3. Training course on goal-oriented planning and decision-making techniques;
4. Training course on coaching, counseling and feedback.

The evaluation criteria include:

1. Online Self-Learning:
 - Complete conceptual learning in every course for a total of 4 hours (1 hour/1 course);
 - Workshop on such knowledge and understanding gained from the online training, with complete submission as required in the training courses;
2. Offline/Classroom for a total of 6 hours;
3. Training attendance for at least 85 percent throughout the courses.

This is to ensure that training participants understand supervisors' roles, duties and responsibilities, develop their own mindset and motivate their subordinates, including planning, teamwork, problem-solving and decision-making, to build up confidence and apply the same for team building in line with the managerial competency as set out by the Company with efficiency and effectiveness.

In the implementation in 2022, all junior executives have successfully satisfied the evaluation criteria in every course.

2. Staff Competency Management

At present, competency is regarded as a key tool for management, and strengthens various aspects of the human resources management systems to be more efficient, e.g., nomination and selection system, personnel development system, performance review system, career path and advancement system, etc. Competency must be identified to be consistent with, linked to and supportive of the vision, mission, shared value and business strategy, and compatible with tasks to be performed, which further serves as a standard guidance for personnel in such positions, supervisors and other persons concerned for human resources management, particularly for competency development of personnel in the organization to be capable of efficiently performing their duties and responsibilities with the outcome towards the corporate goals.

In this connection, the Company has set out a staff competency management program through a gap competency assessment in order to acquire information to formulate a competency road map and individual development plan at a later date. This is intended to bring about mutual understanding in staff core competency and functional competency, based on proficiency level, which will help systematize clear steps for staff development.

In the implementation in 2022, staff in all units have undergone the gap competency assessment as planned, and attended knowledge training for an average of 47.66 hours/person/year.

3. Support and Promotion of Social Employment Opportunities for Individuals with Disabilities

The Company realizes the importance of the development of potential and promotion of individuals with autism and disabilities. To that end, the Company implements a policy to support the Department of Employment, Ministry of Labor, for the project to promote the social employment of individuals with disabilities by subcontracting work or contracting services from individuals with disabilities or caregivers for individuals with disabilities for the social benefit, while also upholding the social employment of individuals with disabilities so that they can work, have a career, earn an appropriate and sustainable income.

In so doing, the Company has complied with the Persons with Disabilities Empowerment Act through donations to the Fund for Empowerment and Development of the Life of Persons with Disabilities in accordance with Section 34. As such, on April 2, 2022, the Company was given a plaque in recognition of being an organization with its dedication to supporting and promoting the development of the quality of life for individuals with autism by the Autism Parents Association (Thai) and the Autistic Thai Foundation in the event of the World Autism Awareness Day (WAAD) campaign, with its aim of ensuring public awareness as to the support, acceptance and promotion of individuals with autism, as well as striving to enable individuals with disabilities to have a career, earn an income, and have a sustainable livelihood security.



3.6 SUSTAINABILITY MANAGEMENT IN GOVERNANCE AND ECONOMIC DIMENSION

3.6.1 GOVERNANCE AND ECONOMIC POLICY AND PRACTICES

The Company strives for its business operations in line with its commitment to primarily adhering to corporate governance, and social and environmental responsibility, towards business growth and sustainable development, together with mutual benefits and growth of all groups of stakeholders, alongside good performance from the economic perspective. The Company also plans for innovation development with the goals of minimizing impact on climate change in response to the sustainable development goals (SDGs) in collaboration with its partners in the organization's supply chain. Therefore, the Company has set out a sustainable development policy and communicate the same with all staff, which is one of the cornerstones of driving business as the source of happiness, so that staff will actively put them into practice as part of their work processes, truly deliver quality services based on safety to stakeholders, and take into account the essence and benefits of good governance. As a result, the Company's management systems will be efficient, transparent, auditable and build up confidence and trust for shareholders, investors, stakeholders, all parties concerned, towards sustainable growth by the Company's commitment to and compliance with its corporate governance policy.

3.6.2 GOVERNANCE AND ECONOMIC PERFORMANCE

(1) Risks to Business Operations

• Importance

The external factors have changed rapidly and gradually intensified, which would tentatively give rise to opportunities, threats and risks to the Company's business operations.

• Objectives, Goals and Implementation

The Company thus focuses on identification and assessment of risks and opportunities which may affect the business operations, considers the risk management, establishes effective risk management measures to minimize any damage should the Company encounter any event in the future, and to continue its business operations.

The Company has the goals of achieving the identified risk tolerance at 100 percent through the following procedures:

1. To monitor changes in external and internal factors which may affect the business operations, and review the context, identified risks and current risk management measures to keep pace with the current circumstances (Phase I in 2022);
2. To monitor the performance and review the compliance with the risk management measures to ensure the risk tolerance (Phase I in 2022);
3. To revise the corporate risk management procedures, steps and relevant documents (Phase II in 2023).

• Key Indicators and Performance

Indicator	Goal	Performance
Percentage of the Company's identified risk tolerance	100	92

The only one identified risk beyond tolerance level for the Company was the risk of pandemics.



Highlight/Successful Projects

1. Review of Context, Risks and Corporate Risk Management Measures, and Preparation of Relationship Model of Risks at Business, Work, Departmental and Unit Levels

This task is to verify the completeness and accuracy of the identification of risks at each level, and review the current risk management measures, in accordance with the Company's following procedures:

1. To prepare the Company's internal risk relationship model;
2. To review risks and the risk management measures, and assess compliance with the risk management measures to ensure the Company's risk tolerance.

The performance showed that the Company has completed its review/revision of the context, risks and corporate risk management measures, as well as assessment of compliance with the risk management measures to ensure the risk tolerance in 2022, including the preparation of the relationship model of risks at the respective levels (Phase I in 2022), and communicated the same with the parties concerned to be aware of the importance of their compliance with the defined risk management measures.

In 2023, the Company plans for improvement of the corporate risk management procedures, steps and relevant documents (Phase II in 2023) and relies on the risk relationship model to review risks and risk management measures under common responsibilities of various units (Phase II in 2023).

(2) Retention of the Quality of Services

• Importance

It is the Company's core mission to provide the mass rapid transit services, and as such, the Company gives top priority to the quality of services. Quality services reflect the competence to respond to service users' needs or expectations for safe, convenient, rapid and reliable journeys to their destinations. These attributes are essential and necessary to uplift people's quality of life in respect of journeys to their desired destinations. Therefore, the Company has retained the quality of services to meet international standards and continued to improve the provision of services to be better and beyond.

• Objectives, Goals and Implementation

The Company focuses on the provision of services in both expressway and rail systems to achieve the objectives of its operations under the concessions awarded by the public sector, and to ensure that service users, both passengers and/or motorists, receive quality and safe services that meet international standards. Therefore, it is essential for the Company to retain the quality of good services to make sure that the structures of the expressways, tunnels, rails and trains, systems and equipment, including staff availability for service, are well capable of responding to service users' needs of journeys to their satisfaction and engagement with the regular use of services.

The Company sets out its goals in the provision of services by various indicators in the areas of supervision and development of staff performance, and operational activities, both services and maintenance, to meet safety and service standards, including maintenance standards, at the minimum requirements under the concession agreements. In addition, the Company implements the whole life asset management strategy based on the risk-based management for the purpose of asset maintenance, both preventive maintenance, and condition-based maintenance, including corrective maintenance, by way of analytic techniques to improve its maintenance operations so that all equipment used in the provision of services perform safely, reliably, conveniently, promptly and punctually for service users.

The goals of the quality of services are as follows:

Rail Systems

- **The MRT Blue Line (throughout the concession period)**
 1. Train Service Availability (BL) \geq **99.20%**
 2. Train Service Punctuality (2 min) (BL) \geq **99.20%**
 3. Train Service Punctuality (5 min) (BL) \geq **99.20%**
 4. Train Availability (BL) \geq **99.70%**
 5. Station Quality Index (environment, passenger, equipment (BL)) \geq **0.90**
- **The MRT Purple Line (throughout the concession period)**
 6. Train Service Availability (PPL) \geq **99.25%**
 7. Train Service Punctuality (2 min) (PPL) \geq **99.25%**
 8. Train Service Punctuality (5 min) (PPL) \geq **99.25%**
 9. Train Availability (PPL) \geq **99.75%**
 10. Station Quality Index (environment, passenger, equipment (PPL)) \geq **0.90**

Expressway Systems

1. Easy Pass Lane Service Availability \geq **99.90%**
2. Rescue Operations Arrival (12 min) \geq **95.00%**

The guidelines and procedures for implementation are as follows:

1. To regularly and properly improve/correct the quality of services according to surveys and feedbacks from service users;
2. To analyze the maintenance requisitions and tentative maintenance, schedule for preventive maintenance for management of maintenance service to protect and maintain the equipment ahead of any malfunction or occurrence;
3. To regularly review the hazard logs for effective risk control in the systems;
4. To manage assets to be free from obsolescence, and ensure sufficient inventory of spare parts throughout the concession periods.

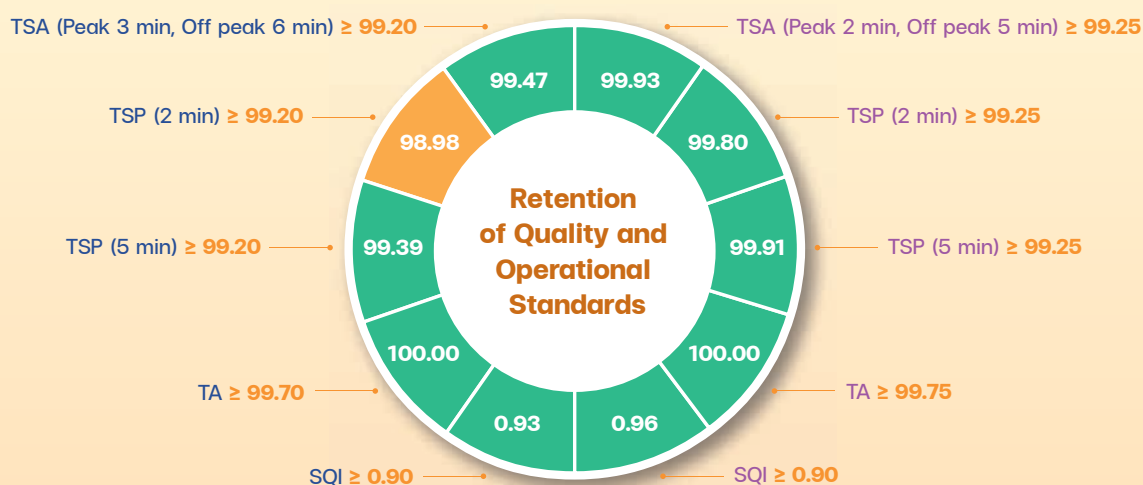
• **Key Indicators and Performance**

Rail Systems

The rail systems' key indicators and performance in 2022 are as follows:

NO.	INDICATORS	GOALS	PERFORMANCE
The MRT Blue Line			
1	Train Service Availability (BL)	≥ 99.20%	99.47%
2	Train Service Punctuality (2 min) (BL)	≥ 99.20%	98.98%
3	Train Service Punctuality (5 min) (BL)	≥ 99.20%	99.39%
4	Train Availability (BL)	≥ 99.70%	100%
5	Station Quality Index (environment, passenger, equipment (BL))	≥ 0.90	0.93

NO.	INDICATORS	GOALS	PERFORMANCE
The MRT Purple Line			
6	Train Service Availability (PPL)	≥ 99.25%	99.93%
7	Train Service Punctuality (2 min) (PPL)	≥ 99.25%	99.80%
8	Train Service Punctuality (5 min) (PPL)	≥ 99.25%	99.91%
9	Train Availability (PPL)	≥ 99.75%	100%
10	Station Quality Index (environment, passenger, equipment (PPL))	≥ 0.90	0.96



Based on the performance in 2022, the MRT Blue Line's train service punctuality (2 min) (BL) was slightly below target, in respect of which the Company will continue to improve the services to meet target accordingly.

Expressway Systems

The expressway systems' key indicators and performance in 2022 are as follows:



Highlight/Successful Projects

Rail Systems

1. Train Operation Development

To improve the efficiency in the train operation management under the normal situations and in case of emergency, and to develop techniques for handling various situations, the Company schedules for emergency drills in association with the relevant units, and set the goals for improvement of the efficiency in the train operation management under the normal situations and in case of emergency.

The performance in 2022 showed that the Company has held emergency drills among the relevant units to ensure that these events would be handled as effectively as possible, and also improved the efficiency in the train operation management in various aspects to ensure prompt correction and problem-solving and eliminate any complications, so as to achieve the goals.

2. Improvement of Quality of Services from Passengers' Feedbacks and Development of Audit System for Quality of Services

To pave the way for improvement of the quality of services and development of materials and techniques in the provision of services for staff coaching, as well as improvement of the performance of supervisors in the audit of the operations, the Company takes into account statistics and feedbacks from passengers and satisfaction survey results for analysis to improve the efficiency of the services, and sets the performance goals in accordance with the plan for improvement of the efficiency in the promotion training procedures and their regular workloads. In 2022, the Company's performance achieved the goals with a summary report on the improvement outcome for the purpose of monitoring the provision of services to meet the required service standards.



3. Development of Automatic Fare Collection System Maintenance Procedures

To enhance the efficiency in the daily routine maintenance management to accommodate more workloads by way of on-site and remote options for monitoring and maintenance, the Company has initiated a program to enhance the efficiency in the Automatic Fare Collection (AFC) system maintenance procedures through AFC Call Center and Work Order Online System. Thanks to this program, the period for AFC maintenance procedures can be reduced by 94.10 percent of the AFC maintenance period per 1 work order, and as a result, the high maintenance costs in terms of workman and office equipment allocation were managed more efficiently.



4. BEM QCC Award and CI (Continuous improvement) 2022

These projects afford staff an opportunity to present their work process improvements to develop the quality of services, and to enable staff to upgrade their knowledge and competency, present their achievements to extend the scope of work improvements to other similar works, continuously promote a culture of work process improvements in the Company, and to encourage them to share their learning experiences.

The Company continues to organize such work process improvement contests, with the following examples of work process improvements in 2022:

- Improvement of the process for maintenance planning to control the operations of the tunnel ventilation fans (TVF) and the underplatform exhaust system (UPE) in line with the maintenance activities;
- Improvement of the process for enhancement of the automatic fare collection system maintenance;
- Improvement of the drainage operations in the surveillance areas during rainfall.

The Company has sent the staff team who won the work process improvement contest to compete in the Thailand Kaizen Award 2022, Project Kaizen, hosted by the Technology Promotion Association (Thailand-Japan), for the first time, and received a Bronze Award.



5. Creative Energy Saving Project [ACMD: Asset Condition Monitoring & Diagnosis's (Water & ECS)]

For the purpose of creative energy use reduction, the Company has developed and improved its existing communication technologies by installing sensors in the systems to detect the system operations and minimize risks with the aim to preserve energy or enhance the efficiency in the energy use with concrete results.

In 2022, the Company has carried out the ACMD: Asset Condition Monitoring & Diagnosis's (Water & ECS) Project, by installing sensors to monitor the operations of equipment whether they perform efficiently or according to their intended function, or also known as the Basic Function Power Meter, in order to check the efficiency of the core system equipment, e.g., the chiller plant, which accounts for 65% of the electricity use, comprising chiller, air handling unit (AHU), cooling tower, and water pump system in the tunnel. According to the procedures, should any item of the equipment fail to achieve the specified index, the correction procedure must be promptly carried out to reduce the electricity use and minimize potential risks in the system. Such information will then be taken into consideration for future maintenance planning or for replacement of equipment, etc.

Moreover, the Company also applies the ACMD: Asset Condition Monitoring & Diagnosis's Project to monitor the dual directional water pump system in the tunnel for a total distance of approximately 52 kilometers, back and forth, at such areas difficult for monitoring and control, with limited access for safety reasons due to the ongoing train operations during and outside the service hours. Therefore, the Company intends to implement the ACMD: Asset Condition Monitoring & Diagnosis's Project to minimize potential risks should the water pump system in the tunnel fail to perform or perform at all times. In the past, the Company never knows whether the water pump performs properly or not, or performs at all times, and why, as normally, the water pump would perform only when the setting is triggered. The newly developed water pump system would enable the Company to know its current status. Should the Company not know the status of the water pump, the train operations may be affected by an inundated tunnel due to failure of the water pump and/or should the water pump perform at all times, the energy use would increase. By the new system, once the water pump is found to be malfunctioning or perform at all times, the Company can arrange for prompt inspection to minimize potential risks and/or energy use.

Expressway Systems

1. Installation of EDC Machines for Easy Pass Top-up at Toll Plaza Buildings by Credit/Debit Cards

Toll payments via Easy Pass are convenient and fast, particularly during the COVID-19 pandemic, the expressway motorists tend to rely more on toll payments via Easy Pass to minimize physical contact. The percentage of toll payments via Easy Pass in every route of the EXAT increased to 50.07%. Easy Pass top-up is available via multiple channels, particularly online channel, although the top-up service at the toll plaza buildings remains in use, representing approximately 10 percent of all top-up transactions. Therefore, to facilitate motorists' Easy Pass top-up at the toll plaza buildings via QR-Code, credit and debit cards, the Company has installed EDC (Electronics Data Capture) machines in collaboration with Krung Thai Bank, at all toll plaza buildings in the Prachin Ratthaya Expressway, since 2021, and thereafter, the Company, in association with the EXAT and KASIKORNBANK, has installed EDC machines at all toll plaza buildings in every expressway routes accordingly.



2. Development of Aluminium Foam Crash Box for Crashworthiness Performance Improvement of Road Service Vehicles

To improve the crashworthiness performance of road service vehicles, and for the safety of motorists and the Company's staff, the Company has collaborated with the National Metal and Materials Technology Center (MTEC), Thailand, and Cranfield University, United Kingdom, to conduct a joint research on "Development of Aluminium Foam Crash Box for Crashworthiness Performance Improvement of Road Service Vehicles," by researching and developing crash absorber materials to be installed at the rear bumper of the road service vehicles on the expressway. The Project has been carried out since October 2020 and due to be completed by February 2023, which would result in the desired crash box materials.

3. Advanced Traffic Management System (ATMS)

To monitor and manage the traffic conditions on the expressways more conveniently, rapidly and efficiently, the Company has installed the Advanced Traffic Management System (ATMS), a software that connects traffic facilities and equipment on the expressway to show their status, e.g., Variable Message Signs (VMS), Matrix Signs (MS), Emergency Telephone Systems (ETS), and Closed-Circuit TV (CCTV). The Company is in the course of further installation of such system to cover the entire areas of the Si Rat Expressway, to be completed by 2023. The ATMS is connected with the Intelligent Video Analytic (IVA) system at the off-ramps to detect any vehicles not permitted to use the expressways or violating the traffic direction, including people or animals entering the expressways, by sending alerts on any unusual occurrence on the expressways. In addition, the ATMS is also capable of displaying a schematic map with color shades to indicate the traffic conditions in different areas, with the equipment symbols shown on the map at the actual locations on the routes.

The performance in 2022 showed that the Company has completely installed the ATMS in the communication room at the Si Rat Expressway Control Center.



4. Easy Pass Software Upgrade at Control Centers

The Company has upgraded the Easy Pass software at the control centers to improve the full list data processing which the Company's control centers obtain such data from the Central System of the EXAT 4 times a day. Such data is used to update the Easy Pass status and available balance in the Easy Pass accounts before proceeding with the Easy Pass software upgrade. The full list data processing takes approximately 20-45 minutes per round to complete. Any top-up transactions or toll payments via Easy Pass during such time will not be updated at the Easy Pass lanes. Therefore, there are complaints from motorists that despite the Easy Pass top-up, they cannot pay tolls via Easy Pass. It was found that the top-up was done shortly before using the Easy Pass lanes. After the software upgrade, the full list data processing will be completed within 3 minutes per round.

The performance in 2022 showed that the Company has completed the Easy Pass software upgrade at the control centers of the Si Rat Expressway and the Udon Rattaya Expressway since late 2022.

5. Manual Toll Collection System Software Development

In order to replace the contractor's existing toll collection software, which would not only incur software development costs, but also be inflexible in practice with hardware replacements, and inconvenient for functional revisions or additions, the Company has thus developed the Manual Toll Collection System software by the Company's own staff, which not only helps save costs, but also overrides the contractor's monopoly without solely relying on any particular hardware requirements, which would ensure the sustainable maintenance of the toll collection system and delivery of quality, precise and rapid services to service users.

In 2022, the Company has applied such software for service at Ngam Wong Wan 2 Toll Plaza, Bang Sue 2 Toll Plaza, Asoke 2 Toll Plaza and Chiang Rak Toll Plaza (Outbound), and planned for extended software application to other toll plazas in 2023.

3) Information Technology Security

(3.1) Preparations for Cyber Security



• Importance

Nowadays, people's lifestyle has changed and relied more on the Internet in the daily routines in response to a variety of usages, e.g., search for news and information, communications, transactions or for work. Such information available online comprises both general and confidential information or personal data, and any leakage or misuse of which against the law would result in damage. Cyber security thus plays a key role to help prevent and resolve the worrying rise of cyber crimes. Therefore, the Company attaches great significance to cyber security and personal data protection to render service users confident in their safe journeys and secure use of the Company's services.

• Objectives, Goals and Implementation

Further to the significance of cyber violation prevention, the Company has set out the goals of continuously developing the secure information system to support its internal operations in compliance with ISO/IEC 27001 Standard, starting with the Company's Internet Access system which has been certified since 2021, to be extended to other systems in subsequent year(s) to cover all businesses of the Company. In addition, the Company has complied with the information technology risk management principles to control such risks in the fare collection system and other key systems in the Company, with the goals and implementation procedures as follows:

2023 - 2024

1. Cyber Security Risk Management Training

In order to encourage staff to gain proper knowledge and competency as well as accountability concerning cyber security risk management, the Company has arranged for training or knowledge sharing on cyber security management of various systems to those in charge in addition to staff in charge of cyber security.

2. ISO 27001 Auditor Training

This is to encourage staff to gain knowledge and competency as an ISO 27001 auditor in the organization, so as to be capable of conducting an audit of cyber security of various systems according to ISO 27001 Standard.

3. Improvement of IT Security Baseline

This is to improve the IT Security Baseline to ensure the system security and control with the status value set at "Most Secure."

2023 – 2025	IT Risk Assessment and Internal Audit of Major Systems in the Company This is to further assess risks in major systems of the Company, and conduct an internal audit of those systems, e.g., fare collection system, signaling system, communication system, SCADA system, and CASH System Management.
2024 – 2025	Annual Security Gap Assessment To check the cyber security in the key systems, the Company has scheduled for security gap assessment to be conducted at least once a year by a team of information technology experts, and extend to other major systems in addition to the existing systems, such as, CASH System Management.
2023 – 2026	Staff Awareness of Cyber Security This is to promote staff aware of cyber security and establish a cyber security culture among all staff of the Company.

• Key Indicators and Performance

In 2022, the Company's Internet Access system has been certified by ISO/IEC 27001 Standard following from the previous year.

Highlight/Successful Projects

1. Annual Security Gap Assessment

To check the cyber security in the key systems, the Company has scheduled for security gap assessment to be conducted at least once a year by a team of information technology experts in the fare collection system, signaling system, communication system and SCADA system. Such assessment has been completed as planned in 2022.

2. Cyber Security Risk Management Training

To ensure that staff responsible for cyber security is knowledgeable and competent in cyber security and cyber security risk management, the Company has provided training to staff in charge, such as the Information Security Management Working Group and as such, the Company has obtained ISO/IEC 27001 standard certification as planned.

(3.2) Privacy Protection for Customers/Passengers/Service Users

• Importance

Currently, the information system has been used via the Internet in response to various forms of applications to acquire news and information, communicate, execute transactions or perform work. Such information includes general and confidential information or personal data, which involves collection, storage, use or dissemination of personal data of service users in the form of electronic data, and which must be protected from any infringement of personal data. This represents the fundamental privacy right of people which must be protected to rest them assured of the use of various information systems, including execution of electronic transactions.

• Objectives, Goals and Implementation

Given the recognition of the importance of prevention of any personal data infringement, the Company sets out its goals and implements the information technology system development to be in line with the “Personal Data Protection Act B.E. 2562 (2019)” to ensure security and prevent any infringement of personal data, which represents the fundamental privacy right. To this effect, the Company has appointed a Personal Data Protection Working Group to determine or review personal data protection policies and practices, set out such measures on risk management and personal data security management, regularly supervise, monitor and assess the implementation thereof. For the implementation in 2022, the Company provided staff training to raise their awareness of the importance of personal data protection in accordance with the requirements of the applicable laws. The Company plans for its implementation in 2023 as follows:

2023

Enhancement of Encryption of Sensitive Data (Personal Data)

To enhance the KYC (Know Your Customer) system which stores personal data of passengers using passenger cards under the Payment Systems Act B.E. 2560 (2017) and the Anti-Money Laundering Act B.E. 2542 (1999), whereby such data will be encrypted to prevent any leakage thereof, but such data will not be simply decrypted, and sensitive data (personal data) will be encrypted in other systems that contain this type of data.

• Key Indicators and Performance

In 2022, there was neither infringement of personal data nor leakage of the Company's material information.



The implementation in 2022 may be summarized as follows:

- **Operating Staff**

There were materials prepared to provide knowledge to staff through the intranet system and public relations posters in various areas, in order to ensure that all staff recognizes and is aware of the personal data protection law. Moreover, there were clarification meetings to communicate information to each respective unit to update their relevant regulations, practices or documents to make sure that their respective units' performance complies with the personal data protection law.

- **Executive Staff**

Executive staff are provided training in order to enable them to apply and communicate such knowledge with staff in their units. In this regard, there were a total of 210 executives in respect of both expressway and rail systems who completed training, representing 92%.

Highlight/Successful Projects

1. Enhancement of Encryption of Sensitive Data (Personal Data)

To continuously enhance the KYC (Know Your Customer) system which stores personal data of passengers using passenger cards under the Payment Systems Act B.E. 2560 (2017) and the Anti-Money Laundering Act B.E. 2542 (1999), and prepare for such data encryption in 2023 to prevent any leakage thereof.

2. Personal Data Protection Training

In order to ensure that staff at every level is knowledgeable about and understands the overview of the "Personal Data Protection Act B.E. 2562 (2019)" and the personal data protection guidelines with respect to their work performance as appropriate, the Company plans to promote the personal data protection knowledge to staff at every level by appropriate means through such various channels as training, clarification meetings, and public relations materials, etc.

3.7 SUMMARY TABLE OF SUSTAINABILITY PERFORMANCE

NO.	INDICATORS/UNIT	2019	2020	2021	2022	REMARK
Environmental Issues						
Greenhouse gas emission	Volume of greenhouse gas emission in Scopes 1 - 2 (tons of carbon dioxide equivalent) (tons CO ₂ e)	87,352	116,341	114,196	100,398	Excluding the Expressway Systems
Promotion of ecofriendly goods and services	Purchase value of green products (Baht)	5,296,024.62	9,008,658.27	16,524,230.19	28,004,020.52	Excluding the Expressway Systems
Social Issues						
Safety in the provision of services to customers, society, communities	Passenger/ Staff/ Contractor Safety : Fatality (time)	0	0	0	0	Rail systems
	Passenger Safety : Number of serious injuries per 1,000,000 passengers	0	0	0	0	Rail Systems
	Occurrence of accidents from the Company's operations (time)	0	0	0	0	Expressway Systems
Cyber Security	Internet Access system has been continuously certified by ISO/IEC 27001 Standard	-	-	ISO/IEC 27001 Certification	ISO/IEC 27001 Certification	-
Retention of Quality of Services	Train Service Availability (BL)	93.14%	99.46%	99.88%	99.47%	In 2019, trials for full-scale train service and data collection on BL
	Train Service Punctuality (2 min) (BL)	N/A	98.91%	99.64%	98.98%	In 2019, trials for full-scale train service and data collection on BL
	Train Service Punctuality (5 min) (BL)	98.67%	99.89%	99.90%	99.39%	In 2019, trials for full-scale train service and data collection on BL
	Train Availability (BL)	99.99%	99.99%	100%	100%	In 2019, trials for full-scale train service and data collection on BL
	Station Quality Index (environment, passenger, equipment (BL))	0.83	0.90	0.89	0.93	In 2019, trials for full-scale train service and data collection on BL

NO.	INDICATORS/UNIT	2019	2020	2021	2022	REMARK
	Train Service Availability (PPL)	99.97%	99.97%	99.91%	99.93%	-
	Train Service Punctuality (2 min) (PPL)	99.96%	99.95%	99.86%	99.80%	-
	Train Service Punctuality (5 min) (PPL)	N/A	99.98%	99.88%	99.91%	-
	Train Availability (PPL)	100%	100%	100%	100%	-
	Station Quality Index (environment, passenger, equipment (PPL))	0.98	0.98	0.97	0.96	-
Governance and Economic Issues						
Retention of Quality of Services	Easy Pass Lane Service Availability	N/A	N/A	N/A	99.98%	Expressway Systems
	Rescue Operations Arrival (12 min)	N/A	N/A	N/A	98.50%	Expressway Systems
Corporate Governance Assessment	The Company receives an “Excellent” CG Scoring or five stars from the Thai Institute of Directors (IOD).	“Excellent” CG Scoring or five stars	“Excellent” CG Scoring or five stars	“Excellent” CG Scoring or five stars	“Excellent” CG Scoring or five stars	-
Sustainability Investment	The Company is listed as Thailand Sustainability Investment (THSI) by the SET.	Listed as “Thailand Sustainability Investment”	Listed as “Thailand Sustainability Investment”	Listed as “Thailand Sustainability Investment”	Listed as “Thailand Sustainability Investment”	-
AGM Checklist	The Company receives an “Excellent” Score in the AGM Checklist from the Thai Investors Association.	“Excellent” AGM Checklist	“Excellent” AGM Checklist	“Excellent” AGM Checklist	“Excellent” AGM Checklist	2020-2022 received the “Excellent as deserved to be a role model”



4. MANAGEMENT DISCUSSION AND ANALYSIS : (MD&A)

4.1 OPERATIONAL RESULTS AND FINANCIAL POSITION ANALYSIS

Overview of the Company's Operational Results

The abated severity of the COVID-19 outbreak and the government's announcement that COVID-19 has been downgraded to a communicable disease under surveillance, including the country's opening, which increased the number of travelers, have resulted in a significant increase in the number of the expressway users and the metro passengers in 2022 as compared to the previous year, namely by 22.4 percent and 84.5 percent, respectively.

In 2022, the Company had a net profit attributable to equity holders of the Company of Baht 2,436 Million, representing an increase from the previous year by Baht 1,426 Million or 141.2 percent.

Revenue from main businesses amounted to Baht 14,030 Million, representing an increase from the previous year by Baht 3,304 Million or 30.8 percent, namely toll revenue increased by Baht 1,742 Million; farebox revenue and revenue from the operation service increased by Baht 1,463 Million, and revenue from commercial development increased by Baht 99 Million.

Cost of service amounted to Baht 8,447 Million, representing an increase from the previous year by Baht 1,458 Million or 20.9 percent due to an increase in costs of expressway and metro maintenance as well as amortization based on the number of vehicles and passengers. Administrative expenses amounted to Baht 1,160 Million, which was close to that in the previous year.

Finance cost amounted to Baht 2,148 Million, representing an increase from the previous year by Baht 200 Million or 10.3 percent, mainly due to the measurement of loans and debentures in accordance with the Thai Financial Reporting Standard (TFRS 9), resulting in higher interest expenses in the income statement for the current period than the interest expenses actually paid, and partly resulting from an increase in interest on loans with floating-interest rates.

DESCRIPTION	2022	2021	2022 COMPARED TO 2021 % CHANGE	2020	2021 COMPARED TO 2020 % CHANGE
Revenue from expressway business	8,192	6,450	27.0	8,145	-20.8
Revenue from rail business	4,917	3,454	42.4	4,520	-23.6
Revenue from commercial development business	921	822	12.0	825	-0.4
Total revenues from main business	14,030	10,726	30.8	13,490	-20.5
Other income					
Interest income from the MRT Purple Line Project	176	218	-19.3	277	-21.3
Others	596	537	11.0	556	-3.4
Total other income	772	755	2.3	833	-9.4
Total revenues	14,802	11,481	28.9	14,323	-19.8
Cost of service	8,447	6,989	20.9	8,426	-17.1
Selling and administrative expenses	1,160	1,160	-	1,347	-13.9
Total expenses	9,607	8,149	17.9	9,773	-16.6
Operating profit	5,195	3,332	55.9	4,550	-26.8
Finance cost	2,148	1,948	10.3	1,820	7.0
Interest expense from the MRT Purple Line Project	213	239	-10.9	293	-18.4
Profit before income tax	2,834	1,145	147.5	2,437	-53.0
Income tax expenses	398	134	-197.0	382	-64.9
Profit before share of profit from associates and NCI	2,436	1,011	140.9	2,055	-50.8
NCI	-	(1)	-100.0	(4)	75.0
Profit attributable to Equity holders of the Company	2,436	1,010	141.2	2,051	-50.8
Basic earnings per share (Baht)	0.16	0.07		0.13	

Segmental Performance

1. Expressway Business

Revenue from expressway business amounted to Baht 8,192 Million, representing an increase from the previous year by Baht 1,742 Million or 27.0 percent, due to an increase in the number of vehicles using all expressways resulting from the unwinding situation of COVID-19. As a result, the activities of both the government and business sectors, including teaching and learning activities, gradually returned to normal, leading to a constant increase in travel. Despite a serious COVID-19 outbreak last year, there was the average number of vehicles using the expressways in 2022 at 1,040,000 trips per day, representing an increase from the previous year by 22.4 percent. In addition, the toll revisions for the Si Rat - Outer Ring Road Expressway caused higher increase in revenue than an increase in the number of vehicles.

Cost of service for expressway business consisted of costs of toll and amortization on rights to operate completed expressway sectors, amounted to Baht 2,826 Million, representing an increase from the previous year by Baht 641 Million or 29.3 percent, mainly resulting from an increase in amortization on rights to operate completed expressway sectors which was relevant to the rising traffic volume, including the cost of maintenance work which gradually began this year.

2. Rail Business

Revenue from rail business amounted to Baht 4,917 Million, representing an increase from the previous year by Baht 1,463 Million or 42.4 percent, namely farebox revenue from the MRT Blue Line Project increased by Baht 1,213 Million or 81.4 percent, and revenue from the operation service of the MRT Purple Line Project increased by Baht 250 Million as stated in the concession agreement. The average daily ridership in 2022 was at 270,617 trips per day, representing an increase from the previous year by 84.5 percent. The volume of passengers steadily grew in the second half of the year when the monthly trend was taken into consideration. The average daily ridership was in the range of 300,000 to 350,000 trips, and over 400,000 trips per day on working days. It is also expected that in 2023, passenger growth would continue due to the benefits of a rising number of tourists.

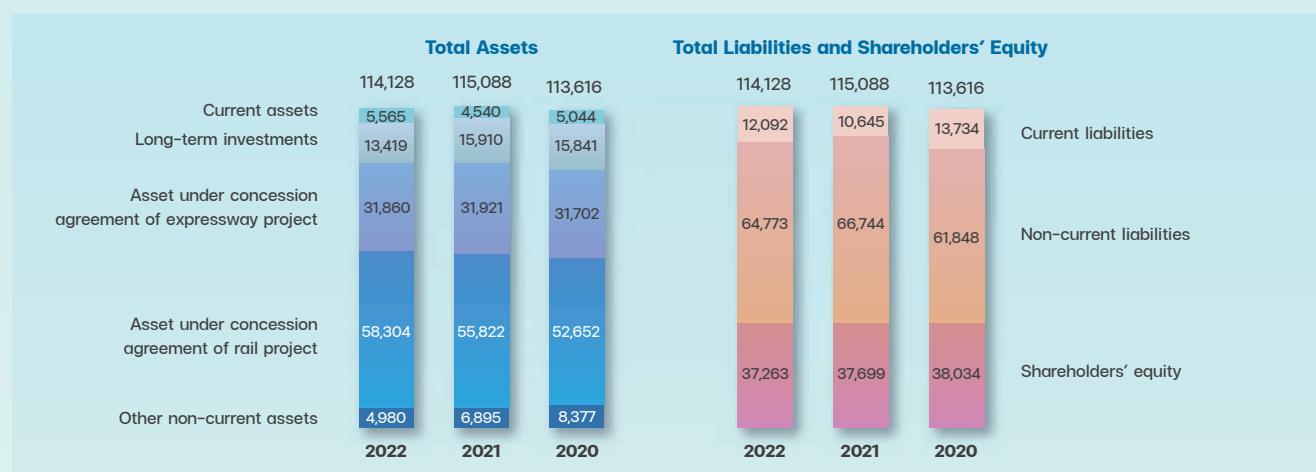
Cost of service for rail business consisted of costs of farebox, O&M cost and amortization of intangible asset under concession agreement amounting to Baht 5,278 Million, representing an increase from the previous year by Baht 758 Million or 16.8 percent, primarily due to the maintenance costs which were deferred until this year and MRTA's remuneration which was higher according to income.

3. Commercial Business Development

Commercial development revenue amounted to Baht 921 Million, representing an increase from the previous year by Baht 99 Million or 12.0 percent, mainly due to an increase in revenue from rental of retail space in Metro Mall and revenue from rental of advertising space resulting from the economic recovery. Moreover, revenue from network services was increased as stipulated in the concession agreement. The cost of commercial development business amounted to Baht 343 Million, representing an increase from the previous year by Baht 59 Million or 20.8 percent, which was relevant to the increasing revenue.

Financial Position

(Unit : Million Baht)



Assets

As at December 31, 2022, the Company and its subsidiaries had total assets in the amount of Baht 114,128 Million, representing a decrease by Baht 960 Million or 0.8 percent when compared with that at the end of 2021, primarily due to fair value adjustments of financial assets that were equity securities listed on the Stock Exchange; and an increase in asset under concession agreement of the MRT Blue Line Project, mainly resulting from prepaid project remuneration to MRTA in accordance to the concession agreement.

Liabilities and Shareholders' Equity

Total liabilities amounted to Baht 76,865 Million, representing a decrease by Baht 524 Million or 0.7 percent, mainly resulting from a decrease in current portion of long-term loans; total shareholders' equity amounted to Baht 37,263 Million, representing a decrease by Baht 436 Million or 1.2 percent due to fair value adjustments of financial assets, resulting in a decrease in the total shareholders' equity.

Significant Financial Ratios Analysis *

Overall, the Company's significant financial ratios improved from the previous year due to the economic recovery; as a result, a rising number of expressway users and MRT passengers returned to use the services, resulting in an increase in revenue and net profit. The Net IBD/E ratio was close to the previous year, but still lower than 2.5 times as stated in loan and debenture agreements.

* Reference to financial ratios in clause 4.3

4.2 FACTORS OR SITUATIONS SIGNIFICANTLY AFFECTING THE FINANCIAL POSITION OR FUTURE PERFORMANCE

After the situation of COVID-19 outbreak has improved and people have returned to their regular lifestyles; the volume of traffic on the expressways and metro systems has then reverted to levels close to those before the COVID-19 outbreak. The Company's revenues consequently increase as a result. Furthermore, the service opening of various electric train projects in the future will contribute to a connected commuting network, resulting in an increase in the number of passengers in the electric train system as a whole, which has a positive effect on revenue, in particular the revenue generated by the MRT Blue Line Project with its circular route alignment for accommodating transit by passengers from all feeder lines. Moreover, the Company's revenues will increase in tandem with the expansion of the economy if there are no significant new epidemics or situations that have an impact on travel around the world. In regard to interest rates which tend to rise, it may affect the Company's operations and financial position, due to the fact that the Company still bears a high debt burden from its investments during the early concession period, as is typical in the business of infrastructure investment. However, it is anticipated that such impact would not be particularly severe since the Company has managed floating rate-bearing debts to stay in appropriate proportion.

4.3 KEY FINANCIAL INFORMATION

(Unit : Baht)

STATEMENT OF FINANCIAL POSITION	2022		2021		2020	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Assets						
Current assets						
Cash and cash equivalents	1,787,836,238	1.57	1,131,367,911	0.98	1,613,584,108	1.42
Bank deposit for unearned fare box revenue	229,984,555	0.20	225,201,031	0.20	224,486,696	0.20
Trade and other receivables	647,992,309	0.57	473,252,353	0.41	548,903,316	0.48
Current portion of receivable under the concession agreement	1,649,683,274	1.44	1,649,683,274	1.43	1,649,683,274	1.45
Current tax assets	144,533,107	0.13	120,971,846	0.11	125,377,096	0.11
Other current financial assets	946,995,194	0.83	765,670,719	0.67	761,275,133	0.67
Other current assets						
Prepaid expenses	93,333,670	0.08	92,564,380	0.09	90,825,229	0.08
Advance payment for service contracts	-	-	44,566,316	0.03	17,783,816	0.02
Spare parts	59,199,669	0.05	26,633,266	0.02	-	-
Others	6,002,968	0.01	10,729,409	0.01	11,835,188	0.01
Total current assets	5,565,560,984	4.88	4,540,640,505	3.95	5,043,753,856	4.44
Non-current assets						
Receivable under the concession agreement, net of current portion	4,261,681,792	3.73	5,911,365,066	5.14	7,561,048,340	6.65
Other non-current financial assets	13,418,815,206	11.76	15,909,924,565	13.82	15,840,737,472	13.94
Investment properties	120,357,493	0.10	120,357,493	0.10	120,357,493	0.11
Building and equipment	337,931,815	0.30	383,984,663	0.33	379,278,437	0.33
Right-of-use assets	171,595,613	0.15	139,696,152	0.12	86,514,411	0.08
Rights to operate expressway sectors	31,860,051,536	27.92	31,920,531,506	27.74	31,701,521,503	27.90
Intangible asset under concession agreement of the MRT Blue Line Project	45,245,877,915	39.64	45,368,623,475	39.42	44,683,719,344	39.33
Project cost of the MRT Chalong Ratchadham Line	656,677,998	0.58	676,752,990	0.59	660,436,487	0.58
Prepaid project remuneration	12,400,550,604	10.86	9,775,518,134	8.49	7,307,904,942	6.43
Other intangible assets	33,948,492	0.03	48,351,411	0.04	63,165,051	0.06
Deferred tax assets	19,994,793	0.02	16,310,587	0.01	13,651,112	0.01
Other non-current assets	35,143,010	0.03	276,442,889	0.25	153,669,851	0.14
Total non-current assets	108,562,626,267	95.12	110,547,858,931	96.05	108,572,004,443	95.56
Total assets	114,128,187,251	100.00	115,088,499,436	100.00	113,615,758,299	100.00

STATEMENT OF FINANCIAL POSITION (Continued)	2022		2021		2020	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Liabilities and shareholders' equity						
Current liabilities						
Short-term loans from financial institutions	-	-	2,000,000,000	1.74	3,000,000,000	2.64
Trade and other payables	1,762,804,876	1.55	1,492,413,420	1.30	1,744,651,781	1.53
Current portion of long-term loans from financial institutions	4,173,244,069	3.66	3,544,204,069	3.08	3,745,161,069	3.30
Current portion of lease liabilities	67,763,943	0.06	44,749,169	0.04	45,512,736	0.04
Current portion of debentures	5,500,000,000	4.82	3,000,000,000	2.61	4,615,000,000	4.06
Unearned fare box revenue	243,947,482	0.21	221,885,631	0.19	228,290,262	0.20
Deposits on stored value ticket	93,486,147	0.08	86,567,897	0.08	87,727,497	0.08
Income tax payable	11,603,425	0.01	27,693,411	0.02	41,623,582	0.04
Current portion of derivative financial liabilities	-	-	-	-	11,860,783	0.01
Other current financial liabilities	105,052,472	0.09	102,555,542	0.09	64,602,760	0.06
Other current liabilities						
Value added tax payable	54,922,110	0.05	52,830,593	0.05	64,913,271	0.06
Withholding tax deducted at source payable	58,948,436	0.05	39,536,369	0.03	59,123,553	0.05
Others	19,956,115	0.02	33,041,963	0.02	25,094,642	0.02
Total current liabilities	12,091,729,075	10.60	10,645,478,064	9.25	13,733,561,936	12.09
Non-current liabilities						
Long-term loans from financial institutions, net of current portion	24,709,713,605	21.65	25,609,412,070	22.25	23,670,054,666	20.83
Lease liabilities, net of current portion	103,375,827	0.09	92,659,628	0.08	40,912,590	0.03
Debentures, net of current portion	36,058,427,918	31.59	37,057,371,553	32.20	34,057,924,287	29.98
Derivative financial liabilities, net of current portion	895,469	0.01	95,880,794	0.08	173,936,021	0.15
Provision for long-term employee benefits	838,048,488	0.73	770,896,288	0.67	932,330,697	0.82
Deferred tax liabilities	3,051,921,707	2.67	3,108,954,593	2.70	2,959,530,701	2.60
Other non-current liabilities	10,512,349	0.01	9,014,047	0.01	13,782,769	0.02
Total non-current liabilities	64,772,895,363	56.75	66,744,188,973	57.99	61,848,471,731	54.43
Total liabilities	76,864,624,438	67.35	77,389,667,037	67.24	75,582,033,667	66.52

STATEMENT OF FINANCIAL POSITION (Continued)	2022		2021		2020	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Shareholders' equity						
Share capital						
Registered						
15,285,000,000 ordinary shares of Baht 1 each	15,285,000,000	13.39	15,285,000,000	13.28	15,285,000,000	13.45
Issued and fully paid-up						
15,285,000,000 ordinary shares of Baht 1 each	15,285,000,000	13.39	15,285,000,000	13.28	15,285,000,000	13.45
Premium on ordinary shares	5,816,938,084	5.09	5,816,938,084	5.05	5,816,938,084	5.12
Capital deficit from change in shareholding in subsidiaries	(346,046,294)	-0.30	(346,046,294)	-0.30	(264,641,165)	-0.23
Retained earnings						
Appropriated - statutory reserve	1,528,500,000	1.34	1,502,600,000	1.31	1,464,000,000	1.29
Unappropriated	16,451,236,957	14.41	15,193,997,725	13.20	15,572,592,087	13.71
Other components of shareholders' equity	(1,473,687,797)	-1.29	244,792,547	0.21	117,510,065	0.10
Equity attributable to shareholders of the Company	37,261,940,950	32.64	37,697,282,062	32.75	37,991,399,071	33.44
Non-controlling interests of the subsidiaries	1,621,863	0.01	1,550,337	0.01	42,325,561	0.04
Total shareholders' equity	37,263,562,813	32.65	37,698,832,399	32.76	38,033,724,632	33.48
Total liabilities and shareholders' equity	114,128,187,251	100.00	115,088,499,436	100.00	113,615,758,299	100.00

INCOME STATEMENT	2022		2021		2020	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Revenues						
Revenue from expressway business	8,191,799,140	55.34	6,450,160,064	56.18	8,144,975,668	56.87
Revenue from rail business	4,916,979,561	33.22	3,454,408,377	30.09	4,519,840,374	31.56
Revenue from commercial development business	920,660,523	6.22	822,153,949	7.16	824,644,414	5.76
Other income						
Interest income	187,223,397	1.26	227,222,451	1.98	296,044,829	2.07
Dividend income	551,535,569	3.73	492,182,682	4.29	482,715,660	3.37
Others	33,275,793	0.23	35,461,769	0.30	54,340,236	0.37
Total revenues	14,801,473,983	100.00	11,481,589,292	100.00	14,322,561,181	100.00
Expenses						
Cost of expressway business	1,893,315,303	12.79	1,498,829,128	13.05	1,738,365,018	12.14
Cost of rail business	4,877,034,831	32.95	4,335,390,944	37.76	4,713,365,429	32.91
Cost of commercial development business	275,713,008	1.86	223,855,683	1.95	226,069,501	1.58
Amortisation on rights to operate expressway sectors and compensation for site acquisition cost	933,228,251	6.30	686,150,894	5.98	1,389,661,862	9.70
Amortisation on intangible asset under concession agreement of the MRT Blue Line Project	467,772,833	3.16	245,443,987	2.14	359,429,944	2.51
Selling expenses	126,823,156	0.86	91,863,188	0.80	169,847,473	1.19
Administrative expenses	1,032,991,990	6.98	1,068,048,787	9.30	1,176,670,273	8.21
Total expenses	9,606,879,372	64.90	8,149,582,611	70.98	9,773,409,500	68.24
Operating profit	5,194,594,611	35.10	3,332,006,681	29.02	4,549,151,681	31.76
Finance cost	(2,360,679,969)	-15.95	(2,187,044,061)	-19.05	(2,112,506,968)	-14.75
Profit before income tax expenses	2,833,914,642	19.15	1,144,962,620	9.97	2,436,644,713	17.01
Income tax expenses	(397,658,573)	-2.69	(133,911,711)	-1.16	(381,919,095)	-2.66
Profit for the year	2,436,256,069	16.46	1,011,050,909	8.81	2,054,725,618	14.35
Profit attributable to:						
Equity holders of the Company	2,436,184,543	16.45	1,010,097,493	8.80	2,051,090,045	14.32
Non-controlling interests of the subsidiaries	71,526	0.01	953,416	0.01	3,635,573	0.03
	2,436,256,069	16.46	1,011,050,909	8.81	2,054,725,618	14.35
Basic earnings per share						
Profit attributable to equity holders of the Company	0.16		0.07		0.13	

STATEMENT OF COMPREHENSIVE INCOME	2022		2021		2020	
	AMOUNT	%	AMOUNT	%	AMOUNT	%
Profit for the year	2,436,256,069	16.46	1,011,050,909	8.81	2,054,725,618	14.35
Other comprehensive income						
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods</i>						
Gain (loss) from cash flow hedges, net of income tax	170,438,852	1.15	71,932,808	0.63	(58,489,304)	-0.41
Other comprehensive income to be reclassified to profit or loss in subsequent periods, net of income tax	170,438,852	1.15	71,932,808	0.63	(58,489,304)	-0.41
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods</i>						
Gain (loss) on investments in equity designated at fair value through other comprehensive income, net of income tax	(1,819,164,507)	-12.29	55,349,674	0.48	(1,359,788,928)	-9.49
Actuarial gain, net of income tax	-	-	178,424,063	1.55	26,618,808	0.18
Other comprehensive income not to be reclassified to profit or loss in subsequent periods, net of income tax	(1,819,164,507)	-12.29	233,773,737	2.03	(1,333,170,120)	-9.31
Other comprehensive income for the year	(1,648,725,655)	-11.14	305,706,545	2.66	(1,391,659,424)	-9.72
Total comprehensive income for the year	787,530,414	5.32	1,316,757,454	11.47	5,773,144,823	28.29
Total comprehensive income attributable to:						
Equity holders of the Company	787,458,888	5.31	1,315,788,120	11.46	659,430,621	4.60
Non-controlling interests of the subsidiaries	71,526	0.01	969,334	0.01	3,635,573	0.03
	787,530,414	5.32	1,316,757,454	11.47	663,066,194	4.63

CASH FLOW STATEMENT	2022	2021	2020
Cash flows from operating activities			
Profit before tax	2,833,914,642	1,144,962,620	2,436,644,713
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:			
Depreciation on building and equipment	76,065,745	77,203,850	75,043,049
Amortisation on right-of-use assets	68,496,825	65,702,216	42,435,548
Amortisation on intangible asset under concession agreements	1,430,296,365	959,333,945	1,713,731,110
Amortisation on other intangible assets	14,402,919	26,366,367	26,769,855
Bad debt expenses	369,373	-	-
Allowance for expected credit losses (reversal)	(1,292,240)	2,809,203	(548,274)
Withholding tax deducted at source write-off	-	1,060,664	605,265
Loss (gain) on sale of investments in financial assets	44,760	-	(3,530,367)
Gain on fair value adjustments of financial assets	(1,369,235)	(4,395,586)	(14,508,454)
Gain on disposal/write-off of equipment and intangible assets under concession agreement of the MRT Blue Line Project	(3,045,993)	(6,071,738)	(2,876,113)
Project remuneration expense	421,101,751	220,635,284	350,690,055
Compensation for site acquisition cost	-	-	61,467,080
Provision for long-term employee benefits	95,848,906	93,139,079	109,639,862
Unrealised loss (gain) on exchange	179,699	(283,854)	22,541
Effect of reduction in rental expenses	-	(3,381,343)	(19,715)
Interest income	(187,223,397)	(227,222,451)	(296,044,829)
Dividend income	(551,535,569)	(492,182,682)	(482,715,660)
Interest expenses	2,327,131,223	2,163,893,619	2,080,911,700
Profit from operating activities before changes in operating assets and liabilities	6,523,385,774	4,021,569,193	6,097,717,366
Operating assets (increase) decrease			
Bank deposit for unearned fare box revenue	(4,783,524)	(714,335)	(18,789,610)
Trade and other receivables	(172,798,401)	106,486,620	(55,567,070)
Receivable under the concession agreement	1,649,683,274	1,649,683,274	1,649,683,274
Other current assets	27,632,706	(44,981,746)	5,158,404
Other non-current assets	(7,145,686)	(2,232,967)	11,443,912
Cash paid for project remuneration	(2,998,854,922)	(2,679,657,407)	(2,559,221,912)
Operating liabilities increase (decrease)			
Trade and other payables	253,415,423	(186,562,594)	157,100,847
Unearned farebox revenue	22,061,851	(6,404,631)	16,055,838
Deposits on stored value ticket	6,918,250	(1,159,600)	7,780,700
Other current liabilities	10,914,667	14,230,241	(41,394,911)
Other non-current liabilities	1,498,300	(4,768,722)	11,563,379
Cash paid for long-term employee benefits	(28,696,707)	(31,543,409)	(36,876,553)
Net Cash flows from operating activities	5,283,231,005	2,833,943,917	5,251,584,752
Cash received from interest income	186,204,886	227,222,838	296,045,709
Cash received from withholding tax deducted at source	358,669,287	2,931,708	6,931,088
Cash paid for income tax	(195,569,220)	(194,699,585)	(196,270,863)
Net cash flows from operating activities	5,632,535,958	2,869,398,878	5,351,359,598

CASH FLOW STATEMENT (Continued)	2022	2021	2020
Cash flows from investing activities			
Cash received from sales of financial assets designated at FVTPL	870,000,000	-	3,904,702,827
Cash paid for purchase of financial assets designated at FVTPL	(1,050,000,000)	-	(3,492,504,112)
Cash received from sale of financial assets designated at FVOCI	334,321,496	-	2,310,374
Cash paid for purchase of financial assets designated at FVOCI	-	-	(526,342,927)
Cash paid for purchase of investment in subsidiary	-	(123,149,687)	(11,470,313)
Cash received from sales of equipment and right-of-use asset	4,373,953	7,848,476	5,355,862
Purchase of equipment	(31,104,242)	(87,435,912)	(127,506,633)
Cash received from dividend income	551,535,569	492,182,682	482,715,660
Cash paid for the improvement of expressway	(796,809,743)	(845,461,302)	(827,337,637)
Cash paid for intangible asset under concession agreement of the MRT Blue Line Project	(447,753,901)	(1,102,154,189)	(2,987,424,067)
Cash paid for project cost of the MRT Chalong Ratchadham Line	(31,829,054)	(61,270,758)	(39,120,693)
Interest expenses capitalised as cost of projects	-	-	(90,275,175)
Increase in other intangible assets	(37,916)	(11,515,081)	(17,419,060)
Net cash flows used in investing activities	(597,303,838)	(1,730,955,771)	(3,724,315,894)
Cash flows from financing activities			
Cash received from short-term loans from financial institutions	8,100,000,000	5,200,000,000	9,300,000,000
Repayment of short-term loans from financial institutions	(10,100,000,000)	(6,200,000,000)	(9,550,000,000)
Cash received from long-term loans from financial institutions	3,000,000,000	5,000,000,000	5,299,998,000
Repayment of long-term loans from financial institutions	(3,544,204,069)	(3,403,941,069)	(2,853,940,069)
Cash payment for lease liabilities	(70,714,108)	(67,283,541)	(44,427,542)
Cash received from debentures	4,500,000,000	6,000,000,000	3,000,000,000
Cash paid for redemption of debentures	(3,000,000,000)	(4,615,000,000)	(2,500,000,000)
Cash paid for financial fees	(16,007,795)	(25,042,356)	(8,815,078)
Interest paid	(2,025,037,821)	(1,980,892,338)	(1,984,375,214)
Dividend paid	(1,222,800,000)	(1,528,500,000)	(1,375,650,000)
Net cash flows used in financing activities	(4,378,763,793)	(1,620,659,304)	(717,209,903)
Net increase (decrease) in cash and cash equivalents	656,468,327	(482,216,197)	909,833,801
Cash and cash equivalents at beginning of year	1,131,367,911	1,613,584,108	703,750,307
Cash and cash equivalents at end of year	1,787,836,238	1,131,367,911	1,613,584,108

FINANCIAL RATIOS	UNIT	2022	2021	2020
LIQUIDITY RATIO				
1. Liquidity Ratio	Time	0.37	0.32	0.28
2. Quick Ratio	Time	0.34	0.29	0.26
3. Cash Flow Ratio	Time	0.39	0.09	0.31
PROFITABILITY RATIO				
4. Gross Profit Margin	%	39.79	34.84	37.53
5. Operating Profit Margin	%	46.86	39.33	45.21
6. Other Income to Total Income	%	5.28	6.70	5.93
7. Cash to Profitability Ratio	%	57.91	23.74	56.16
8. Net Profit Margin	%	16.66	8.97	14.60
9. Return on Equity	%	6.50	2.67	5.35
EFFICIENCY RATIO				
10. Return on Total Assets	%	2.26	0.95	2.00
11. Return on Fixed Assets	%	5.18	2.77	5.16
12. Assets Turnover	Time	0.14	0.11	0.14
FINANCIAL POLICY RATIO				
13. Debt to Equity Ratio	Time	1.91	1.87	1.76
14. Net Interest Bearing Debt to Equity Ratio	Time	1.66	1.65	1.52
15. Interest Coverage Ratio	Time	3.06	2.17	3.38
16. Net Debt to EBITDA	Time	10.40	16.16	10.56
17. Debt Service Coverage Ratio	Time	1.89	1.15	1.98
18. Dividend Payout Ratio	Time	75.29	121.06	74.52
PER SHARE DATA (Excluding NCI)				
19. Book Value per Share	Baht	2.44	2.47	2.49
20. Net Earnings per Share	Baht	0.16	0.07	0.13
21. Dividend per Share	Baht	0.12 ⁽¹⁾	0.08	0.10

Note : ⁽¹⁾ an agenda to be proposed for approval at the 2023 Annual Ordinary General Meeting of Shareholders.

The Company has not presented Accounts Receivable Turnover, Average Collection Period, Accounts Payable Turnover, Average Debt Servicing Period and Cash Cycle because these ratios are not appropriated for consideration of the Company's operation according to the amount of accounts receivable and accounts payable which are not significant for the Company's nature of operation.

The aforesaid financial ratio analysis does not include transaction related to the novation of the M&E systems under the concession agreement of the MRT Chalong Ratchadham Line Project which the MRTA is fully responsible for both loan repayment and interest expense in accordance to the concession agreement.



5. GENERAL INFORMATION

AND OTHER SIGNIFICANT INFORMATION

5.1 GENERAL INFORMATION

01



Securities Registrar

Thailand Securities Depository Company Limited

The Stock Exchange of Thailand

93 Rachadapisek Road, Dindaeng Subdistrict, Dindaeng District, Bangkok 10400

Telephone : 0 2009 9382

Fax : 0 2009 9476

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Auditor

EY Office Limited

193/136-137 Lake Rajada Office Complex, 33rd Floor,

New Rajadapisek Road, Klongtoey District, Bangkok 10110

Telephone : 0 2264 0777

Fax : 0 2264 0789

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Legal Advisor

The Legists Group

Abdulrahim Place, 9th Floor No. 990 Rama IV Road, Silom Subdistrict

Bangrak District, Bangkok 10500

Telephone : 0 2636 1111

Fax : 0 2636 0000

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Financial Advisor

Advisory Plus Company Limited

1550 Thanapoom Tower, 10th Floor New Petchburi Road,

Makkasan Subdistrict, Ratchathewi District, Bangkok 10400

Telephone : 0 2652 7858-64

Fax : 0 2652 7867

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Debenture Registrars

Siam Commercial Bank Public Company Limited

G Tower, Grand Rama 9, 15th Floor, North Wing 9, Rama 9 Road,
Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310

Telephone : 0 2128 2326-9

Fax : 0 2128 4625

Krung Thai Bank Public Company Limited

977/2 Phaholyothin Road, Samsen Nai Subdistrict,
Phayathai District, Bangkok 10400

Telephone : 0 2298 0831

Fax : 0 2298 0835

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Debenture Holders' Representative

Siam Commercial Bank Public Company Limited

G Tower, Grand Rama 9, 17th Floor, North Wing 9, Rama 9 Road,
Huai Khwang Subdistrict, Huai Khwang District, Bangkok 10310

Telephone : 0 2128 2316-7

Fax : 0 2128 4621

5.2 OTHER SIGNIFICANT INFORMATION

- None -

5.3 LEGAL DISPUTE

- None -

5.4 SECONDARY MARKET IN CASE OF LISTING ON THE STOCK EXCHANGE OF OTHER COUNTRIES

- None -

5.5 REGULARLY CONTACTED FINANCIAL INSTITUTIONS

• Bangkok Bank Public Company Limited

333 Silom Road, Silom Subdistrict

Bang Rak District, Bangkok 10500

Telephone : 0 2230 1036

Fax : 0 2230 2722

• TMB Thanachart Bank Public Company Limited

3000 Phaholyothin Road, Chom Thong Subdistrict

Chatuchak District, Bangkok 10900

Telephone : 0 2299 2469

Fax : 0 2299 2758

• Krung Thai Bank Public Company Limited

35 Sukhumvit Road, Khlong Toei Nuea Subdistrict

Wattana District, Bangkok 10110

Telephone : 0 2208 4631-9

Fax : 0 2256 8619

• Siam Commercial Bank Public Company Limited

9 Ratchadaphisek Road, Chatuchak Subdistrict

Chatuchak District, Bangkok 10900

Telephone : 0 2256 2323

PART 2

CORPORATE GOVERNANCE



6. CORPORATE GOVERNANCE

POLICY

6.1

OVERVIEW OF CORPORATE GOVERNANCE POLICY AND PRACTICES



The Board of Directors and management have realized the significance of the Corporate Governance Code, comprising establishing organizational leadership role and responsibilities of the Board in creating value for the business to attain the sustainable business operations; strengthening effective management and internal control; implementing mechanisms for control and checks and balances intended to ensure the transparent and auditable management; respect for rights and equality of shareholders by encouraging and supporting engagement and communication with shareholders; ensuring disclosure and maintaining financial integrity; and ensuring all groups of stakeholders-oriented management, all of which are crucial factors in adding value and bringing the highest returns to the Company's shareholders with the long-term sustainability.

To boost confidence of all shareholders, investors and stakeholders and development resulting in the good corporate governance of the Company and its subsidiaries on a continuous basis, including understanding of the Board of Directors in the Company's business operations, expectations of stakeholders, opportunities and risks affecting the business operations, the Board of Directors has formulated the corporate governance policy and practices which shall be regularly reviewed at least once a year. In this connection, the Company has publicized the corporate governance policy and practices on its website at <http://www.bemplc.co.th> to allow all shareholders, investors, and stakeholders to acknowledge the practical guidelines and business operations of the Company and communicate to the Company's directors, executives and staff in order that they use as a guideline for business operations and administration.

CORPORATE GOVERNANCE POLICY

The Company realizes the significance and benefits of good corporate governance to ensure that the Company has the efficient, transparent, auditable management systems in place to help build trust among shareholders, investors, stakeholders, and all concerned parties, in pursuit of the Company's sustainable growth. To that effect, the Company adheres to the guidelines of the Company's corporate governance policy in accordance with the Principles of Governance Corporate Code covering 8 chapters, namely:

1. Establish Clear Leadership Role and Responsibilities of the Board

Fulfill the duties with awareness and thorough understanding of its leadership roles in supervising and ensuring good management and creating sustainable value for the business; as well as monitor and supervise to ensure that directors and executives comply with their own scope of duties and responsibilities with care and honesty, in accordance with laws, Articles of Association and meeting resolutions.

2. Define Objectives that Promote Sustainable Value Creation

Define business objectives and goals which conform to and promote sustainable value creation for the Company, stakeholders and society, as well as monitor, oversee the formulation of strategies to ensure compliance with business objectives and goals, by appropriately adopting innovations and technologies.

3. Strengthen Board Effectiveness

Establish and review the board structure in terms of size, composition and the proportion of independent directors to ensure appropriateness, ensure the transparent and clear selection and nomination procedures, ensure the remuneration structure which is appropriate for their respective roles and responsibilities, promote the development of skills and knowledge for the performance of their duties on a regular basis, as well as put a limit on the number of listed companies in which the Company's director will hold the directorship to ensure efficiency in performance of duties.

4. Ensure Effective CEO and People Management

Have the recruitment and development procedures for top executives to ensure they have knowledge, skills, experience and qualifications required to drive the organization towards its goals, ensure the appropriate remuneration structure, and have the human resources management and development to ensure that they are knowledgeable, skilled, and experienced.

5. Nurture Innovation and Responsible Business

Nurture and develop the creation of a culture of corporate innovation development to add value to the business according to the constantly changing circumstances, by taking both internal and external stakeholders into account.

6. Strengthen Effective Risk Management and Internal Control

Ensure the appropriate risk management and internal control systems in place, supervise the Company's operations to effectively achieve its objectives, have a procedure in place to handle conflicts of interest and prevent any inappropriate use of assets, information, opportunities and execution of transactions with any related parties to ensure compliance with applicable laws and standards.

7. Ensure Disclosure and Financial Integrity

Ensure the accuracy, completion, adequacy, punctuality, transparency in disclosure of significant financial information and non-financial information of the Company in accordance with relevant rules, standards and practices, ensure the appropriate use of technology in communicating and disseminating information to stakeholders, as well as protect information which affects the Company's securities prices to ensure that the disclosed information can reflect implementation or creation of sustainable value for the business.

8. Ensure Engagement and Communication with Shareholders

Ensure the participatory process so that the Company's shareholders are allowed to participate in decision-making regarding the Company's significant matters, ensure equitable treatment toward and protection of basic rights of the Company's shareholders to ensure that all shareholders are treated equitably, have measures against the improper use of insider information to seek benefit for oneself or for others, which causes damage to shareholders as a whole, as well as encourage the Company's shareholders to exercise their basic rights, take care of shareholders to the greater degree than their legal rights, and refrain from committing any violation or infringement of shareholders' rights.

6.1.1 POLICIES AND PRACTICES RELATING TO THE BOARD OF DIRECTORS

The Board of Directors realizes its responsibilities and roles in policy formulation and supervision to ensure the Company's good management, covering its business objectives, goals, strategies, operating policies, important and adequate resource allocation to achieve the business objectives and goals, as well as monitoring, evaluating and ensuring the reporting of operational results in consistency with laws, the Articles of Association, together with resolutions of the shareholders' meeting, in pursuit of sustainability in the operations and value creation of the businesses.

The Board of Directors complies with the practical principles of the Corporate Governance Code for Listed Companies in various aspects, as follows:

1. The Board of Directors' Structure

The structure of the Board of Directors is considered by the Company in terms of size, composition, proportion of the independent directors, skill, experience, education, capability and expertise, together with gender and age as suitable and necessary for leading the organization to achieve the Company's specified objectives and goals.

- The Board of Directors consists of at least five (5) directors and not less than half of the total number of directors must reside in the Kingdom and the Company's directors must have qualifications as required by law.
- The Board of Directors consists of independent directors at least one-third of the total number of directors, but not less than 3 persons who can independently provide their opinions on the performance of the management, with full qualifications in accordance with the qualification criteria of "Independent Director" under the requirements of the Capital Market Supervisory Board, and have the scope of duties and responsibilities as specified by the SET.
- The Board of Directors consists of representative directors under the Concession Agreement from the Mass Rapid Transit Authority of Thailand (MRTA) and representative directors under the Concession Agreement from the Expressway Authority of Thailand (EXAT).
- The Board of Directors consists of business insiders, academics from a variety of occupational fields, have qualifications, skills, experience in management and operations beneficial to the Company, have knowledge in concession agreements, provided that at least one of them must have experience in the main business or industry in which the Company is engaging.

- The Chairman of the Board of Directors and the Managing Director may not be the same person so as to distinguish between the policy making and supervisory duty and the regular managerial duty. The Board of Directors clearly determines powers and duties of the Chairman of the Board of Directors and the Managing Director.

2. Role, Duties and Authority of the Board of Directors

The Board of Directors' roles and duties are to ensure the Company's good management which covers the Company's vision, missions, strategies, goals, business plans, budgets, allocation of ample and significant resources, as well as supervising and monitoring the management to ensure compliance with the established plans in order to create sustainable value for the business, contributing to ethical business operations, respect for the rights and responsibility for shareholders and stakeholders of all sectors.

3. Roles and Duties of the Chairman of the Board of Directors

The Chairman of the Board of Directors' duties are to consider and establish efficient business goals in association with the management, regularly provide suggestions on business operations through the Executive Board and the Managing Director, as well as playing a key role in decision-making relating to the Company's policies by encouraging all directors of the Company to participate in meetings and independently express their opinions, and ensuring the Company's strict compliance with the good corporate governance while also primarily taking into account shareholders' rights and fair treatment of stakeholders of all sectors.

4. The Board of Directors' Independence from the Management

The structure of the Board of Directors is appropriately proportional to independent directors, non-executive directors and executive directors, reflecting the balance of power. Independent directors and non-executive directors are free to provide their opinions on the management's work performance and the management is also free to propose matters that are in the Company's interests to the agenda. In this regard, the Company calls non-executive directors' meetings as necessary to discuss administration-related matters without the management's presence, and sends notice of such meetings' outcomes to the Managing Director for acknowledgement.

5. Performance of Duty of the Chairman of the Board of Directors and Managing Director

The Chairman of the Board of Directors and the Managing Director may not be the same person so as to distinguish between the policy making and supervisory duty and the regular managerial duty. To this end, the Board of Directors clearly determines powers and duties of the Chairman of the Board of Directors and the Managing Director.

6. Subcommittees

The Board of Directors has established four subcommittees, comprising Audit Committee, Nomination and Remuneration Committee, Corporate Governance, Risk Management and Sustainable Development Committee, and Executive Board, whose respective duties and responsibilities have been assigned, to closely monitor and supervise the management's performance and regularly report to the Board of Directors.

7. Consideration on determination of holding a directorship in other listed companies

To ensure that each director, Managing Director and high level executive can dedicate their adequate time to performance of their duties with efficiency, the Board of Directors then considers determining the number of listed companies in which each director, Managing Director and each executive are allowed to hold directorships, as follows:

- Holding directorships in other listed companies by directors, each director may hold directorships in no more than five other listed companies in order to ensure efficient management.
- Holding directorships in other listed companies by the Managing Director and the high level executives, the Managing Director and each of high level executives may hold directorships in no more than five other listed companies, subject to the Board of Directors' approval.

8. Director Nomination

The Nomination and Remuneration Committee nominates directors who are qualified in terms of skills and experiences which will bring benefits to the Company, to be appointed as directors to replace the directors who are vacating their office, both by early retirement and by rotation, in accordance with the criteria. The qualifications of nominated persons will be considered based on the necessary skills that are still lacking on the Board of Directors, as well as those that are aligned with the Company's business strategies.

9. Term of Office

Pursuant to the Articles of Association, at every annual general meeting, one-third of the number of directors must vacate their offices. If the number of directors is not a multiple of three, then the number nearest to one-third must retire from office. Therefore, the directors have a term of three years, and a retiring director may be re-elected. In this regard, the Company does not fix the number of terms of holding office as a director but instead considers the suitability of re-appointing directors who are due to retire by rotation to resume office as directors.

10. The Board of Directors' Meetings

Pursuant to the Company's Articles of Association, the Board of Directors shall meet at least once every three months, with the Company giving advance notice of the Board of Directors' meeting schedule, as well as the annual main agenda, to the Board of Directors, and at each meeting, a quorum consists of not less than half of the total number of directors. The agenda is determined by mutual discussion between the Chairman of the Board of Directors and the Managing Director. The Chairman of the Board of Directors presides over the meeting and executives will attend the meeting to clarify the information in the capacity as persons directly relevant to the work operations.

In addition, there shall be one meeting of non-executive directors, without the management's presence, to independently discuss, exchange opinions, and efficiently monitor the management's performance.

Moreover, the Board of Directors sets out a policy to prohibit directors and executives, who are connected persons or interested persons in relation to any items to be considered, from attending the meeting or voting on such item, and management gives prior notice to such directors and executives who are not allowed to attend the meeting or vote on such item. In considering who is a connected person and interested person, the Board of Directors takes into account the report on interests which all directors and executives have a duty to submit in accordance with the Board of Directors' policy requiring directors and executives to report their personal interests in order to disclose such information to the Chairman of the Board of Directors and the Audit Committee Chairman.

In 2022, the Board of Directors held 6 meetings, whereby the Company delivered the clearly specified notice of each meeting and agenda 7 days prior to the meeting date and also delivered the supporting documents at least five business days prior to the meeting date, so as to allow the Board to have sufficient time to review them prior to the meeting.

11. Self-Assessment of Board / Subcommittees / Individual Directors

The Board of Directors has a policy to ensure the self-assessment of the Board of Directors, subcommittees as a whole, and individual directors/members at least once a year in accordance with the guidelines of the Corporate Governance Code for Listed Companies. In this regard, the Board of Directors requires that topics of assessment shall be reviewed to ensure appropriateness and conformity to the specified roles, duties, responsibilities, and practical policies.

12. Assessment of Compliance with the Company's Code of Conduct

The Board of Directors sets out the Company's Code of Conduct to serve as principles and goals of the Company's business operations, and guidelines for performance of all directors, executives, and staff.

The Company has arranged for all directors, executives and staff to ensure an annual assessment of their compliance with the Code of Conduct in order to persuade, encourage and motivate the directors, executives and staff to collaborate to create value for the business while also building their confidence that the legal rights of stakeholders are protected, and all stakeholders and related parties are treated with honesty, transparency and fairness, as well as to encourage all executives and staff to take a responsibility to assume a familiarity and comply with the code of business ethics, together with the Company's relevant policies to be further formulated.

13. Assessment of Performance of the Managing Director

All directors of the Company, except the Managing Director, will constantly assess the performance of the Managing Director on a yearly basis in accordance with the criteria specified by the Nomination and Remuneration Committee. The Nomination and Remuneration Committee is assigned by the Board of Director to propose remuneration and other benefits as appropriate for the Managing Director, by considering the use of the Corporate KPIs in the annual assessment of performance in order to obtain the Board of Directors' approval.

14. Remuneration of Directors and Executives

• Remuneration for directors :

The Company establishes a clear and transparent policy on remuneration for directors and the Managing Director in line with the scope of duties and responsibilities of each director serving as chairman or subcommittee member, subject to review by the Nomination and Remuneration Committee. The remuneration is at the same level as that in the same industry and sufficiently high to retain the qualified directors.

• Remuneration for Managing Director :

The Nomination and Remuneration Committee considers remuneration for the Managing Director in accordance with the Company's operational results under the Corporate KPIs and the Managing Director's performance and propose the same to the Board of Directors for consideration each year.

• Remuneration for executives :

Remuneration for executives, excluding the Managing Director, is in accordance with the principles and policies determined by the Executive Board corresponding to the Company's operational results and performance of each executive.

15. Development of Directors and Executives

• Directors and Executives Training

The Board of Directors has a policy to support and facilitate training and learning for its directors and executives to ensure their continued improvement and performance, involving both internal and external training courses. All directors must attend training for an understanding of the performance of their duties in their capacity as directors.

The Company's Board of Directors and high level executives attach significance to participation in training or seminars in various courses or development of their knowledge and skills. The Board of Directors has completely attended training courses organized by the Thai Institute of Directors Association (IOD), namely, Director Certification Program (DCP), Director Accreditation Program (DAP), Board Performance Evaluation, The Role of Chairman (RCP), Audit Committee Program, Role of Compensation Committee (RCC).

- **Orientation for New Directors**

The Board of Directors has established the operational practices for the Company to arrange for orientation for newly-appointed directors, whereby the Company shall provide new directors documents as well as giving them briefings to ensure their understanding of the business and performance of duties as directors. The Board of Directors assigns the Company Secretary, and the Director Office to arrange for orientation for newly-appointed directors by convening a meeting with the relevant directors and/or executives and/or officers for clarification and answering questions.

In 2022, the Company appointed two new directors, whereby the Company, in compliance with the practices, briefed the new directors about the Company's information as well as preparing documents and summary information for the new directors, such as, information relating to the Company, listed company director's handbook, the Corporate Governance Code, the Company's code of ethics, power and duties of the Board of Directors, and the annual schedule of the Board of Directors' meetings. Furthermore, the Company had the directors attend training courses on the recommendation of the SEC Office, organized by the Thai Institute of Directors Association (IOD).

16. Succession Plan

The Board of Directors prepares and reports on a succession plan for the positions of Managing Director and the high level executives and in the primary line, taking into account the performance, potentials, and readiness of each person. In this regard, the Company makes preparations for those potential successors in the development of their knowledge, competency, and skills as required for their work positions for succession in the event that the Managing Director or executives in the key positions are not able to perform duties.

The Company requires promotion to be considered each year under the specified criteria for development of personnel who have good performance and competency for their advancement to a higher position in accordance with a line of command, both the middle level executives

and staff. The promotion consideration committee, comprising the Managing Director and executives at the General Manager level or higher or the middle level executives, shall consider this matter in accordance with the clearly specified criteria. With regard to the implementation of strategy and succession plan of the high level executives, who may be changed or vacate office by rotation or retirement, the Nomination and Remuneration Committee's meeting shall review the criteria and select knowledgeable, competent and qualified persons, whereby the Board of Directors shall consider appointing candidates to hold the office of Managing Director, and the Executive Board shall consider appointing executives at the Assistant Managing Director level or higher.

17. Supervision of Subsidiaries

The Board of Directors of the Company has set out criteria and guidelines for supervision and control of management of the subsidiaries to ensure that operations of the Company's subsidiaries are conducted in compliance with the business policy and in line with the Corporate Governance Code, and to safeguard investment benefits of the Company and its shareholders. In this regard, the Company has assigned its subsidiaries to yearly review the respective internal control systems to ensure that it is sufficient and appropriate, whereby the Internal Audit Office of the Company shall regularly review, follow up and evaluate compliance with the good internal control principles, as specified in the annual audit plan.

Miss Panan Tosuwanthaworn, Deputy Managing Director, Accounting & Finance, and Mr. Anawash Suwanaritto, Deputy Managing Director, Business Development & Expressway Operations, have been appointed by the Board of Directors as the Company's representatives to serve as directors of NECL and BMN, with the duty to ensure that the subsidiaries adopt the same criteria regarding corporate governance principles as the Company does, as well as to ensure that the subsidiaries have their own information collections and accounting records so that the Company can review and compile them for the timely preparation of consolidated financial statements.

6.1.2 POLICIES AND PRACTICES RELATING TO SHAREHOLDERS AND STAKEHOLDERS

Policies and practices relating to shareholders

The Board of Directors has a policy to treat all shareholders equally and fairly, by taking various actions to protect the rights of shareholders and facilitate shareholders' exercising of their rights in various matters in determining the direction of business operations or making decisions that have a significant impact on the Company, in such a manner as to encourage shareholders to fully exercise their rights through the shareholders' meetings, and in such a manner as not to violate or impair the rights of shareholders, as follows:

Schedule for Shareholder's Meeting

The Company has scheduled an ordinary general meeting of shareholders, which shall be held once a year, within 4 months from the last date of the Company's fiscal year, and in case of urgency where an agenda must be proposed as a special case, with such agenda affecting or concerning the interests of shareholders or relating to applicable conditions, or rules, laws, which must be approved by shareholders, the Company will call an extraordinary general meeting of shareholders on a case by case basis.

In 2022, the Company held the 2022 Annual Ordinary General Meeting of Shareholders on April 4, 2022 and the Extraordinary General Meeting of Shareholders No. 1/2022 on November 28, 2022. Both meetings were conducted via electronic means (E-Meetings), allowing shareholders to attend without traveling and taking any risks during the COVID-19 outbreak situation.

Despite the ongoing situation of the outbreak of Covid-19, the Company remained committed to adhering to the guidelines of the AGM Checklist of the Thai Investors Association, the Thai Listed Companies Association, and the SEC Office. As a result, the Company continued to receive the perfect score of 100 in 2022, as it had since 2020. To that effect, the Company has proceeded as follows:

1. Actions Prior to the Date of the Shareholders' Meeting

1.1 Provision of Information prior to Shareholders' Meeting

The Board of Directors ensures that the Company provides its shareholders information prior to the meeting in both Thai and English for the benefit of both Thai and foreign shareholders, as follows:

- Giving a notice of the meeting schedule, together with agenda items and opinions of the Board on each agenda item, to the SET in accordance with the rules on disclosure, and publicizing such information

on the Company's website within the following business day;

- Preparing the meeting notice which contains detailed explanations, facts and reasons in support of each agenda item, date, time, place, including details relating to the documents or evidence in support of participation in the meeting, while simultaneously notifying shareholders in advance regarding the rules and regulations applicable to the meeting, voting procedures, including the right to vote, for acknowledgement;
- Publicizing the meeting notice on the Company's website. In 2022, the Notice of the Annual Ordinary General Meeting of Shareholders was made publicly available on the Company's website in advance 30 days, from March 4, 2022, and also sent to Thailand Securities Depository Company Limited (TSD) for further delivery to shareholders 17 days in advance before the meeting date, i.e., March 18, 2022, and announced in daily newspapers in both Thai and English versions for 3 consecutive days before the meeting date, i.e., March 21-23, 2022. In addition, the Notice of the Extraordinary General Meeting of Shareholders No. 1/2022 was made publicly available on the Company's website in advance 21 days, from November 7, 2022, and also sent to TSD, the Company's share registrar, for further delivery to shareholders 17 days in advance before the meeting date, i.e., November 11, 2022, and announced in daily newspapers for 3 consecutive days before the meeting date, i.e., November 21-23, 2022. This was to ensure that the shareholders had enough time to review the details of each agenda item and the shareholders' meetings were proceeded in accordance with the agenda items as notified in the meeting notices, without introducing any agenda that was not made known to the shareholders in advance to the meeting so that the shareholders could study the information in support of their consideration of various agendas.

1.2 Protection of Minority Shareholders' Rights

To enable shareholders to exercise their rights to propose any matters relating to the Company's significant changes, the Company, therefore, adopts a policy to fairly and equally allow all shareholders to exercise their rights to propose agenda items to the ordinary general meeting of shareholders and to nominate

qualified persons for appointment as directors via the channels announced on the Company's website. Shareholders are allowed to exercise such rights three months prior to the end of the accounting period. In this regard, the Board of Directors shall consider whether it is suitable to include or exclude any agenda items as proposed by shareholders. As for the persons nominated for appointment as directors, the management proposes such names to the Nomination and Remuneration Committee for consideration and for further submission to the Board of Directors and the shareholders' meeting. In addition, shareholders are allowed to exercise their voting rights to appoint directors on an individual basis in the agenda item of appointment of directors in the ordinary general meeting of shareholders.

1.3 Shareholders' Participation in Shareholders' Meeting

The Company realizes and gives priority to shareholders' rights and encourages their participation, whereby the Board of Directors clearly sets out in the corporate governance policy that the Company must support all groups of shareholders, particularly minority shareholders, foreign shareholders, and institutional shareholders, to exercise their rights without limitation to only such rights provided by laws. In this regard, the Company must not take any actions which violate or impair shareholders' rights and also supports shareholders' right to decide on any significant changes, as proven by the E-Meetings which are regarded as a type of meeting which allows shareholders to attend from anywhere, without travelling, which is the custom in this modern world.

1.4 Appointment of Proxy to Attend Shareholders' Meeting

In case it is inconvenient for any shareholder to attend the meeting in person, the Company prepares proxy forms for enabling the shareholders to decide among themselves how they wish their votes to be cast, and gives them an option of appointing the Company's independent director nominated by the Company as their proxy to exercise the right to attend the meeting and vote on each agenda item on their behalf. Three available proxy forms under the law are prepared, as follows:

- Proxy Form A is a general simple proxy form (for shareholders in all cases);
- Proxy Form B is a proxy form with specific details;
- Proxy Form C is used only by foreign shareholders who appoint a custodian in Thailand.

In this regard, TSD has an e-Proxy Voting system in respect of Proxy Form B for shareholders which are funds and Proxy Form C for Custodian. For shareholders' convenience, the Company has also allowed the Company's shareholders to appoint their proxies via such system. In addition, the Company has arranged complimentary stamp duties for the shareholders who have appointed proxies to attend the meeting on their behalf.

The Company has followed the policy of the SET by encouraging its shareholders to appoint an independent director as their proxy. In the 2022 Annual Ordinary General Meeting of Shareholders, there were 1,373 shareholders, representing a total of 2,404,042,508 shares, appointed the independent director as their proxy; and in the Extraordinary General Meeting Shareholders No. 1/2022, there were 2,303 shareholders, representing a total of 2,978,321,096 shares, appointed the independent director as their proxy.

1.5 Facilitation to Shareholders' Exercise of their Rights to Attend the Meeting and Vote

The Company held the E-Meetings in accordance with the Emergency Decree on Electronic Media Conferences B.E. 2563 (2020) and the Announcement of the Ministry of Digital Economy and Society Re: Standards for Maintaining Security of Meetings via Electronic Means B.E. 2563 (2020). The shareholders or proxies wishing to attend the E-Meetings must register to attend the E-Meetings and verify their identities by completing and submitting a meeting attendance request form via Web browser or scanning a QR Code to log in to the system, provided that such request form must be filed in advance seven days prior to the E-Meeting date until the end of the meeting. The Company had allowed shareholders to register to attend the 2022 Annual Ordinary General Meeting of Shareholders from March 24 to April 4, 2022 and register to attend the Extraordinary General Meeting of Shareholders No. 1/2022 from November 17 to November 28, 2022 (except public holidays).

1.6 Shareholders' Opportunity to Ask Questions in advance

To ensure communication and engagement with shareholders, the Company provides an opportunity for its shareholders to propose agenda items or send questions or comments in advance, under the criteria and process which are publicly disclosed on the Company's website at www.bemplc.co.th, or via E-mail address: companysecretary@bemplc.co.th, Tel.: 0 2641 4611, Fax: 0 2641 4610, or by post,

to the Director Office and Compliance Group, Bangkok Expressway and Metro Public Company Limited (Branch Office 1) No. 238/7 Asoke-Dindaeng Road, Bangkok Subdistrict, Huai Khwang District, Bangkok 10310. In this regard, the Company will consider answering the questions via appropriate channels and further clarify in the shareholders' meeting. In preparation for the 2023 Annual Ordinary General Meeting of Shareholders, the Company had allowed shareholders to propose agenda items or send questions in advance via its website from October 1, 2022, to December 31, 2022, of which shareholders were widely notified via the SET's website.

2. Conduct of the Shareholders' Meetings

The 2022 Annual Ordinary General Meeting of Shareholders and the Extraordinary General Meeting of Shareholders No. 1/2022 were conducted by the Company via electronic means (E-Meetings) in accordance with the applicable laws, rules and regulations, as follows:

2.1 Use of Technology in the Meeting

The Company used the electronic conferencing system (Cisco Webex Meeting) and the Inventech Connect system to support Web browser, PC, iOS and android for access to the Cisco Webex Meeting system and the Inventech Connect system and processing with a computer program for the meeting attendance registration and vote counting, in order to assure accuracy, precision, and convenience, and to be able to display the results of the vote counting in a prompt and fast manner.

2.2 Directors' Participation in the Shareholders' Meetings

The 2022 Annual Ordinary General Meeting of Shareholders was attended by 16 directors out of a total of 16 directors (representing 100 percent of directors attending the meeting); and the Extraordinary General Meeting of Shareholders No. 1/2022 was attended by 16 directors out of a total 17 directors (representing 94.12 percent of directors attending the meeting). The Chairman of the Board of Directors, the Audit Committee Chairman, chairs of various subcommittees, the Managing Director, and the Management Team of the Company attended such E-Meetings to answer shareholders' questions on various matters and listen to their suggestions.

2.3 Conduct of the Shareholders' Meetings

Prior to the proceedings of the shareholders' meetings, the Company Secretary had introduced the Board of Directors, the Management Team,

the auditor of the Company, and the legal advisor, who acted as a mediator and witness, to the meetings, and then clearly explained all the rules, together with the methods of counting the votes of shareholders who must vote on each agenda item in accordance with the Company's Articles of Association, including the exercise of voting rights in each agenda item. In addition, once information was already provided according to the agenda, the Chairman then allowed all attendees to express their opinions, provide suggestions, and ask questions in each agenda item, with the Chairman and executives clearly answering the questions to the point and giving priority to all questions, and thereafter, the meetings were thus requested to vote on each agenda item.

In casting votes, one share is equal to one vote (one share one vote), which will be cast in the meeting via electronic system, with shareholders having the options to vote "Agree", "Disagree" or "Abstain from Voting".

Normally, a majority of votes of shareholders who attend the meeting and cast votes is applicable Agenda items on the determination of remuneration for directors must be passed by not less than two-thirds of all votes of the shareholders who attend the meeting. As for other issues, votes are in accordance with the Articles of Association, laws and relevant regulations. Agenda items for acknowledgement require no resolution.

2.4 Vote Counting or Examination in the Shareholders' Meetings

To ensure transparency, compliance with the laws and the Articles of Association, the Company provided for a legal advisor to count or inspect the counting of votes to ensure transparency and compliance with the laws and the Articles of Association. The Company introduced the examiners of vote counting to the meetings and had them recorded in the minutes of the shareholders' meetings. In casting votes on each agenda item, the Company used the barcode system to record such votes to ensure that the voting results were expeditiously displayed to the meetings. Voting results of the meetings, favorable, unfavorable, abstaining votes, and voided voting cards, would be also displayed. The Company disclosed resolutions, together with voting results on each item to the meetings, and also disseminated such resolutions via the SET's system as well as making such

resolutions and minutes of the meetings available on the Company's website for the shareholders' information and examination of voting results in a rapid manner.

3. Preparation of Minutes of the Shareholders' Meetings and Disclosure of the Meetings' Resolutions

The Company has disclosed resolutions of the shareholders' meetings in each item to the SET via the SETLink system and on the Company's website within the meeting dates so that shareholders could be informed and able to rapidly check the results of resolutions together with the votes. The Minutes of the Shareholders' Meetings were prepared with clear separate agenda items which were accurate, complete, containing information on list of directors attending the meetings, number of shareholders, number of attending shares (in person/by proxy), as well as material clarifications in brief, for example, the procedures for vote casting and the method of presentation of the vote results to the meetings before conducting the meetings, names of questioners, questions-answers or opinions in brief, and the meetings' resolutions, which were divided into agreeing, disagreeing, abstaining and voided ballots, and were also submitted to the SET and the SEC Office within 14 days. Additionally, the Minutes and video recording of the 2022 Annual Ordinary General Meeting of Shareholders and the Extraordinary General Meeting of Shareholders No. 1/2022 were also made available from April 18, 2022 and December 9, 2022, respectively, on the Company's website at www.bemplc.co.th in order to provide an additional information channel for shareholders to consider such Minutes.

Policies and Practices Relating to Stakeholders

The Company has a clear policy which focuses on and realizes rights of every group of all stakeholders, whether inside, such as, staff and executives of the Company and its subsidiaries, or outside, such as, customers, business related persons, lenders, traders, society and communities where the Company is located, nearby schools, government sector, including competitors, and other relevant authorities. Any stakeholder wishing to contact or have any comments may directly contact directors or the Company Secretary. In addition, the Board of Directors has laid down the corporate governance policy that requires the Company to treat stakeholders based on their rights as specified by applicable laws without any actions in violation of stakeholders' right; and compensation measures in case any stakeholder sustains any damage arising from violation of the rights; as well as focuses on its operations with respect to human rights. The Company has continued to take care of stakeholders in accordance with the policies, as follows:

1) Customers :

The Company has a commitment to provision of quality, standard and reliable services as well as taking into account health, safety and fairness, keeping customers' information confidential, following up and evaluating customers' satisfaction for the purpose of development and improvement of services, together with advertisement, public relations and sales promotion, in response to customers' needs to have access to the mass transit system and routes which save their travelling time in Bangkok and its surrounding provinces. Work plans/programs are also continuously set out for improvement of the expressway and metro services for users to ensure a more rapid and convenient service with a standard safety.

2) Business counterparts :

The Company strictly discharges its obligations under the Agreements with EXAT and MRTA in its capacity as a contractual party, and fairly treats its business counterparts on the basis of equitable and impartial treatment, without discrimination. The Company also complies with conditions, rules, regulations, mutual practices, and promotes good relationships, which are clearly written in the Company's Code of Conduct, along with the work procedures in accordance with ISO 9001 Quality Management System. This is to ensure its collaboration with EXAT and MRTA to provide efficient and regular services. In this regard, the Company arranges for monthly performance satisfaction assessment in order to develop and improve the efficiency of the operations. According to the assessment results, both EXAT and MRTA are completely satisfied with the Company's collaboration.

Moreover, the Company organizes quarterly meetings between its operating staff and EXAT's personnel and monthly meetings with MRTA, which not only enhance the efficiency and results in the service users' satisfaction but also minimizes conflicts or impacts which may give rise to disputes over joint operations between both parties.

3) Suppliers / Contractors :

The Company has a commitment to the procurement of standard goods and service, for the purpose of development and maintenance of sustainable relationships with suppliers, with the clear objectives in terms of quality of goods and service worth its value, technical standard, and creditability. The Company, therefore, provides fair and equal procurement procedures for all suppliers and follows the procedures in a systematic way in compliance with the work procedures regarding procurement and conditions of contracts or agreements with fairness in accordance with the requirements of ISO 9001 and ISO 14001 Quality Management Systems.

4) Competitors :

The Company conducts its business with fairness in accordance with rules and framework of commercial competition legislation.

5) Lenders :

The Company strictly complies with the conditions of credit facilities agreements, guarantees, and capital management and ensures equitable and fair treatment towards all lenders in order to build confidence for financial institutions, fund sponsors for the Company's projects, without committing violation of any agreed terms, prepares accurate financial reports, and maintains credibility for lenders with accuracy, completeness, timeliness and continuity.

6) Debenture holders :

The Company issues debentures in accordance with applicable requirements, laws and notifications of the SEC Office and strictly complies with policies, objectives and resolutions of the shareholders' meeting, and also realizes the significance of its responsibility to fulfill commitments in accordance with the requirements regarding the debenture issuer's rights and duties, including relevant contractual conditions.

7) Staff :

The Company considers staff as a key resource behind its business movements and as a crucial factor to the Company's sustainable success and growth, and then clearly sets out the staff practices, as suitable for each work position, and has respect for human rights, for instance, determination of remuneration and other benefits with fairness, provision of welfare benefits not less than that provided by law or higher as appropriate, taking into account staff's hygiene and safety at work, provision of training, development of competency and support of career advancement, as well as providing staff opportunity to improve their important and essential skills in connection with working or in any other fields, etc. In this regard, the Board of Directors has authorized the management to follow up, evaluate and review work performance on a yearly basis.

8) Press :

The Company discloses information to press accurately, transparently and rapidly in order to accurately and timely communicate to the public and foster ongoing engagement with press through activities such as, inviting them to attend press conferences or corporate social activities of the Company, listening to and exchanging ideas for improvement; as well as by supporting press activities which are based on professional ethics.

9) Government agencies :

The Company has established practical guidelines in the Code of Conduct and the Anti-Corruption Policy. The Company strictly adheres to applicable laws and regulations; refrains from taking any action which may incentivize government officials to commit misconduct; and cooperates and supports activities as well as listening to opinions, suggestions, or complaints from the government sector for the benefit of work improvement.

Furthermore, the Board of Directors has established practical guidelines for taking care of and taking into account all groups of stakeholders, inside and outside, by requiring directors and executives to comply with the principles of CG Code in the following matters:

- **Prevention of Inside Information Usage**

The Company has formulated the policy and best practices regarding inside information usage, by setting guidelines for prevention of inside information usage and requiring all of its directors, executives and staff to strictly comply with those as specified in the Company's Corporate Governance Handbook. In addition, the Company has a policy requiring that its directors, executives and employees who have access to the financial statements or any other information which affects the price of securities, shall refrain from trading the securities at least 1 month before the Company's financial statements are disclosed to the public (Blackout Period), by issuing a warning letter to directors and executives before such Blackout Period.

- **Prevention of Conflict of Interest**

The Company has required information disclosure and has established a policy requiring that all of its directors, executives and staff refrain from entering into any transaction which may give rise to a personal conflict of interest with the Company and refrain from engaging in any illegal and inappropriate activities that may cause conflicts of interest. The Company's personnel at all levels must strictly comply with the policies and guidelines disclosed by the Company under the Corporate Governance Handbook.

• Report on Interests of Directors and Executives

The Board of Directors imposes a duty on its directors and executives to report on their personal interests and disclose information on their holdings of directorships or executive positions in other legal entities, and their shareholdings in other legal entities in excess of 25 percent of total voting shares and this obligation applies to both reporters and their related persons. This is to ensure that the Board of Directors has information in support of its consideration and approval of execution of transactions of the Company and its subsidiaries with accuracy and transparency in compliance with the relevant rules and regulations.

The Company Secretary keeps such reports on interests of directors and executives, and also provides copies of such reports to the Chairman of the Board of Directors and the Audit Committee Chairman within seven business days from the date of the Company's receipt of such reports.

• Interested Directors' Participation in the Meetings

The Board of Directors sets out a policy to prohibit its directors and executives, who are connected persons or interested persons in relation to any agenda items to be considered, from participating in the meeting and voting on such items. The Company Secretary gives prior notice to such interested directors and executives not to participate in the meeting nor vote on such item. To determine whether a director/ executive is a connected person and interested person, the Board of Directors will consider the reports on interests which all directors and executives have a duty to prepare and submit to the Chairman of the Board of Directors and the Audit Committee Chairman.

• Anti-Corruption

The Company realizes and gives priority to anti-corruption and fraud prevention, both inside and outside its organization. To this end, the Company has formulated guidelines on proper conducts of directors, executives and staff in the Code of Conduct of the Company.

• Measures Against Those who Violate the Company's Policies and Practical Guidelines

A violation of, non-compliance with any of the Company's policies and practical guidelines may not only entail the violator's liability under the provisions of applicable laws and regulations, but in some case, also result in the Company's liability under such applicable laws and regulations. In case of a violation which gives rise to such effect, the violator may not only be subject to legal punishments, but also be held liable for disciplinary actions under the Company's rules and regulations to the extent that he/she may be fired or dismissed, with the following steps to be taken:

Fact gathering

A working group shall be appointed and assigned by the independent directors to collect complaints.

Data processing and screening

The designated working group will carry out data processing and screening in order to consider the procedure and provide appropriate solutions for each issue.

Implementing measures

The designated working group will propose the implementing measures to curb the violation of or non-compliance with the Code of Conduct, various policies for consideration by the Board of Directors in order to alleviate damage to the affected persons, by taking into account the total damage suffered.

Findings reporting

The Audit Committee Chairman or independent directors or the Company Secretary will report to the Board of Directors for acknowledgment and then report the findings to those who make complaints if such complainants have identified themselves.



6.2

CODE OF CONDUCT

The Code of Conduct is formulated by the Company to provide guidelines for desirable and proper behavior to which all executives and staff of the Company are required to have adhered in order to ensure the Company's business operations in line with the Company's vision and missions as well as pursuing the goal in development of quality of work and quality of life of staff. The Code of Conduct will be regularly reviewed or updated to rest assured that the guidelines for adherence have always embodied the professional integrity and high standards, by encompassing the following matters:

- > Convincing, urging and motivating executives and staff to jointly create value to the businesses;
- > Building up the confidence that the legal rights of the stakeholders are protected;
- > Having honest, transparent and fair treatment towards the stakeholders, together with all related persons;
- > Encouraging all executives and staff to have a responsibility to assume a familiarity with and comply with the Code of Conduct, together with relevant policies of the Company to be further formulated.

6.3

SIGNIFICANT CHANGES AND DEVELOPMENTS IN CORPORATE GOVERNMENT POLICIES, PRACTICES, AND SYSTEMS

The Corporate Governance, Risk Management and Sustainable Development Committee, which is responsible for supervising and ensuring the Company's compliance with the principles of the Corporate Governance Code while also promoting and supporting the Company's business operations which create sustainable business value, has stipulated that the appropriateness of compliance with the principles of the Corporate Governance Code be reviewed at least once a year, with the Board of Directors assigning the Corporate Governance, Risk Management and Sustainable Development Committee, to consider and evaluate its implementation results so that the evaluation results are then proposed to the Board of Directors for consideration, as well as monitoring, ensuring the implementation of the Company's strategies. In the Board of Directors' meeting on a quarterly basis, the Board of Directors monitors the performance of the management and requires that the performance and operating results of the Company be reported, especially in terms of financial goals and action plans to meet the established strategies.

The following were the main issues for the Company in 2022:

6.3.1 SIGNIFICANT CHANGES AND DEVELOPMENTS RELATING TO REVIEW OF CORPORATE GOVERNMENT POLICIES, PRACTICES, AND SYSTEMS OR BOARD OF DIRECTOR'S CHARTER IN THE PREVIOUS YEAR

1. Establishment of the Personal Data Protection Policy and Appointment of Data Protection Officer (DPO)

With the significance attached to personal data protection and to ensure that data protection operations achieve efficiency and conform to the law, the Company has thus established its Personal Data Protection Policy and Guidelines for Personal Data Protection, as well as appointing Mr. Alvin Gee, Deputy Managing Director: Administration, to serve as the Company's Data Protection Officer, with the scope of authority, duties and responsibilities as follows:

- Giving advice on the Personal Data Protection Act B.E. 2562 (2019) to Personal Data Controllers, Personal Data Processors, employees and/or related parties;
- Inspecting the work operations of Personal Data Controllers, Personal Data Processors, employees and/or related parties in relation to the collection, use or disclosure of personal data, to ensure compliance with the Personal Data Protection Act B.E. 2562 (2019);
- Coordinating and cooperating with the Office of the Personal Data Protection Committee in the event that there are any problems relating to the collection, use or disclosure of personal data in accordance with the Personal Data Protection Act B.E. 2562 (2019);
- Maintaining the confidentiality of personal data which he is aware of or has access to as a result of performing his own obligations in accordance with the Personal Data Protection Act B.E. 2562 (2019);
- Giving advice on violation preventive measures, preventing others from unlawfully using or disclosing personal data, as well as reviewing or improving work procedures and measures relating to the collection, storage, use, and disclosure of personal data;
- Undertaking other tasks as assigned by the Board of Directors while ensuring that such tasks will not conflict with performance of the Data Protection Officer's duties and adherence to the Personal Data Protection Act B.E. 2562 (2019);
- Taking other matters as designated by the Office of the Personal Data Protection Committee.

2. Expansion of the Work Scope of the Corporate Governance and Risk Management Committee

Nowadays' business operations must have resilience and self-development for steady and sustainable growth, have a good corporate governance system in place and efficient risk management, alongside the business operations with commitment to social and environmental responsibility. As a result, the development of the organization towards sustainability has been the focal point for the Company to actively pursue in a tangible way. In 2022, the Board of Directors therefore considered as follows:

- Expanding the work scope of the Corporate Governance and Risk Management Committee to cover the organization's overall sustainable development work;

- Changing the name of the "Corporate Governance and Risk Management Committee" to the "Corporate Governance, Risk Management and Sustainable Development Committee";
- Approving the Corporate Governance, Risk Management and Sustainable Development Committee's Charter.

3. Review and Improvement of the Corporate Social Responsibility and Sustainable Development Policy

The Board of Directors has reviewed the corporate social responsibility and sustainable development policy to demonstrate its commitment to conducting business based on the principles of sustainability that create a balance in economic, social and environmental contexts by taking into account good corporate governance, efficient risk management, and social and environmental responsibility, as well as earnestly striving to generate appropriate benefits for all groups of stakeholders in every dimension, as follows:

- Guiding the organization into the sustainable development perspectives through communication and sharing of best practices with all stakeholders of the Company;
- Putting the sustainable development perspectives into practice to ensure that they are in part embedded in all of the Company's work processes and decision-making processes;
- Complying with the Company's corporate governance, risk management, and environmental policies, as well as being mindful of social/community responsibility in terms of human rights, safety and hygiene across the Company's business value chain;
- Encouraging training, sharing knowledge and giving advice which emphasizes how to follow the sustainable development guidelines;
- Supporting work operations and fostering cooperation with all groups of stakeholders to achieve sustainable development;
- Following up on and evaluating the Company's performance of sustainable operations in order to continuously improve and develop, as well as disclosing information on sustainability in accordance with international standards to stakeholders.

4. Review of the Board of Directors' Charter

The Board of Directors has reviewed the Board of Directors' Charter, in which, in 2022, a requirement for the Board of Directors' meeting regarding voting was added, namely, to constitute quorum, the minimum number of directors present at the meeting at the time of the Board of Directors' voting must be at least two-thirds of the total number of directors.

6.3.2 COMPLIANCE WITH THE CORPORATE GOVERNANCE CODE FOR LISTED COMPANIES 2017

The Company has applied the Corporate Governance Code for Listed Companies 2017 established by the SEC Office as appropriate to the Company's business.

In 2022, the following issues were not yet addressed by the Company but appropriate replacement measures or action plans were in place for them:

1. Determination of terms of office as independent directors

The Board of Directors has not determined terms of office as independent directors for more than nine consecutive years. This was due to the Board of Directors' opinion, after consideration, that the appointment of independent directors to a continuous term in office would be in the interests of the Company and its shareholders, since the directors who continuously remained in their positions would have greater knowledge and experience in the Company's business operations and create more value for shareholders. In this regard, no independent director holds a position on the Board of Directors for a period of exceeding nine years.

2. The Chairman of the Board of Directors should be an independent director

In 2020, the Chairman of the Board of Directors who was an independent director resigned from the position, with the Deputy Chairman of the Board of Directors acting the Chairman of the Board of Directors. In 2022, the Board of Directors resolved to appoint Mr. Plew Trivisvavet to hold the position as Chairman of the Board of Directors, with effect from April 4, 2022 onwards.

In this regard, despite the fact that the Chairman of the Board of Directors is not an independent director, he has carried out his duties by focusing primarily on benefits to the Company, its shareholders, and stakeholders, and all directors are also allowed to independently express their opinions.

6.3.3 INFORMATION ON COMPLIANCE WITH THE CORPORATE GOVERNANCE CODE TO ACHIEVE ASSESSMENT

The Company has regularly reviewed the corporate governance policy and practices every year in order to create sustainable business value. According to the previous performance, the Company has adhered to and complied with the aforesaid Corporate Governance Code, and as a result, the Company received assessments and awards for the corporate governance in 2022, as follows:

- The Company was consecutively rated excellent (Excellent CG Scoring) or 5 stars by the Thai Institute of Directors Association (IOD) under the Corporate Governance Report of Thai Listed Companies 2022;
- The Company was awarded the ASEAN Asset Class PLCs from the assessment for corporate governance of listed companies in ASEAN (ASEAN CG Scorecard), demonstrating that the Company was a listed company conducting sustainable business by taking into account Environmental, Social and Governance or ESG;
- The Company received the "Excellent" rating in the assessment of the quality of the 2022 Annual Ordinary General Meeting of Shareholders (AGM Checklist 2022), as deserved to be a role model for the third year in a row since 2020, from the Thai Investors Association;
- The Company was selected as one of listed companies on the "Thailand Sustainability Investment" 2022 for the sixth consecutive year in the services category, proving the listed company's good management, business operations by taking into account Environmental, Social and Governance or ESG, delivering efficient service, improving quality of life, building confidence for investors and stakeholders in the sustainable business operations;
- The Company was awarded the Thailand's Top Corporate Brand 2022 as a company with the highest brand value in the transportation and logistics sector in 2022, by the Faculty of Commerce and Accountancy Chulalongkorn University, at the ASEAN and Thailand's Top Corporate Brands 2022, reflecting the long-term sustainable success.

7. CORPORATE GOVERNANCE STRUCTURE

AND SIGNIFICANT INFORMATION RELATING TO THE BOARD OF DIRECTORS, SUBCOMMITTEES, EXECUTIVES, STAFF AND OTHERS

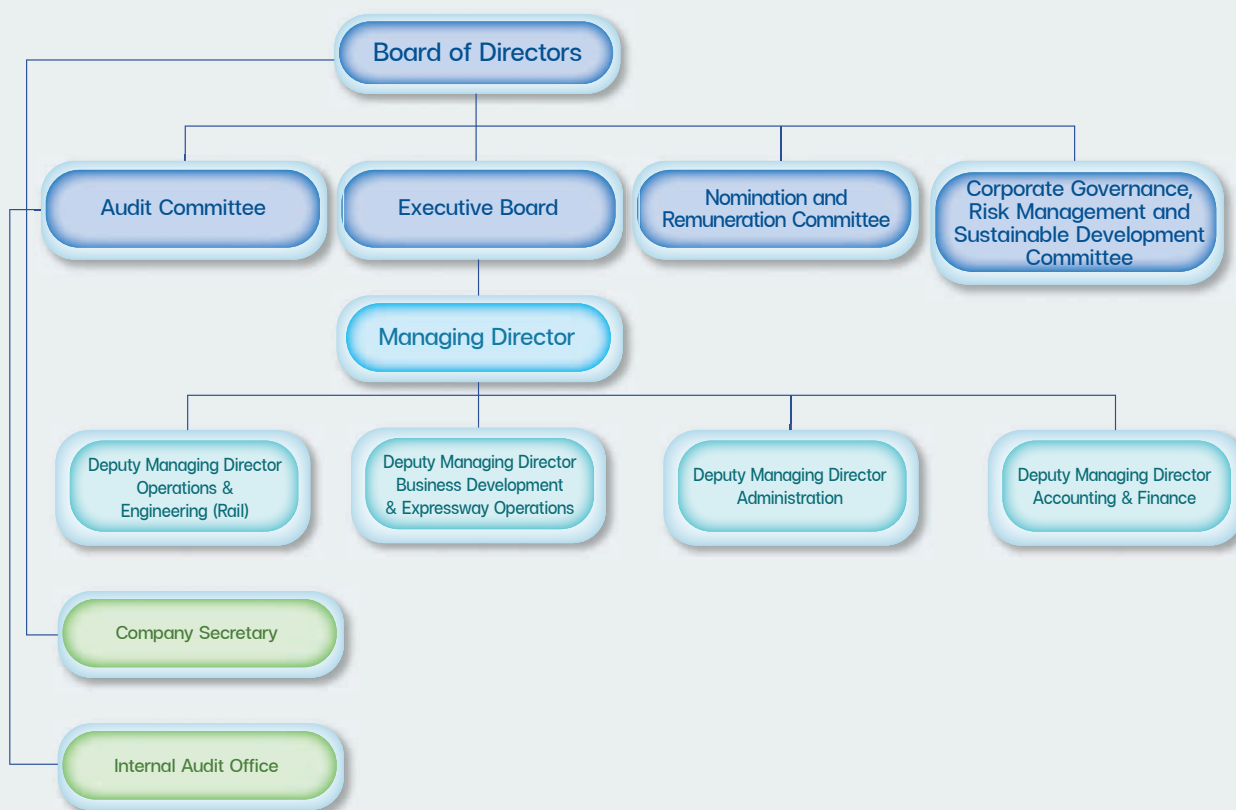
7.1

CORPORATE GOVERNANCE STRUCTURE



The Company has established and reviewed the Company's corporate governance structure by realizing the organizational leadership roles and responsibilities of the Board of Directors in achieving the sustainable value creation for the business. The Company has also assigned the Board of Directors to ensure that all directors and executives discharge their duties with duty of care, duty of loyalty, and to ensure that the Company's operations have been carried out in compliance with applicable laws, articles of association and resolutions of the shareholders' meeting.

The structure comprises the Board of Directors and another four subcommittees as appointed to help supervise the Company's administration in various aspects, namely, the Audit Committee, the Executive Board, the Nomination and Remuneration Committee, and the Corporate Governance, Risk Management and Sustainable Development Committee, with the Managing Director serving as the top executive of the Management Team. The organizational structure as of December 31, 2022 is established as follows:



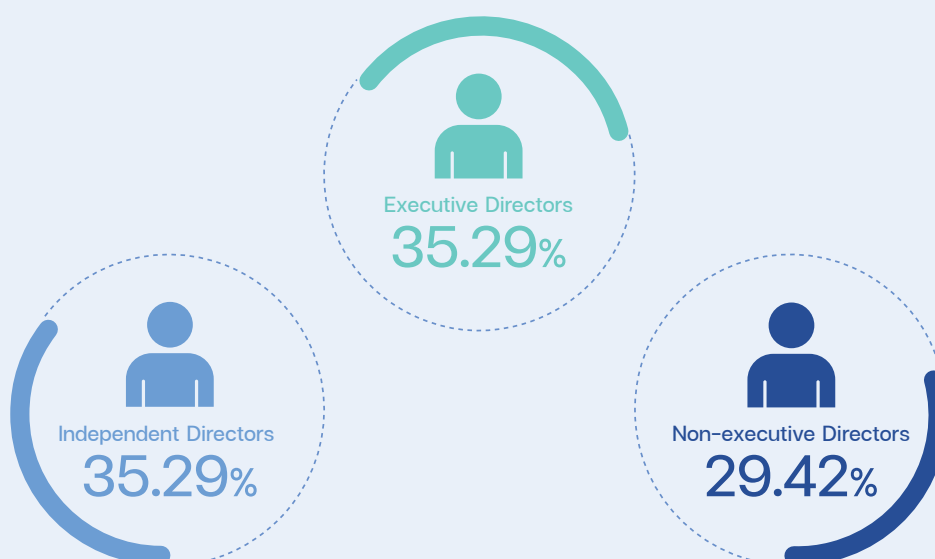
7.2

INFORMATION RELATING TO THE BOARD OF DIRECTORS

7.2.1 COMPOSITION OF THE BOARD OF DIRECTORS

The Company has taken into account scale, composition, proportion of independent directors, skill, experience, education, capability and character traits, together with gender and age as appropriate and necessary to lead the organization to meet the objectives and goals specified by the Company.

- The Board of Directors is composed of 17 directors, including six independent directors, representing one-third of the total number of directors in accordance with the criteria established by the SEC Office, five non-executive directors, three of whom have experience in the main business in which the Company has engaged, and six executive directors. Six of the total 17 directors are female.
- The Audit Committee is made up of three independent members who have roles and duties as established in the SET's regulations; and two of them have knowledge and experience in the auditing of the reliability of the financial statements.
- To segregate the responsibilities for policy formulation, supervision, and routine management, the Chairman of the Board of Directors and the Managing Director may not be the same person. To that end, the Board of Directors has clearly defined the authority and duties of the Chairman of the Board of Directors and the Managing Director.



BOARD SKILLS MATRIX

Name of Directors	Gender	Business-Related Experience			Education and Experience				
	(Male / Female)	Expressway	Railway	Advertising Media / Commercial Development	Engineering Knowledge	Finance and Accounting Knowledge	Economics Knowledge	Political Science / Law Knowledge	Business Administration Knowledge
1. Mr. Plew Trivisvavet	Male	•	•	•	•				•
2. Mr. Vitoon Tejatussanasoontorn	Male	•	•	•		•			•
3. Gen. Chetta Thanajaro	Male	•	•	•				•	
4. Prof. (adjunct) Athapol Yaisawang	Male	•	•	•				•	•
5. Dr. Annop Tanlamai	Male	•	•	•	•	•			•
6. Mrs. Vallapa Assakul	Female	•	•	•		•	•		•
7. M.L. Prasobchai Kasemsant	Male	•	•	•	•			•	
8. Mr. Supong Chayutsahakij	Male	•	•	•	•				•
9. Mr. Phongsarit Tantisuvanitchkul	Male	•	•	•	•	•			•
10. Mrs. Payao Marittanaporn	Female	•	•	•		•			•
11. Dr. Supamas Trivisvavet	Female	•	•	•				•	•
12. Miss Arisara Dharamadhaj	Female	•	•	•		•	•		•
13. Mr. Panit Dunnvatanachit	Male	•	•	•		•	•		•
14. Mr. Piyakorn Apibalsri	Male	•	•	•		•	•		•
15. Mrs. Tasanuch Thammachot	Female	•	•	•		•		•	•
16. Miss Jiranan Vorachak	Female		•	•		•	•	•	•
17. Dr. Sombat Kitjalaksana	Male	•	•	•	•	•			•
		16	17	17	6	11	5	6	15

7.2.2 INFORMATION RELATING TO THE BOARD OF DIRECTORS AND CONTROLLERS

The Board of Directors comprised 17 directors as listed below:

List of Directors	Position	Category
1. Mr. Plew Trivisvavet	Chairman of the Board of Directors ⁽¹⁾ Chairman of the Executive Board Nomination and Remuneration Committee Member	Executive Director
2. Mr. Vitoon Tejatussanasoontorn	Chairman of the Audit Committee Nomination and Remuneration Committee Member	Independent Director

List of Directors	Position	Category
3. Gen. Chetta Thanajaro	Chairman of the Nomination and Remuneration Committee Audit Committee Member	Independent Director
4. Prof. (adjunct) Athapol Yaisawang	Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee Nomination and Remuneration Committee Member	Independent Director
5. Dr. Annop Tanlamai	Audit Committee Member	Independent Director
6. Mrs. Vallapa Assakul	Corporate Governance, Risk Management and Sustainable Development Committee Member	Independent Director
7. M.L. Prasobchai Kasemsant	Director	Independent Director
8. Mr. Supong Chayutsahakij	Executive Director	Executive Director
9. Mr. Phongsarit Tantisuvanitchkul	Executive Director Corporate Governance, Risk Management and Sustainable Development Committee Member	Executive Director
10. Mrs. Payao Marittanaporn	Executive Director	Executive Director
11. Dr. Supamas Trivisvavet ⁽²⁾	Executive Director	Executive Director
12. Miss Arisara Dharamadhaj	Director	Non-executive Director
13. Mr. Panit Dunnvatanachit	Director	Non-executive Director
14. Mr. Piyakorn Apibalsri	Director	Non-executive Director
15. Mrs. Tasanuch Thammachot	Director	Non-executive Director
16. Miss Jiranan Vorachak ⁽³⁾	Director	Non-executive Director
17. Dr. Sombat Kitjalaksana	Executive Director Corporate Governance, Risk Management and Sustainable Development Committee Member Managing Director	Executive Director

Remarks : Directors' profiles as of December 31, 2022 appear in Attachment 1. During the year, there were changes as follows:

- ⁽¹⁾ Mr. Plew Trivisvavet was appointed as Chairman of the Board of Directors on April 4, 2022.
- ⁽²⁾ Dr. Supamas Trivisvavet was appointed as director and executive director on July 8, 2022.
- ⁽³⁾ Miss Jiranan Vorachak was appointed as director on December 21, 2022 to replace Mr. Vithaya Punmongkol who resigned from the position as director on December 13, 2022.

7.2.3 INFORMATION RELATING TO ROLES AND DUTIES OF THE BOARD OF DIRECTORS

Roles, Duties and Responsibilities of the Board of Directors

1. Monitoring and supervising the Company's operations to ensure compliance with laws, objectives and the Articles of Association, as well as resolutions of shareholders' meeting, and protecting interests of the Company and its shareholders based on the Corporate Governance Code, as well as complying with the rules and requirements stipulated by the SET and the SEC Office.
2. Establishing the Company's business policies, directions, and budgets, as well as supervising to ensure that the management takes actions in compliance with the established policies with efficiency and effectiveness to contribute to economic value maximization for the business and the wealth maximization for shareholders.
3. Establishing visions, missions and business strategies of the Company and its subsidiaries, and regularly reviewing and approving them with the management.
4. Establishing the Board of Directors' Charter and the respective subcommittees' charters, as well as regularly reviewing them to ensure that they conform to and are appropriate to rules and regulations.
5. Providing complete, correct and sufficient reports on financial information, the Company's information and general information which are important for shareholders, and verifying information in the reports.
6. Introducing to the Company an internal control system, internal audit and risk management measures with effectiveness, as well as following up on such matters on a regular basis.
7. Establishing subcommittees to ensure the good corporate governance.
8. Considering clearly determining and separating roles, duties, and responsibilities among the Board of Directors, subcommittees and management, with regular communication regarding such roles, duties and responsibilities to the Board of Directors, subcommittees, management and staff of the Company.
9. Appointing any persons to engage in the Company's business under the supervision of the Board of Directors, or, if applicable, authorizing such persons to have power for a period of time as the Board of Directors deems appropriate, provided that the Board of Directors may revoke, repeal, amend or change such authorization as appropriate.
10. Appointing the Company Secretary to be responsible for company secretary work by giving advice to directors on the relevant laws, rules and regulations, and supervising to ensure the Company's compliance with the laws, Articles of Association, applicable regulations, and principles of good corporate governance, while also providing support for directors and executives to attend training courses in various fields, as well as providing useful information for the performance of duties of directors.

Roles, Duties and Responsibilities of the Chairman of the Board of Directors

1. Considering, together with the management, to determine the agenda for the Board of Directors' meeting, as well as ensuring that the Company's directors receive accurate, complete, clear, and timely information prior to the meeting in order that they can make appropriate decisions and set business goals with efficiency.
2. Presiding over the Board of Directors' meeting
 - 2.1 Conducting the Board of Directors' meeting in accordance with the agenda, the Articles of Association, and applicable laws.
 - 2.2 Allocating sufficient time and encouraging all of the Company's directors to discuss, share their views fully, independently, and exercise their own discretion deliberately, while taking into account all stakeholders.
 - 2.3 Scheduling the Board of Directors' meeting without presence of any directors from the management.
3. Presiding over the shareholders' meeting to ensure such meeting's proceedings in accordance with the agenda, the Articles of Association, and applicable laws, by allocating time appropriately, as well as providing shareholders with an equal opportunity to express their opinions, and ensuring that shareholders' questions are properly and transparently answered.
4. Supporting and serving as a good role model in compliance with the principles of corporate governance and codes of conduct.
5. Strengthening good relationship between the Board of Directors and the management, and supporting the performance of duties of the Managing Director and the management under the Company's policies.
6. Supervising and ensuring the information disclosure and management with transparency in the case of a conflict of interest.
7. Supervising and ensuring that the Board of Directors has an appropriate structure and composition.
8. Supervising and ensuring efficiency in the overall performance of the Board of Directors, subcommittees, and each director/member.

Roles, Duties and Responsibilities of the Managing Director

1. Controlling and managing main businesses of the Company by monitoring all activities of the Company to ensure compliance with resolutions and policies as assigned and suggested by the Board of Directors.
2. Conducting feasibility studies on new projects and having power to consider approving various projects as authorized by the Executive Board.
3. Authorizing the Company's staff in the executive positions, namely, Deputy Managing Director, Assistant Managing Director, General Manager or equivalent to perform duties on behalf of the Managing Director in certain matters (such as purchase order, procurement, payment order) as appropriate.
4. Appointing any Deputy Managing Directors or any other persons acting in place of the Managing Director from time to time in the event that the Managing Director are unable to perform their duties, whereby such acting persons shall have the same authority as the Managing Director.

5. Having power to appoint any persons or groups of persons to engage in the Company's business under the supervision of the Managing Director, or, if applicable, authorizing such persons to make arrangements as the Managing Director deem appropriate and having power to change, amend, revoke and repeal such authorization.

Authorized Signatory Directors

The Company has designated the Company's six authorized signatory directors, comprising Mr. Plew Trivisvavet, Mr. Supong Chayutsahakij, Mr. Phongsarit Tantisuvanitchkul, Dr. Sombat Kitjalaksana, Mrs. Payao Marittanaporn, and Dr. Supamas Trivisvavet, whereby two of these six directors shall jointly sign and affix the Company's seal.

7.3

INFORMATION RELATING TO SUBCOMMITTEES

The Board of Directors has established 4 subcommittees, consisting of the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance, Risk Management and Sustainable Development Committee, and the Executive Board, with the respective subcommittees' charters available on the Company's website (www.bemplc.co.th).

1. AUDIT COMMITTEE

The Board of Directors appoints the Audit Committee to assist in supervising the Company's businesses. Mr. Vitoon Tejatussanasoontorn, an independent director who has knowledge in the field of accounting and finance, was appointed to hold office as Audit Committee Chairman, and the Director of the Internal Audit Office serves as secretary to the Audit Committee. As at December 31, 2022, the Audit Committee comprised three independent directors as listed below:

- | | |
|-----------------------------------|---|
| 1. Mr. Vitoon Tejatussanasoontorn | * Audit Committee Chairman (Independent Director) |
| 2. Gen. Chetta Thanajaro | Audit Committee Member (Independent Director) |
| 3. Dr. Annop Tanlamai * | Audit Committee Member (Independent Director) |

Remark : * served as audit committee members with knowledge in the field of accounting and finance.

Roles, Duties and Responsibilities

1. Reviewing to ensure that the Company's financial reports are accurate and adequate.
2. Reviewing to ensure that the Company's internal control system and internal audit system are suitable and effective, considering the independence of the internal audit unit as well as granting approval on consideration for appointment, transfer, termination of employment of head of the internal audit unit or any other unit responsible for the internal audit.

3. Reviewing to ensure the Company's performance in compliance with the securities and exchange law, requirements of the SET and the laws relating to the Company's business.
4. Considering, selecting, submitting for appointment of a person who is independent to serve as the Company's auditor, and proposing remuneration and termination of employment of such person as well as meeting with the auditor without management at least once a year.
5. Considering connected transactions or transactions which may involve a conflict of interest in compliance with the laws and requirements of the SET in order to ensure that such transactions are justified and of the utmost benefit to the Company.
6. Preparing a report of the Audit Committee to be disclosed in the Company's Annual Report. Such report must be signed by the Audit Committee Chairman.
7. Supervising and monitoring the internal audit tasks by reviewing missions, scope of works, independence and development plan and providing internal audit personnel training to catch up with the business changes and develop themselves on a continual basis, in order to accommodate the direction of the Company's operations and international standards, including consideration and approval of annual internal audit plans.
8. Performing any other activities as assigned by the Board of Directors to independently provide opinions and suggestions in line with the requirements and the best practice guidelines for the audit committee of the SET.
9. In performing its duties, should the Audit Committee find or should there be any doubt as to whether or not the following transactions or actions may have a material impact on the Company's financial position and operational results, the Audit Committee will report on its findings to the Board of Directors in order to improve and rectify the same within the time as the Audit Committee deems appropriate:
 - (a) Any transactions giving rise to a conflict of interest;
 - (b) Corruption or unusual occurrence or material fault in the internal audit system;
 - (c) Violation of the securities and exchange law, requirements of the SET or laws related to the Company's business.
10. Appointing the General Manager or an equivalent position from the Company's Internal Audit Office to serve as secretary to the Audit Committee in order to assist in the Audit Committee's operations.

2. NOMINATION AND REMUNERATION COMMITTEE

The Board of Directors appoints the Nomination and Remuneration Committee to perform the duty to nominate and consider remuneration for directors and the Managing Director to ensure transparency and fairness, and General Chetta Thanajaro, an independent director, was appointed as Chairman of the Nomination and Remuneration Committee in accordance with the Corporate Governance Code which states that the chairman of each subcommittee should be an independent director. As at December 31, 2022, the Nomination and Remuneration Committee comprised four members as follows:

1. General Chetta Thanajaro	Nomination and Remuneration Committee Chairman (Independent Director)
2. Mr. Vitoon Tejatussanasoontorn	Nomination and Remuneration Committee Member (Independent Director)
3. Mr. Plew Trivisvavet	Nomination and Remuneration Committee Member
4. Prof. (adjunct) Athapol Yaisawang	Nomination and Remuneration Committee Member (Independent Director)

Roles, Duties and Responsibilities

1. Considering criteria and procedures of nomination as well as selection of qualified persons to hold the position of the Company's directors for proposing them to the Board of Directors to consider either appointing them or proposing them to the shareholders' meeting for seeking approval of the director appointment.
2. Considering selecting and proposing a qualified person to hold the position of the Managing Director to the Board of Directors for consideration and appointment.
3. Considering and determining criteria for consideration of remuneration of directors and the Managing Director.
4. Considering and determining remuneration of directors and proposing the same to the shareholders' meeting for consideration and approval.
5. Considering and reviewing salary rates and other remuneration for the Managing Director and proposing the same to the Board of Directors for consideration and approval.

3. CORPORATE GOVERNANCE, RISK MANAGEMENT AND SUSTAINABLE DEVELOPMENT COMMITTEE

The Board of Directors appoints the Corporate Governance and Risk Management Committee to perform the duty to formulate policies and directions of operations in respect of the good corporate governance of the Company, including business ethics, and to ensure performance of duties with transparency and independence in compliance with the guidelines of the good corporate governance in relation to consideration of risk management plan, risk management process, as well as monitor, inspect and review the Company's overall risks to stay at an appropriate level.

In 2022, the Board of Directors considered expanding the scope of responsibilities of the Corporate Governance and Risk Management Committee to cover work on the organization's overall sustainability development, whereby the Committee has been renamed to the "Corporate Governance, Risk Management and Sustainable Development Committee" to reflect its duties. As at December 31, 2022, the Corporate Governance, Risk Management and Sustainable Development Committee comprised four members as follows:

- | | |
|--------------------------------------|---|
| 1. Prof. (adjunct) Athapol Yaisawang | Corporate Governance, Risk Management and Sustainable Development Committee Chairman (Independent Director) |
| 2. Mrs. Vallapa Assakul | Corporate Governance, Risk Management and Sustainable Development Committee Member (Independent Director) |
| 3. Mr. Phongsarit Tantisuvanitchkul | Corporate Governance, Risk Management and Sustainable Development Committee Member |
| 4. Dr. Sombat Kitjalaksana | Corporate Governance, Risk Management and Sustainable Development Committee Member |

Roles, Duties and Responsibilities Corporate Governance

1. Studying and following up movement, tendency and performance in respect of the good corporate governance for submission to the Board of Directors for consideration as to appropriateness for adoption as guidelines for the Company's operations.
2. Improving and proposing the good corporate governance policy of the Company, including business ethics, to the Board of Directors.

3. Following up and evaluating the results under the good corporate governance principles of the Company as well as reporting the same to the Board of Directors.

Risk Management

1. Considering policies and work plans relating to risk management for submission to the Board of Directors for consideration.
2. Monitoring and reviewing overall risk management of the Company, strategies for risk management and alert system of all kinds of risks in order to deal with risks to stay at an acceptable level to ensure compliance with the risk management policy of the Company.
3. Reporting on risks and operations for minimizing risks to the Board of Directors.

Sustainable Development

1. Establishing the Company's sustainable development goals, policies, and action plans in terms of good corporate governance, risk management, supervision of compliance with rules and regulations, and creation of long-term value for stakeholders, and proposing them to the Board of Directors.
2. Providing advice and encouraging the Company's operations to ensure conformity to the sustainable development policy to achieve the set goals, as well as encouraging the Board of Directors, executives and employees to effectively comply with the Company's sustainable development guidelines.
3. Assessing and reviewing the sustainable development goals, policies, and action plans to ensure that they are appropriate to business circumstances, compliant with laws or international best practices.
4. Supervising, monitoring and evaluating sustainable development results to achieve a balance and efficiency for maximum benefit to the Company and its stakeholders, as well as periodically reporting on the operational progress to the Board of Directors for acknowledgment.
5. Formulating policies on good corporate governance and business ethics and proposing them to the Board of Directors for approval, as well as providing advice and encouraging compliance at all levels, and yearly reviewing such policies to ensure that they are appropriate, compliant with laws and international best practices, as well as ensuring the evaluation and reporting on compliance with the policies on good corporate governance and business ethics on a regular basis.
6. Considering reviewing the Charter to ensure that it is at all times suitable and current.
7. Disclosing a report on the performance of the Corporate Governance, Risk Management and Sustainable Development Committee in the Company's Annual Report.

4. EXECUTIVE BOARD

The Board of Directors appoints the Executive Board to assist in providing advice and suggestions to management and make other arrangements as assigned by the Board of Directors. As at December 31, 2022, the Executive Board comprised six directors as listed below:

1. Mr. Plew Trivisvavet	Chairman of the Executive Board
2. Mr. Supong Chayutsahakij	Executive Director
3. Mr. Phongsarit Tantisuvanitchkul	Executive Director
4. Dr. Sombat Kitjalaksana	Executive Director
5. Mrs. Payao Marittanaporn	Executive Director
6. Dr. Supamas Trivisvavet *	Executive Director

Remark : * Appointed to hold the position as Executive Director on July 8, 2022.

Roles, Duties and Responsibilities

1. Delivering guidelines for policy, supervising, providing suggestions and advice for the Managing Director and management.
2. Setting up a business plan, budget and managerial authority of the Company as assigned by the Board of Directors.

3. Inspecting, following up to ensure compliance with the Company's policies and plans with efficiency.
4. Conducting feasibility studies on investment in new projects for business expansion and prospects.
5. Having power to approve any juristic act binding upon the Company in an amount not exceeding Baht 500 Million per transaction, excluding those transactions giving rise to a conflict or interest with the Company or its subsidiaries under the notifications of the Securities and Exchange Commission, including such transactions requiring approval from shareholders under the regulations of the Securities and Exchange Commission and the Stock Exchange of Thailand.
6. Having power to approve, appoint, remove, and determine salary and other remunerations, including expenses and facilities of the Company's officers or staff in the position of Assistant Managing Director or higher, but not including the Managing Director.
7. The Executive Board or the Chairman of the Executive Board has the power to call the Executive Board's meetings and/or determine rules and regulations of the meetings as it deems appropriate.
8. Reporting on the Company's operational results to the Board of Directors.

APPROVAL AUTHORITY

Persons with Approval Authority	Details
Board of Directors	Having the approval authority in accordance with the objectives and the Articles of Association of the Company, exclusive of execution of any transactions which give rise to a conflict of interest or interest, including transactions which require the shareholders' approval in accordance with the regulations of the SEC Office and the SET.
Executive Board	The amount limit not exceeding Baht 500 Million per juristic act, exclusive of transactions which require the shareholders' approval in accordance with the regulations of the SEC Office and the SET.
Managing Director	The amount limit not exceeding Baht 5 Million per juristic act.

7.4

INFORMATION RELATING TO MANAGEMENT TEAM

7.4.1 MANAGEMENT TEAM

(1) Management Structural Chart

The Company's management structural chart is shown in Item 7.1: Corporate Governance Structure.

(2) List of Management Team

The Management Team under the structure as at December 31, 2022, comprised 5 persons, who are executives by the definition of "executive" required by the SEC, as listed below:

Name	Position
1. Dr. Sombat Kitjalaksana	Managing Director
2. Mr. Witton Hatairatana	Deputy Managing Director Operations & Engineering (Rail)
3. Mr. Anawash Suwanarit	Deputy Managing Director Business Development & Expressway Operations
4. Mr. Alvin Gee	Deputy Managing Director Administration
5. Miss Panan Tosuwanthaworn	Deputy Managing Director Accounting & Finance

Remark : The executives' profiles appear in Attachment 1.

7.4.2 POLICY ON REMUNERATION FOR EXECUTIVES

Remuneration for executives, excluding the Managing Director, shall be considered in accordance with the criteria and policy specified by the Executive Board, corresponding to the Company's operational results and each executive's performance evaluation results through the Performance Management System (PMS).

7.4.3 REMUNERATION FOR EXECUTIVES

In 2022, the Company paid remuneration for its executives as follows:

(1) Monetary Remuneration

The remuneration for executives in 2022 paid by the Company consisted of salary and bonus, according to a comparison of the last three years, as follows:

Remuneration	2022	2021	2020
Number of Executives (persons)	5	9	10
Salary and bonus (Million Baht)	45	62	103

(2) Other Remuneration

The Company has established a provident fund, which provides executives with long-term remuneration upon termination of employment with the Company or upon retirement, whereby executives pay savings at the rate of 5-10 percent of their respective salaries according to service years and the Company pays contributions at the same rate to the fund. In this regard, the Company's contribution rate complies with the resolution of the Board of Directors' meeting, which shall base its consideration primarily on the Company's performance and operational results.

In 2022, the Company paid the provident fund contributions for its executives, according to a comparison of the last three years, as follows:

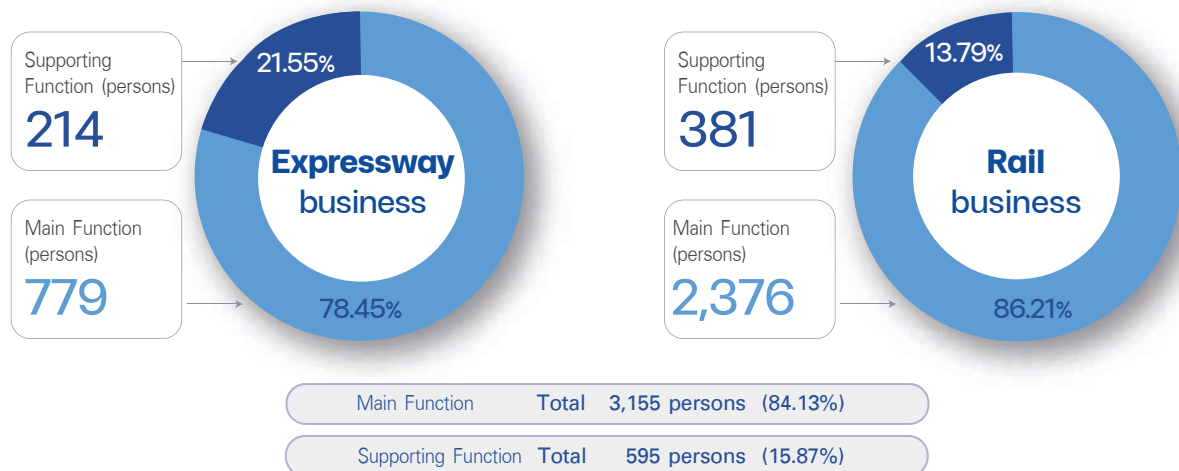
Remuneration	2022		2021		2020	
	Amount of Persons	Amount (Million Baht)	Amount of Persons	Amount (Million Baht)	Amount of Persons	Amount (Million Baht)
Provident fund contributions	5	1.63	9	3.38	10	5.22

7.5

INFORMATION RELATING TO STAFF

7.5.1 NUMBER OF STAFF

As at December 31, 2022, there were a total of 3,750 staff, comprising staff in main and supporting functions, divided into the following business groups:



Number of Subsidiaries' Staff

- NECL has no employment of executive and permanent staff but operates the Udon Rattaya Expressway by means of a service agreement with BEM.
- BMN had a total of 212 staff in each work unit (excluding executives), comprising Sale and Marketing Department, Business Development Department, Finance Department, and Operation Department.

Over the past three years, the number of the Company's staff has not changed significantly and there has been no labor dispute.

7.5.2 REMUNERATION FOR STAFF

In order to determine the appropriate and competitive remuneration to maintain the good and competent staff to work with the organization, the Company then participates in the survey of wages and remuneration to compare with labor market and other companies in the same sector as well as reviewing the starting salary for new graduates and base salary based on the value of work via the institute conducting wage survey on a regular basis. Therefore, it can be assured that the Company determines the fair and appropriate remuneration to the staff. The Executive Board considers adjusting wages on a yearly basis by taking into account the Company's operational results through the Competency KPIs and its payment coverage ratio.

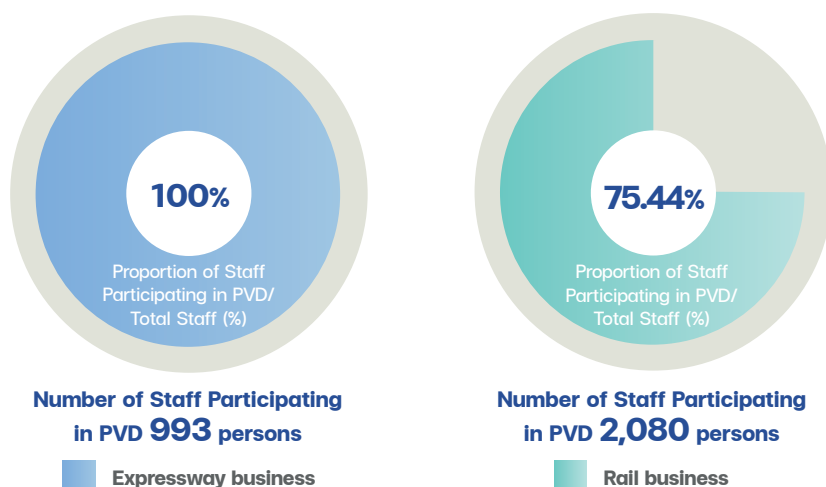
Furthermore, the Company establishes a provident fund for long-term care of staff in order to motivate staff to work with the Company and to encourage staff's saving habits to secure adequate retirement savings for a quality retirement life. Staff may apply for provident fund membership, whereby staff pay savings at the rate of 5 to 15 percent of his/her salary according to his/her ability to save and the Company pays contributions at the rate of 5 to 10 percent according to such staff's service years and requirements of the fund. Staff who are fund members shall gain benefits arising from management in proportion to each staff's savings in the fund. The Company also provides group life insurance benefits for staff so as to secure staff and staff's family. The details of remuneration for staff are as follows:

Number of Staff and Remuneration Divided into Business Groups

In 2022, the Company paid remuneration for its staff in the total amount of Baht 2,129 Million, comprising salaries, overtime pay, bonuses, social security contributions, and provident fund contributions, and others. The details in 2020-2022 are given below:

Business Groups	2022	2021	2020
Expressway business (persons)	993	1,016	1,041
Rail business (persons)	2,757	2,860	2,996
Total (persons)	3,750	3,876	4,037
Total staff remuneration (Million Baht)	2,129	1,752	1,891

Number of Staff Participating in Provident Fund – PVD



7.6

OTHER SIGNIFICANT INFORMATION

7.6.1 PERSONS ASSIGNED TO PERFORM DUTIES IN VARIOUS ASPECTS

Company Secretary and Head of Compliance Unit

The Board of Directors' Meeting No. 5/2021, held on October 27, 2021, resolved to appoint Mrs. Manatsavee Subchavaroj, Assistant Managing Director: Legal and Compliance, who has appropriate qualifications, great knowledge and understanding of rules and regulations applicable to listed companies, to hold the position as Company Secretary. Concurrently, Mrs. Manatsavee Subchavaroj holds another position as Head of Compliance Unit (details appear in Attachment 1).

Duties and responsibilities for company secretary work are as follows:

1. Providing suggestions to directors relating to provisions of laws, relevant rules and regulations.
2. Arranging for orientation and providing necessary information for the performance of duties to the current and new directors.
3. Monitoring the Company to ensure its compliance with laws, Articles of Association, relevant regulations and the good corporate governance principles.
4. Convening meetings as stipulated by laws and Articles of Association, preparing and keeping minutes of meetings, as well as coordinating to ensure efficient performance in compliance with resolutions passed by the Board of Directors or the shareholders' meetings.
 - Preparing and keeping the following documents:
 - Directors' register;
 - Notices, minutes of the Board of Directors' meetings and annual reports of the Company;
 - Notices and minutes of the shareholders' meetings.
5. Keeping reports on interest filed by directors or executives.
6. Monitoring to ensure disclosure of information and information memorandum to regulatory units in compliance with relevant laws, rules, and regulations.
7. Contacting and communicating with shareholders and relevant regulatory units, whereby shareholders may inquire or request any information as needed by contacting at Tel. 0 2641 4611 or sending questions via email to companysecretary@bemplc.co.th.
8. Promoting the provision of various training courses and providing useful information for the performance of duties of new directors.
9. Making other arrangements as announced by the Capital Market Supervisory Board.
10. Proceeding with other matters as assigned by the Board of Directors.

Duties and responsibilities for compliance work are as follows:

1. Defining the corporate governance framework in consistent with the Company's operational structure which is comparable to international practices or principles.
2. Reviewing the appropriateness and sufficiency of the Company's corporate governance policy and codes of conduct, as well as strengthening them to ensure that they are in compliance with the principles of good corporate governance under international standards.
3. Reviewing, together with the management, compliance with the principles of good corporate governance as established by the Company, as well as disclosing such information in the Annual Report.

4. Implementing the Board of Directors and Managing Director's performance evaluation process, as well as preparing and presenting a summary of evaluation results to the Board of Directors.
5. Suggesting the preparation of the Company's corporate governance development plan in accordance with the principles of good corporate governance.
6. Giving advice and suggestion on good corporate governance practices to the Board of Directors.
7. Performing any other duties as assigned by the Managing Director.

Chief Financial Officer

The Executive Board has appointed Miss Panan Tosuwanthaworn, who has knowledge and abilities in the fields of accounting and finance, to serve as the Deputy Managing Director: Accounting and Finance, holding the position of top management in accounting and finance (details appear in Attachment 1), with her duties and responsibilities as follows:

1. Planning financial strategies to encourage internal and external growth as well as financing to accommodate growth linking with the Company's growth strategies and business value.
2. Controlling and managing infrastructure in terms of financial information and financial management of the Company to ensure that the Company's work operations are driven to achieve tasks and goals as planned.
3. Developing and managing financial tools to contribute to the analysis of the efficiency of work operations and analysis of business value.
4. Communicating the organization's significant financial information to enhance the understanding and trust of investors relating to stability and opportunities of the Company.

In 2022, Miss Panan Tosuwanthaworn, the Deputy Managing Director: Accounting and Finance, received training in the TLCA CFO Professional Development Program (TLCA CFO CPD) four times, namely No. 1/2022 "Enhanced Quality of Financial Reports of Thai Listed Companies"; No. 2/2022 "Economic Update for CFO"; No. 3/2022 "PDPA for Accounting and Finance"; and No. 8/2022 "ESG Bonds in Corporate Financing" organized by Thai Listed Companies Association, totaling 8 hours.

Chief Accountant

The Company has appointed an executive officer, namely, Miss Saranya Lertjiraprasert, who has knowledge and understanding of the accounting system of the Company, to hold the position of Director of Accounting Division, as the person supervising accounting (details appear in Attachment 1), with her duties and responsibilities as follows:

1. Drawing up accounting and finance policies and planning as well as determining the accounting and financial systems in line with the guidelines for the Company's work operations.
2. Overseeing preparation of accounts and inspecting close of accounts of the Company in each period to ensure that they are made properly and in accordance with the specified practices.
3. Overseeing and inspecting preparation of financial statements, balance sheet, income statement, and accounting reports.
4. Overseeing and inspecting income-expenditure of the Company.
5. Overseeing the Company's budgeting and inspecting to ensure that the budget is utilized properly and in accordance with the budget plan as specified.
6. Overseeing the preparation of relevant tax reports for submission to relevant government authorities.

In 2022, Miss Saranya Lertjiraprasert, the Director of Accounting Division, received training in the course of Update TFRS 2022 organized by Faculty of Commerce Alumni Association of Chulalongkorn University, for 7 hours.

Head of Internal Audit Unit

The Company has appointed an executive officer, namely, Miss Orathai Ruangamporn as Director of the Internal Audit Office. The Audit Committee is of the opinion that she has knowledge, abilities and work experience suitable and sufficient to effectively perform her duties as Head of Internal Audit Unit. In this regard, an appointment, removal and transfer of a person holding the position of Head of Internal Audit Unit is subject to approval of the Audit Committee (details appear in Attachment 3).

7.6.2 HEAD OF INVESTOR RELATIONS UNIT

The Company has established the Investor Relations Unit to represent the Company in communicating useful information to shareholders, analysts and investors, by assigning Mr. Thanawat Wannadit, Investor Relations Manager, to communicate and provide information to build a good understanding and reliability as well as to strengthen relationships and supervise the team in order to ensure that they have accurate communication in the same direction, with the following duties and responsibilities:

- Representing the Company in communicating and providing information to create a good understanding for investors including local and international institutions, and general retail investors, both the money market (debentures) and the capital market (equity shares), to build credibility for the Company as well as building good relationships with investors and groups of stakeholders;
- Building a good relationship and understanding with analysts/investors/shareholders, while taking care of the team to ensure their accurate communication in the same direction.

In 2022, the Company organized the Analyst Meetings, Conference Calls, Press Conferences, Press Interviews in an online format to suit the situation of the COVID-19 outbreak, whereby the Investor Relations

Department held 13 offline meetings with various institutions both at home and abroad, as well as holding 4 analyst meetings. Moreover, the Company participated in the Opportunity Day event for sharing information via the SET every quarter.

The foregoing activities were undertaken to provide appropriate clarification on the operational results and progress of the investment projects in order for the management to answer questions to investors equally and fairly in order for investors to be well-informed, as well as to provide material and necessary information for making investment decisions to the general public, including investors and institutional analysts.

In addition, the Company conducted a survey of the opinions and needs of analysts and investors on the quality of communications and Investor Relations activities in 2022 (BEM IR SURVEY) to further improve the performance.

Any persons interested in investment can contact the Investor Relations Department at Tel. 0 2641 4611 to request further information, or can schedule a conference call, subscribe to the Company's mailing list via the Company's website, or ask any questions, or send an email to ir@bemplc.co.th.

7.6.3 REMUNERATION FOR AUDITOR

The Audit Committee and the Management Team jointly consider the qualifications of the auditor in respect of his/her reliability, independence, knowledge and experience in audit services, advice on accounting standards, timely certification of the financial statements, and appropriate remuneration, and then propose this matter to the Board of Directors to further propose to the annual ordinary general meeting of shareholders to consider approving the appointment of auditor. The proposed auditor shall neither have relationship nor interest with the Company or its subsidiaries, executives, major shareholders, or their related persons.

Remuneration for auditor is divided into two categories, namely:

(1) Audit fee

The Company paid the audit fees for 2022 in the amount of Baht 4,324,000 to EY Office Limited. When compared to the average audit fees of other listed companies in the same sector, the Company's audit fee was reasonable.

The Company's subsidiaries, namely, Northern Bangkok Expressway Company Limited and Bangkok Metro Networks Limited, paid the audit fees for 2022 amounting to Baht 1,009,000 and Baht 1,294,000, respectively.

(2) Non-audit fee

In 2022, the Company and its subsidiaries used other services from EY Office Limited, incurring the non-audit fee in the amount of Baht 950,000, of which Baht 850,000 was for an audit of the MRT Blue Line Extension Project, representing remuneration due and payable in the future as a result of the pending services; and Baht 100,000 represented the service fee for inspection of the use of the EMV system.

8. REPORT ON KEY

CORPORATE GOVERNANCE PERFORMANCE

8.1

SUMMARY OF PERFORMANCE OF THE BOARD OF DIRECTORS



The Board of Directors realizes its responsibilities and roles in policy formulation and supervision to ensure the Company's good management, covering its business objectives, goals, strategies, operating policies, important and adequate resource allocation to achieve the business objectives and goals, as well as monitoring, evaluating and ensuring the reporting of operational results in consistency with laws, the Articles of Association, together with resolutions of the shareholders' meeting, in pursuit of sustainability in the operations and value creation of the businesses.

In 2022, the Board of Directors played a key role in formulating policies, strategies and business plans to be in line with the Company's missions and ensure the business sustainability, as follows:

- Considering an extension of the scope of responsibilities of the Corporate Governance and Risk Management Committee to cover the organization's overall sustainable development work to ensure that the business operations have a good corporate governance system in place and efficient risk management, alongside the commitment to social and environmental responsibility, as driving forces behind the organization's sustainability in a tangible way.
- Considering a review and improvement of the corporate social responsibility and sustainable development policy, as well as reviewing the Board of Directors' Charter to ensure consistency with the corporate governance practice assessment criteria under the Corporate Governance Report of Thai Listed Companies and Best Practices for the Board of Directors requiring the companies to carry out greater development in the Environmental, Social and Governance (ESG) dimensions and to strengthen the governance to cover the sustainability issues and to prepare for international acceptance and competition.
- Considering a review of the internal control system and risk management, including the information security of the automatic fare collection system.
- Considering a formulation of the measures to prevent and deal with the spread of COVID-19 for operations, personnel work, in accordance with government announcements, as well as considering the financial impact.
- Considering an issuance of the Sustainability Bond in consistent with the operation of the MRT Blue Line Project, a clean transportation infrastructure mass transit system which helps minimize the carbon dioxide emissions produced from oil-fueled vehicles while also being easily accessible to the general public. In respect of the potential benefits for the Company, it not only involves a good rate of interest and an increase in the diversity of investors, but also attraction of investors who are committed to environmental care.
- The Board of Directors considered jointly investing in the MRT Orange Line Project, Bang Khun Non - Min Buri (Suwinthawong) Section to support the Company's overall business, because it would give the Company a more comprehensive service area and the opportunity to increase the number of passengers using the current MRT projects. In this regard, the Extraordinary General Meeting of Shareholders No. 1/2022 resolved to approve the Company's execution of a Public-Private Partnership Agreement for such project with MRTA after the Cabinet's affirmative resolution.

8.1.1 NOMINATION, DEVELOPMENT AND ASSESSMENT OF PERFORMANCE OF THE BOARD OF DIRECTORS

(1) Nomination of Independent Directors

The Company establishes the structure of the Board of Directors which shall be composed of independent directors of at least one-third of all directors, but no fewer than three persons, whereby such independent directors can provide their opinions independently and perform the duty to safeguard benefits of the Company and shareholders at their best.

The Nomination and Remuneration Committee will nominate directors by considering directors' qualifications and prohibited characteristics under the Public Limited Companies Act, Securities and Exchange Act, including relevant notifications. In addition, the Board of Directors will consider the selection of skilled, experienced independent directors which are beneficial to the Company, under the qualifications of independent director. Thereafter, they will be then nominated to the Board of Directors and/or the shareholders' meeting to consider the appointment as the Company's independent directors.

Qualifications of Independent Directors

1. Holding shares not more than 0.5 percent of the total number of shares with voting rights of the Company, its parent company, subsidiaries, associated companies, major shareholders or controllers of the Company, including shares held by any related persons of each independent director;
2. Not being or having been a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary or a controller of the Company, its parent company, subsidiary, associated company, subsidiary at the same level, major shareholder or of controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to assuming the position, provided that such prohibited characteristics shall not apply to an independent director who was a public official or advisor to a government authority which is the Company's major shareholder or controller;
3. Not being a person having relationship by blood or by legal registration in the capacity as parent, spouse, sibling and offspring, including spouse of the offspring of other director, executive, major shareholder, controller or any person to be nominated as director, executive or controller of the Company or its subsidiaries;
4. Not having or having had any business relationship with the Company, its parent company, subsidiaries, associated companies, major shareholder or controller of the Company in a manner which may prevent the exercise of his or her independent judgment;
5. Not being or having been an auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company; and not being a substantial shareholder, controller, or partner of an audit firm which employs the auditor of the Company, its parent company, subsidiaries, associated companies, major shareholder, or controller of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to assuming the position;
6. Not being or having been a professional service provider, including legal advisor or financial advisor which receives an annual service fee exceeding Baht Two Million from the Company, its parent company, subsidiaries, associated companies, major shareholders, or controllers of the Company; and not being a substantial shareholder, controller, or partner of such professional service provider, unless such independent director has no longer been in such capacity for not less than two years prior to assuming the position;
7. Not being a director appointed as representative of the Company's director, major shareholder or shareholder who is a related person of the major shareholder;
8. Not engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries; or not being a substantial partner in a partnership or a director having involvement in the management, an employee, a staff member, an advisor receiving a regular salary

and not being or having been a substantial shareholder or controller of any person having a business relationship with the Company, its parent company, subsidiaries, associated companies, major shareholders or controllers of the Company, unless such independent director has no longer been in such capacity for not less than two years prior to assuming the position. The aforesaid business relationship under paragraph one shall include any transaction in the ordinary course of business for rental or lease of immovable property, any transaction relating to assets or services or grant or receipt of financial assistance through receiving or extending any loan, guarantee, providing assets as collateral, including any other similar actions, which causes the Company or its contractual party to be subject to indebtedness payable to the other party in the amount of three percent or more of the Company's net tangible assets or in the amount of Baht Twenty Million or more, whichever is lower. Such indebtedness shall be calculated according to the calculation method of connected transaction value under the Notification of the Capital Market Supervisory Board Re: Rules on Connected Transactions, mutatis mutandis. However, the consideration of such indebtedness shall include the indebtedness incurred during the course of one year prior to commencement of business relationship with the same person.

or holding shares more than one percent of the total number of shares with voting rights of another company engaging in any business of the same nature as and in material competition with the business of the Company or its subsidiaries;

9. Not having any other characteristics preventing provision of independent opinions on the Company's operations.

(2) Nomination of Directors

Director Nomination Criteria and Procedures

The Nomination and Remuneration Committee, comprising three independent directors out of a total four members of the Nomination and Remuneration Committee, considers nominating persons to be appointed as directors to replace those directors who vacate office, both resignations prior to the end of term and retirement by rotation, in accordance with the following criteria:

1. Considering those who have qualifications of independent directors and/or qualifications of directors of listed companies in accordance with the Public Limited Companies Act, the Securities and Exchange Act, rules of the SEC Office and rules of the SET.
2. Considering those who have qualifications and do not have any prohibited characteristics under the law on payment systems and the Bank of Thailand's Notifications relating to payment service business.
3. Considering those who have knowledge, ability, and experience in a variety of occupational fields which will be beneficial and add value to the Company, by considering the requisite skills which the Board of Directors is still lacking, and qualifications in line with the Company's business strategies.
4. Considering those who have characteristics supporting and promoting the corporate governance to create value to the Company, such as independence, willingness to share opinions, initiative, and performance of duties with responsibility, due care, integrity, and full-time contribution, etc.
5. In case of a director who retires by rotation, the Nomination and Remuneration Committee considers his/her past records whether he/she performed duties as a director with due care, integrity, and full-time contribution.
6. In case such vacancy is a director representing EXAT or MRTA under the conditions of the relevant Concession Agreements, the replacement director must be nominated by the said authority to fill the vacancy.

The Nomination and Remuneration Committee shall nominate such qualified persons to the Board of Directors to consider appointing or consider nominating them to the shareholders' meeting for appointment as directors in accordance with the director appointment criteria and procedures as specified in the Articles of Association.

Pursuant to the Articles of Association, at every annual general meeting, one-third of the number of directors must vacate their offices. If the number of directors is not a multiple of three, then the number nearest to one-third must retire from office. Therefore, the directors have a term of three years, and a retiring director may be re-elected. In this regard, the Company does not fix the number of terms of holding office as director which each director will hold such office but instead considers the suitability of re-appointing directors who are due to retire by rotation to resume office as directors.

In 2022, the 2022 Annual Ordinary General Meeting of Shareholders held on April 4, 2022 resolved, by a majority vote of the shareholders who attended the Meeting and cash their votes, to approve the re-appointment of six existing directors, namely, Miss Arisara Dharamadhaj, Mr. Vithaya Punmongkol, Mr. Plew Trivisvavet, Mr. Supong Chayutsahakij, Mr. Phongsarit Tantisuvanitchkul, and Dr. Sombat Kitjalaksana, to resume their position for another term. In voting for the directors' election, the Company entitled its shareholders to use the ballots to elect directors on an individual basis, whereby shareholders shall cast all of their votes to select those nominated as directors one by one.

Moreover, the Board of Directors resolved to appoint two directors in place of the vacancies otherwise than by rotation, namely Dr. Supamas Trivisvavet and Miss Jiranan Vorachak, in accordance with the specified criteria and procedures.

(3) Nomination of Highest-Ranking Management

The Board of Directors considers appointing the Managing Director, who is the highest-ranking management, as nominated by the Nomination and Remuneration Committee which shall consider nominating qualified persons, namely, those who have knowledge, capacities and experience which are useful for management to achieve objectives or goals established by the Board of Directors and have a good understanding of the Company's businesses. The Nomination and Remuneration Committee shall nominate the candidates to the Board of Directors to consider the appointment.

(4) Development of Directors and Executives

The Board of Directors has a policy to support and facilitate training and learning for its directors and executives to ensure their continued improvement and work performance. In 2022, the Company's directors who attended training course are listed below:

1. Mr. Vitoon Tejatussanasoontorn
Value of Audit 2022, organized by the Federation of Accounting Professions / Office of the Securities and Exchange Commission.
2. Prof. (adjunct) Athapol Yaisawang
Director Accreditation Program (DAP 191/2022), organized by the Thai Institute of Directors.

3. Mr. Piyakorn Apibalsri
Director Accreditation Program (DAP 315/2022),
organized by the Thai Institute of Directors.

(5) Board Self-Assessment

The Board of Directors has a policy to ensure the overall self-assessment of the entire Board of Directors and subcommittees and individual director/member at least once a year, including assessment of the performance of compliance with the Company's Code of Conduct. In addition, the Managing Director's performance must be assessed by the Board of Directors every year in accordance with the rules as specified by the Nomination and Remuneration Committee. Furthermore, the Board of Directors requires a review of topics of assessment to ensure appropriateness and conformity to roles, duties, responsibilities, and corporate governance practices so that the assessment results will be further proposed to the Board of Directors to consider improving performance.

Self-Assessment Results of Board / Subcommittees / Individual Directors

The 2022 results of the overall performance assessment of the entire Board of Directors and subcommittees, and the self-assessment of individual directors/members, can be summarized as follows:

- 1) **Structure and Qualifications of the Board of Directors / Subcommittees:** the results of assessment are satisfactory, suitable for the Company's business nature, with the Board of Directors comprising personnel with sufficient knowledge and experiences in a variety of fields and performed their overall duties efficiently. Moreover, the Board of Directors has appointed subcommittees to perform their duties to help supervise, monitor the businesses, nominate qualified personnel as director with transparency, fairness, independence from any person's influence, including determination of reasonable and competitive remuneration to retain quality and competent directors, draw up operational policies and direction in respect of good corporate governance of the Company, code of business ethics, together with risk management, as well as taking care of and providing suggestions to the management, for the benefit of the Company's business operations based on good corporate governance.
- 2) **Role, Duties, and Responsibilities of the Board of Directors / Subcommittees:** The Board of Directors and subcommittees have completely fulfilled their duties under the scope of responsibilities and assignments, by giving priority to and contributing sufficient time for consideration of significant matters relating to the direction of the Company's business operations, review of the Company's corporate

governance policy, ensuring no conflict of interest arises, with the Board of Directors regularly reviewing the internal control system as well as following up and monitoring the management's performance to ensure compliance with the policies assigned by the Board of Directors, monitoring and ensuring preparation of financial statements in accordance with generally accepted accounting standards, considering nominating qualified persons to the position as the Company's directors, considering policies and action plans relating to risk management, monitoring and reviewing the Company's overall risk management, risk management strategies and risk prevention systems of all kinds, establishing policy guidance, supervising, giving recommendations, advice to the Managing Director and the management, identifying business plans, budget, inspecting, following up implementation of various policies and action plans of the Company to ensure efficiency.

3) The Board of Directors' / Subcommittees' Meetings:

The results of assessment are satisfactory, namely that directors/subcommittee members are given prior notice of the annual schedule of meetings so as to enable them to manage time to attend every meeting; the number of the meetings and agenda are suitable to support the performance of its duties efficiently and to supervise and monitor the Company's business operations successfully; directors/subcommittee members are also given supporting documents prior to each meeting and sufficient time to read such information in preparation for each meeting; the supporting documents contain sufficient information for their decision making; the Board of Directors/subcommittees can request any other necessary information in support of their decisions for the benefit to the Company; the atmosphere at each meeting allows all directors/subcommittee members to express constructive opinions without undue influence of any person; and directors/subcommittee members can fully discuss significant issues at each meeting.

4) Directors' / Subcommittee Members' Performance of Duties:

The results of assessment are satisfactory, namely that directors/subcommittee members are well prepared and sufficiently study information prior to each meeting; have regularly attended the meetings; independently provide their opinions and impartially consider various matters and are independent in making decisions and passing resolutions; provide useful suggestions for the Company's operations, and understand the significance of each matter and properly contribute their time to consider such matters without wasting time on minor issues; and accept different opinions among them without conflict.

5) Relationship with Management: The results of assessment are satisfactory, namely that directors/subcommittee members may straightforwardly discuss with the Managing Director; maintain a good relationship with management; the Managing Director can request directors'/subcommittee members' advice as necessary; the Board/subcommittees do not intervene with management's performance of duties; and the Board/subcommittees participate in solving problems as appropriate in case management's performance does not meet the specified plans and budget.

6) Self-Development of Directors/Subcommittee Members and Executives: The results of assessment are satisfactory, namely that directors/subcommittee members understand their roles, duties, and responsibilities; directors/subcommittee members have sufficient knowledge and understanding relating

to the Company's businesses; have paid attention to significant information or news relating to economic and industrial conditions, changes in rules and regulations and the status of competition, which allows them to efficiently perform their duties; all directors/subcommittee members undergo training to ensure their understanding of the performance of duties in their capacity as directors/subcommittee members; and in case of newly-appointed directors/subcommittee members, the Board monitors to ensure that management provides documents or briefings for the new directors/subcommittee members so that they understand the businesses and can perform their duties in such capacity; and a succession plan has been set out to ensure continued performance of duties as high level management of the Company.

In 2022, the summary results of the overall performance assessment were at good-excellent levels as follows:

Assessment / Survey Results	2022 %	2021 %
1. Results of overall performance assessment of the Board of Directors		
- Board of Directors	98.50	97.33
- Audit Committee	100.00	100.00
- Executive Board	98.25	97.48
- Nomination and Remuneration Committee	100.00	100.00
- Corporate Governance, Risk Management and Sustainable Development Committee	96.00	92.23
2. Results of self-assessment of individual directors/members	97.75	96.75
3. Ethics compliance survey results		
- Complete	98.97	97.69
- Partial	1.03	2.31

(6) Assessment of Compliance with the Company's Code of Conduct

The Board of Directors has established the Company's Code of Conduct to serve as principles and goals for the Company's business operations, and guidelines for performance of all directors, executives, and staff, with the details available on the Company's website (www.bemplc.co.th). Directors, executives, and staff will regularly assess their compliance with the Company's Code of Conduct every year.

In 2022, the summary results of overall assessment of compliance with the Company's Code of Conduct by directors and executives indicated complete 98.97 percent compliance, and there were no violations of the Company's ethics and Code of Conduct. At the same time,

the Company communicated, via the Company's intranet system, the Code of Conduct to its directors, executives and employees to raise their awareness.

(7) Assessment of Performance of the Managing Director

All directors of the Company, except the Managing Director, will constantly assess the performance of the Managing Director on a yearly basis in accordance with the criteria as specified by the Nomination and Remuneration Committee. The Nomination and Remuneration Committee has been assigned by the Board of Directors to propose remuneration and other benefits as appropriate for the Managing Director, by considering use of the Corporate KPIs in the annual performance assessment in order to obtain the Board of Directors' approval.

8.1.2 MEETING ATTENDANCES AND REMUNERATION OF THE INDIVIDUAL BOARD OF DIRECTORS

(1) Meeting Attendances by the Board of Directors and Subcommittees for 2022

In 2022, the Board of Directors and subcommittees attended the meetings, both physical- and e-meetings. Details of meeting attendances by each director/member are as follows:

Names of Directors	Number of Meeting Attendances (time)																																			
	EGM (1)			AGM (1)			BOD (6)			Ex-Com (12)			AC (6)			NRC (3)			CGRSD (2)																	
	physical	e-meeting	Total	physical	e-meeting	Total	physical	e-meeting	Total	physical	e-meeting	Total	physical	e-meeting	Total	physical	e-meeting	Total	physical	e-meeting	Total															
1. Mr. Plew Trivisvavet	1	-	1/1	1	-	1/1	6	-	6/6	10	2	12/12				3	-	3/3																		
2. Mr. Vitoon Tejatussanasoontorn	1	-	1/1	1	-	1/1	6	-	6/6				4	2	6/6	3	-	3/3																		
3. Gen. Chetta Thanajaro	1	-	1/1	1	-	1/1	6	-	6/6				4	2	6/6	3	-	3/3																		
4. Prof. (adjunct) Athapol Yaisawang	1	-	1/1	1	-	1/1	6	-	6/6							3	-	3/3				2	-	2/2												
5. Dr. Annop Tanlamai	-	1	1/1	-	1	1/1	4	2	6/6				4	2	6/6																					
6. Mrs. Vallapa Assakul	-	1	1/1	-	1	1/1	1	5	6/6																	-	2	2/2								
7. M.L. Prasobchai Kasemsant	-	1	1/1	-	1	1/1	2	3	5/6																											
8. Mr. Supong Chayutsahakij	1	-	1/1	-	1	1/1	4	2	6/6	10	2	12/12																								
9. Mr. Phongsarit Tantisuvanitchkul	1	-	1/1	1	-	1/1	6	-	6/6	10	2	12/12																								
10. Mrs. Payao Marittanaporn	-	1	1/1	-	1	1/1	4	2	6/6	10	2	12/12									2	-	2/2													
11. Dr. Supamas Trivisvavet ⁽¹⁾	-	0	0/1	N/A			1	1	2/2	5	1	6/6																								
12. Miss Arisara Dharamadhaj	-	1	1/1	-	1	1/1	2	4	6/6																											
13. Mr. Panit Dunnvatanachit	-	1	1/1	-	1	1/1	-	6	6/6																											
14. Miss Jiranan Vorachak ⁽²⁾				N/A																																
15. Mr. Piyakorn Apibalsri	-	1	1/1	-	1	1/1	2	4	6/6																											
16. Mrs. Tasanuch Thammachot	-	1	1/1	-	1	1/1	2	4	6/6																											
17. Dr. Sombat Kitjalaksana	1	-	1/1	1	-	1/1	6	-	6/6												10	2	12/12	2	-	2/2										
Total directors' meeting attendance percentage (%)	94.12			100.00			98.91			100.00			100.00			100.00			100.00																	

Remarks :

⁽¹⁾ Dr. Supamas Trivisvavet was appointed as director on July 8, 2022.

⁽²⁾ Miss Jiranan Vorachak was appointed as director on December 21, 2022 in place of Mr. Vithaya Punmongkol who resigned on December 13, 2022.

(2) Remuneration for Directors

The Company establishes a clear and transparent policy on remuneration for directors in line with the scope of duties and responsibilities of each director serving as chairman or subcommittee member, subject to review by the Nomination and Remuneration Committee. The remuneration is at the same level as that in the same industry and sufficiently high to retain the qualified directors, by considering the appropriate remuneration according to the criteria for determination of the remuneration, namely:

- Remuneration is appropriate and commensurate with the scope of assigned duties and responsibilities of each director, such as Chairman of the Board of Director, chairmen of subcommittees, and a member of the Executive Board, the Audit Committee, the Nomination and Remuneration Committee, the Corporate Governance and Risk Management Committee, which will receive additional remuneration according to their respective positions.
- Remuneration of directors and the Managing Director is at an appropriate level and can motivate as well as retaining directors with knowledge, abilities and qualifications to effectively perform their duties for the Company in order to lead the organization towards both short-term and long-term goals.

- Components of remuneration are clear, transparent, and easy-to-understand.
- The Nomination and Remuneration Committee considers scrutinizing the remuneration to ensure that it remains appropriate, competitive and at the same rate as that offered by the same industry, which is sufficient to maintain and retain directors and the Managing Director with qualifications in line with the Company's business goals.

In 2022, the Company paid remuneration for directors as follows:

(1) Monetary remuneration

- (1.1) Remuneration for directors comprised annual remuneration, meeting allowance and bonus. In 2022, the total remuneration for directors amounted to Baht 27,708,460, in line with the resolution of its 2022 Annual Ordinary General Meeting of Shareholders approving the remuneration for directors in the total amount not exceeding Baht 30,600,000, namely, bonus for directors for 2021 in an amount not exceeding Baht 12,600,000 and remuneration for directors for 2022 in an amount not exceeding Baht 18,000,000.

(Unit : Baht)

List of Directors	Remuneration for Directors 2022							Remuneration for Directors in Holding Directorships in Subsidiaries (NECL /BMN)
	Board of Directors	Executive Board	Audit Committee	Nomination and Remuneration Committee	Corporate Governance, Risk Management and Sustainable Development Committee	Total	Bonus 2021	
1. Mr. Plew Trivisvavet ⁽¹⁾ Chairman of the Board of Directors Chairman of the Executive Board Nomination and Remuneration Committee Member	1,875,000	1,000,000		175,000		3,050,000	1,420,000	NECL = 640,000
2. Mr. Vitoon Tejatussanasoontorn Director Chairman of the Audit Committee Nomination and Remuneration Committee Member	600,000		550,000	175,000		1,325,000	740,000	
3. Gen. Chetta Thanajaro Director Chairman of Nomination and Remuneration Committee Audit Committee Member	600,000		350,000	275,000		1,225,000	740,000	
4. Prof. (adjunct) Athapol Yaisawang ⁽²⁾ Director Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee Nomination and Remuneration Committee Member	600,000			175,000	250,000	1,025,000	106,959	
5. Dr. Annop Tanlamai Director Audit Committee Member	600,000		350,000			950,000	620,000	
6. Mrs. Vallapa Assakul ⁽³⁾ Director Corporate Governance, Risk Management and Sustainable Development Committee Member	600,000				150,000	750,000	658,137	
7. M.L. Prasobchai Kasemsant Director	550,000					550,000	540,000	
8. Mr. Supong Chayutsahakij ⁽⁴⁾ Director Executive Director	600,000	500,000				1,100,000	856,274	NECL = 56,877 * (Bonus 2021)
9. Mr. Phongsarit Tantisuvanitchkul Director Executive Director Corporate Governance, Risk Management and Sustainable Development Committee Member	600,000	500,000			150,000	1,250,000	860,000	NECL = 370,000 BMN = 172,000

(Unit : Baht)

List of Directors	Remuneration for Directors 2022							Remuneration for Directors in Holding Directorships in Subsidiaries (NECL /BMN)
	Board of Directors	Executive Board	Audit Committee	Nomination and Remuneration Committee	Corporate Governance, Risk Management and Sustainable Development Committee	Total	Bonus 2021	
10. Mrs. Payao Marittanaporn ⁽⁵⁾ Director Executive Director	600,000	500,000				1,100,000	856,274	NECL = 56,877 * (Bonus 2021)
11. Dr. Supamas Trivisvavet ⁽⁶⁾ Director Executive Director	244,293	246,196				490,489		
12. Miss Arisara Dharamadhaj Director	600,000					600,000	540,000	
13. Mr. Panit Dunnvatanachit Director	600,000					600,000	540,000	
14. Mr. Piyakorn Apibalsri ⁽⁷⁾ Director	600,000					600,000	97,644	
15. Mrs. Tasanuch Thammachot ⁽⁸⁾ Director	600,000					600,000	284,055	
16. Mr. Vithaya Punmongkol ⁽⁹⁾ Director	535,165					535,165	540,000	
17. Miss Jiranan Vorachak ⁽¹⁰⁾ Director	9,066					9,066		
18. Dr. Sombat Kitjalaksana Director Executive Director Corporate Governance, Risk Management and Sustainable Development Committee Member Managing Director	600,000	500,000			150,000	1,250,000	860,000	NECL = 370,000 BMN = 124,000
19. Mrs. Natamon Bunnak ⁽¹¹⁾ Director							439,397	
Total	11,013,524	3,246,196	1,250,000	800,000	700,000	17,009,720	10,698,740	1,789,754

Remarks :

- (1) Mr. Plew Trivisvavet was appointed as Chairman of the Board of Directors on April 4, 2022.
- (2) Prof. (adjunct) Athapol Yaisawang was appointed as director on October 27, 2021 and held the position of Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee, and concurrently held the position of the Nomination and Remuneration Committee Member on December 15, 2021.
- (3) Mrs. Vallapa Assakul held the position as Chairman of the Corporate Governance and Risk Management Committee from January 1, 2021 until December 14, 2021.
- (4) Mr. Supong Chayutsahakij vacated the position as Nomination and Remuneration Committee Member on December 15, 2021 and resigned from the position as director of NECL on June 23, 2021.
- (5) Mrs. Payao Marittanaporn vacated the position as Corporate Governance and Risk Management Committee Member on December 15, 2021 and resigned from the position as director of NECL on June 23, 2021.
- (6) Dr. Supamas Trivisvavet was appointed as director and executive director on July 8, 2022.
- (7) Mr. Piyakorn Apibalsri was appointed as director on October 27, 2021.
- (8) Mrs. Tasanuch Thammachot was appointed as director on June 23, 2021.
- (9) Mr. Vithaya Punmongkol resigned from the position as director on December 13, 2022.
- (10) Miss Jiranan Vorachak was appointed as director on December 21, 2022 in place of Mr. Vithaya Punmongkol who resigned from the position as director on December 13, 2022.
- (11) Mrs. Natamon Bunnak resigned from the position as director on October 25, 2021.

- (1.2) In 2022, NECL paid remuneration for its directors, comprising annual remuneration, meeting allowance, and bonus, in the total amount of Baht 2,433,123, in line with the resolution of its 2022 annual ordinary general meeting of shareholders approving the remuneration for directors in an amount not exceeding Baht 2,490,000, namely, bonus for directors in 2021 in an amount not exceeding Baht 840,000 and remuneration for directors for 2022 in an amount not exceeding Baht 1,650,000.
- (1.3) In 2022, BMN paid remuneration for its directors, comprising annual remuneration and meeting allowance, in the total amount of Baht 792,000, in line with the resolution of its 2022 annual ordinary general meeting of shareholders approving the remuneration for directors for 2022 in an amount not exceeding Baht 920,000.

(2) Other remuneration for directors

-None-

8.1.3 SUPERVISION OF SUBSIDIARIES

To ensure that supervision of operations of the Company's subsidiaries is conducted in compliance with the business policy specified by the Board of Directors of the Company and in line with the Corporate Governance Code, and to safeguard investment benefits of the Company and its shareholders, the Board of Directors of the Company thus sets out criteria and guidelines for supervision and control of management of the subsidiaries, as follows:

1. The subsidiaries are encouraged to put the Corporate Governance Code into practice.
2. The selection of any persons as representatives of the subsidiaries is subject to the approval of the Board of Directors of the Company, according to their respective shareholding percentage.
3. The subsidiaries shall be supervised through representative directors and executives and policies specified by the parent company.
4. Any significant matters, such as strategies, action plan, capital increase or reduction, company dissolution, including various important policies shall be considered. The guidelines for exercising the right to cast votes in the shareholders' meetings are also formulated, as follows:

Guidelines for exercising of voting rights

(1) Approval of the minutes of the ordinary general meeting of shareholders/ extraordinary general meeting of shareholders

- To agree, if the proposed meeting minutes are based on fact and consistent with resolutions of the shareholders' meeting at the time.

- To abstain from voting, if no representative of the Company is present at the meeting at that time.

(2) Approval of annual financial statements

- To agree, if the auditor provides an unqualified or conditional opinion on the issue that is not material to the financial statements and does not affect the interests of shareholders as a whole.
- To disagree, if the auditor's opinion or comment on any part of the financial statements raises suspicions that it may contain incorrect information.

(3) Appointment of directors

- To agree, if the nominated persons have qualifications as required by law, knowledge, abilities and experiences which are beneficial to the business operations and can devote enough time to the company in which they are directors, and pay attention to the performance of their duties as director, provided that they are considered on an individual basis.
- To disagree, if it is to propose any former director to be re-elected and such director has a record of attendance at the Board of Directors' meetings of less than 75% without reasonable cause.

(4) Determination of remuneration for directors

- To agree, if the proposed remuneration for directors is suitable to the duties, responsibility and performance of the Board of Directors, which significantly reflects the Company's operational results.
- To abstain from voting, if a special remuneration payment is made without disclosing the amount, or if an ESOP is given that results in a significant dilution of the Company and is non-compliant with the regulatory units' rules.

(5) Appointment of auditor and determination of remuneration for auditor

- To agree, if the auditor and its audit firm are considered trustworthy, capable of accurately auditing and reviewing financial statements, and independent of all parties to provide opinions, including the proposed audit fee which is comparable to audit fee offered by other similar companies.
- To abstain from voting, if any doubts arise as to the auditor's reliability or independence, or if the audit fee dramatically differs from that in the previous year without reasonable grounds.

(6) Allocation of profit

- To agree with the allocation of profit as proposed by the Board of Directors if it is consistent with the dividend payment policy and is not contrary to the relevant laws.
- To disagree, if the dividend payment is not consistent with the Company's financial position and future action plans.

(7) Approval of other matters than items (1) – (6)

- To agree with the considered agenda that are beneficial to the Company or the public, the conditions and proposals are fair and reasonable, and the business is conducted ethically.
- To disagree, if the nature of the transaction is not an ordinary course of business and there is no explanation as to the reason and necessity for entering into such transactions.

(8) Consideration of other matters

- To disagree, especially with the primary agenda which must take time to study the information to make a decision, with such agenda or such matter probably being proposed to the next shareholders' meeting.

Appointment of a person to represent the Company at the shareholders' meeting

- The Managing Director or his delegate is assigned to supervise such company in his capacity as shareholder.

5. The operational results shall be followed up through the management, executive board, for reporting to the Board of Directors of the Company.
6. The subsidiaries shall be monitored to ensure their compliance with laws, relevant regulations stipulated by the regulatory units, including generally acceptable accounting standards.

The Company requires its subsidiaries to yearly review the respective internal control systems to ensure adequacy and appropriateness, whereby the Internal Audit Office of the Company shall regularly review, follow up and evaluate compliance with the good internal control principles, which is specified in the annual audit plan.

Furthermore, the Company has set rules for the persons assigned to supervise the subsidiaries in their capacity as major shareholders to ensure that the subsidiaries have their own regulations on connected transactions, asset acquisition or disposition, or execution of other significant transactions of the subsidiaries in order that they are complete, accurate, and follow the same rules related to information disclosure and the above-mentioned transactions as the Company's rules, as well as to supervise the collection of information and accounting records of the subsidiaries in order for the Company to examine and compile for preparation of consolidated financial statements in a timely manner.

In this regard, the Company has assigned the Managing Director or his delegate(s) to monitor its subsidiaries, in the Company's capacity as their major shareholder, whereby the delegates have

been appointed as directors or executives to supervise and monitor operations of its subsidiaries to ensure compliance with the action plans and consistency with the policies of the Company as their major shareholder. In this connection, the Company has no other agreements with the subsidiaries' minority shareholders for administration.

8.1.4 MONITORING TO ENSURE COMPLIANCE WITH CORPORATE GOVERNANCE POLICY AND PRACTICES

1. Conflict of interest

The Company has established a policy that all directors, executives and staff should avoid entering to any related party transactions which may give rise to a conflict of interest between their personal and the Company's interest in dealing with business partners and other persons; however, if necessary to do so, such related party transaction must be proposed to the Audit Committee for consideration of giving opinions on its justification and the Company's potential benefits prior to requesting approval from the Board of Directors in accordance with the principles of the Corporate Governance Code. In addition, compliance with rules stipulated by the SET and the SEC Office must be ensured.

In 2022, the Company did not enter into any related party transactions with its directors, executives and staff.

2. Inside Information Usage

The Company has supervised the use of inside information in accordance with the principles of the Corporate Governance Code whereby it is defined as policy, which has been communicated to directors, executives and staff for acknowledgment and adherence, which can be summarized as follows:

- A director, executive or staff and/or person who has perceived insider information of the Company and is directly involved in the preparation of the Company's financial statements and the balance sheet, and/or any person who has perceived insider information of the Company and knows or should have known that the Company will disclose material information that may affect change in the market price of the Company's securities, is prohibited from purchasing or selling the Company's securities during the period of one month prior to the public disclosure of the financial statements and/or such information.
- Directors and executives shall submit the first report on their own securities holdings, their respective spouses and minor children's securities holdings in the Company; and report on every change in such securities holdings from purchase, sale, transfer or acceptance of transfer of securities, to the Office of the Securities and Exchange Commission

in accordance with Section 59 of the Securities and Exchange Act B.E. 2535 (1992) within three business days from the date of purchase, sale, transfer or acceptance of transfer of securities, and the Company regularly reminds the Board of Directors thereof. Directors and executives are also required to report on their securities trading or holdings to the Board of Directors' Meeting on a quarterly basis.

In 2022, directors and executives strictly complied therewith. No any violation of or non-compliance with the criteria for securities trading by usage of the inside information under the rules of the SET and the SEC Office was found.

3. Anti-corruption

The Company realizes and gives priority to anti-corruption and fraud prevention, both inside and outside its organization. The Company thus formulates guidelines on proper conducts of directors, executives and staff via the Company's Code of Conduct. Furthermore, with the potential damage from corruption in mind, the Company then formulates anti-corruption policy containing the key practical guidelines as follows:

1. The Company's directors, executives and staff at all levels must carry out activities with fairness, integrity and transparency in business dealings with various agencies, provided that such activities must be proper in compliance with applicable laws, policies, Articles of Association, regulations, notifications or practical procedures;
2. The Company encourages and promotes fair treatment with integrity towards all its business partners and compliance with any contractual commitments made with the Company's stakeholders;
3. The Company encourages and promotes directors', executives', and staff's awareness-raising to ensure that they refrain from committing any fraud and realize the negative impacts of corruption;
4. The Company encourages and promotes directors, executives, and staff to refrain from receiving, agreeing to receive or offering any hospitality, gifts, and any other payments which are extravagant and inappropriate to those in business dealings with the Company; and
5. The Company arranges for staff training to educate them regarding the anti-corruption policy, practices and guidelines.

In this regard, the Company has reviewed the completeness and sufficiency of various processes to prevent the risk of corruption through the internal audit process under the internal audit plan, including additional audits as assigned by the management on a yearly basis.

In 2022, the Company sent the Company's Code of Conduct Compliance Survey for 2022 via the online system to staff at all levels for their self-assessment and awareness that they in no way violate the Company's rules or policies, which may lead to corruption and disgrace to the Company, and refrain from accepting any items or benefits from business partners, contractual parties, or persons with an interest in the Company's business, while remaining committed to adhering to fair business practices on a basis of decision-making and benchmark for price, quality, including services in a transparent and auditable manner. Under any circumstances, they are not allowed to demand that business partners and contractual parties offer or receive any benefits in the course of business. Meanwhile, the Company has provided new staff with an orientation on the work rules and regulations, with penalties for unethical conduct, which will be acknowledged and used as a guideline for further operations.

4. Whistleblowing

The Company provides whistleblowing channels through which stakeholders of all groups can contact and complain about matters which may cause damage to the Company or found any behavior or incidents which may violate or breach its Code of Conduct or policies. Such report or complaint can be filed directly with the Audit Committee Chairman or an independent director, or via the Company Secretary by these channels.

Address : Bangkok Expressway and Metro Public Company Limited
238/7 Asoke-Dindaeng Road,
Bangkapi Subdistrict, Huai Khwang
District, Bangkok 10310
Telephone : 0 2641 4611
E-mail : companysecretary@bemplc.co.th

In 2022, there was no clue and complaint about corruption or violation of the Company's corporate governance policy.

5. Report on Interests of Directors and Executives

The Board of Directors imposes a duty on its directors and executives to report on their personal interests and disclose information on their holdings of directorships or executive positions in other legal entities, and their shareholdings in other legal entities in excess of 25 percent of total voting shares and this obligation applies to both reporters and their related persons. This is to ensure that the Board of Directors has information in support of its consideration and approval of execution of

transactions of the Company and its subsidiaries with accuracy and transparency in compliance with the relevant rules and regulations.

The Company Secretary keeps such reports on interests of directors and executives, and also provides copies of such reports to the Chairman of the Board of Directors and the Audit Committee Chairman within seven business days from the date of the Company's receipt of such reports.

In this regard, the Company's directors, executives and auditors have the duty to report on changes in securities and derivatives holdings by themselves, their spouses and minor children in accordance with Section 59 of the Securities and

Exchange Act. Any directors and executives who have changed their securities holdings must report to the SEC Office within three business days from the date of purchase, sale, transfer or acceptance of the transfer of securities.

The Company has a policy to require directors and executives to quarterly report their purchases-sales or holdings of securities of the Company, which have been changed, to the Board of Directors' meeting for acknowledgment, as well as requiring directors and executives to report to the Company on their own interests or those of their related persons. In 2022, the following directors and executives made changed in their securities holdings:

Directors / Executives	Number of Ordinary Shares			
	As of December 31, 2021	Change in 2022	As of December 31, 2022	
			Amount	%
Directors				
1. Mr. Plew Trivisvavet	21,094,945	(1,000,000)	20,094,945	0.1315
The spouse	2,402,527	-	2,402,527	0.0157
2. Mr. Vitoon Tejatussanasoontorn	-	-	-	-
3. General Chetta Thanajaro	-	-	-	-
4. Prof. (adjunct) Athapol Yaisawang	-	-	-	-
5. Dr. Annop Tanlamai	-	-	-	-
6. Mrs. Vallapa Assakul	-	-	-	-
7. Mr. Supong Chayutsahakij	-	-	-	-
8. M.L. Prasobchai Kasemsant	-	-	-	-
9. Mr. Phongsarit Tantisuvanitchkul	2,500,000	1,000,000	3,500,000	0.0229
10. Mrs. Payao Marittanaporn	-	-	-	-
11. Dr. Supamas Trivisvavet	-	-	-	-
12. Miss Arisara Dharamadhaj	-	-	-	-
13. Mr. Panit Dunnvatanachit	-	-	-	-
14. Miss Jiranan Vorachak	-	-	-	-
15. Mr. Piyakorn Apibalsri	-	-	-	-
16. Mrs. Tasanuch Thammachot	-	-	-	-
17. Dr. Sombat Kitjalaksana	2,999,141	-	2,999,141	0.0196
Executives				
18. Mr. Witoon Hatairatana	-	-	-	-
19. Mr. Anawash Suwanarit	-	-	-	-
20. Mr. Alvin Gee	-	-	-	-
21. Miss Panan Tosuwanthaworn	-	-	-	-

8.2

REPORT ON PERFORMANCE OF THE AUDIT COMMITTEE

8.2.1 MEETING ATTENDANCE OF THE AUDIT COMMITTEE

In 2022, the Audit Committee held its six meetings (Report of the Audit Committee is shown in Attachment 6), and its meeting attendances can be summarized as follows:

Name	Position	Number
1. Mr. Vitoon Tejatussanasoontorn	Audit Committee Chairman	6/6
2. General Chetta Thanajaro	Audit Committee Member	6/6
3. Dr. Annop Tanlamai	Audit Committee Member	6/6

8.3

REPORT ON PERFORMANCE OF SUBCOMMITTEES

8.3.1 REPORT ON PERFORMANCE OF THE NOMINATION AND REMUNERATION COMMITTEE

In 2022, the Nomination and Remuneration Committee held its three meetings (Report of the Nomination and Remuneration Committee is shown in Attachment 6), and its meeting attendances can be summarized as follows:

Name	Position	Number
1. General Chetta Thanajaro	Nomination and Remuneration Committee Chairman	3/3
2. Mr. Vitoon Tejatussanasoontorn	Nomination and Remuneration Committee Member	3/3
3. Mr. Plew Trivisvavet	Nomination and Remuneration Committee Member	3/3
4. Prof. (adjunct) Athapol Yaisawang	Nomination and Remuneration Committee Member	3/3

8.3.2 REPORT ON PERFORMANCE OF THE CORPORATE GOVERNANCE, RISK MANAGEMENT AND SUSTAINABLE DEVELOPMENT COMMITTEE

In 2022, the Corporate Governance, Risk Management and Sustainable Development Committee held its two meetings (Report of the Corporate Governance, Risk Management and Sustainable Development Committee is shown in Attachment 6), and its meeting attendances can be summarized as follows:

Name	Position	Number
1. Prof. (adjunct) Athapol Yaisawang	Corporate Governance, Risk Management and Sustainable Development Committee Chairman	2/2
2. Mrs. Vallapa Assakul	Corporate Governance, Risk Management and Sustainable Development Committee Member	2/2
3. Mr. Phongsarit Tantisuvanitchkul	Corporate Governance, Risk Management and Sustainable Development Committee Member	2/2
4. Dr. Sombat Kitjalaksana	Corporate Governance, Risk Management and Sustainable Development Committee Member	2/2

8.3.3 REPORT ON PERFORMANCE OF THE EXECUTIVE BOARD

In 2022, the Executive Board held its 12 meetings, with the duty to monitor the implementation of the policies established by the Board of Directors and consider the business plans, budgets and feasibility of investing in various projects to expand business and then propose them to the Board of Directors. Its meeting attendances can be summarized as follows:

Name	Position	Number
1. Mr. Plew Trivisvavet	Chairman of the Executive Board	12/12
2. Mr. Supong Chayutsahakij	Executive director	12/12
3. Mr. Phongsarit Tantisuvanitchkul	Executive director	12/12
4. Dr. Sombat Kitjalaksana	Executive director	12/12
5. Mrs. Payao Marittanaporn	Executive director	12/12
6. Dr. Supamas Trivisvavet	Executive director	6/6

9. INTERNAL CONTROL AND CONNECTED TRANSACTIONS

9.1

INTERNAL CONTROL



The Board of Directors continues to realize the significance of its good and effective internal control system, including its good corporate governance guidelines, in the belief that a good internal control system lies in a good performance process, organization chart and work system, which can help the Company achieve its goals or missions with efficiency and effectiveness, as well as minimize risks and prevent possible risks and damage in the Company's business operations. The Board of Directors has thus authorized the Audit Committee comprising independent directors to audit the evaluation of the effectiveness of the internal control system. The Internal Audit Office, which independently performs its duty and directly reports to the Audit Committee, shall have the duty to audit the work operation systems in various departments of the Company as per the annual audit plan approved by the Audit Committee, with an aim of ensuring each department's efficient and effective performance of work and optimum use of the Company's resources, as well as ensuring corruption control and prevention. This also includes the control of the work performance, and the accurate, reliable and timely financial reporting, as well as the compliance with the policies as well as laws and regulations of the government agencies and relevant authorities. Furthermore, the effectiveness of the internal control system is regularly reviewed to ensure the optimum benefit to the shareholders from the business operation based on fairness in terms of benefits to all stakeholders. In addition, the Audit Committee shall have the duties to consider, select and submit for the appointment of the auditor, including remuneration of the auditor, consider accurate and complete disclosure of the Company's connected transactions or any transactions which may give rise to any conflicts of interest.

The Board of Directors has evaluated the adequacy of the internal control system based on the Internal Control Adequacy Evaluation Form, which has been disclosed in the Annual Registration Statement (Form 56-1 One Report), an evaluation form under the guidelines established by the Office of the Securities and Exchange Commission (SEC) in accordance with the practical framework of The Committee of Sponsoring Organizations of the Treadway Commission (COSO), taking into consideration five components, namely corporate internal control, risk assessment, control measures, information and communication systems, and follow-up system. It was concluded that the Company completely met the requirements under the evaluation form, the Company's internal control system was adequate and appropriate to the business operations; no material defect in the internal control system was found; and the Company could efficiently carry out control and prevention of corruption and improper or unauthorized use by executives or employees of the property of the Company and the subsidiaries; the Company's financial reports were accurate and reliable in accordance with the generally accepted accounting standards and the financial reporting standards; and the Company's business operations were in full compliance with the law on securities and exchange and other applicable laws.

In addition, the Internal Audit Office has reviewed various work systems under the annual audit plan 2022, which was approved by the Audit Committee in the Audit Committee's Meeting No. 4/2021, held on November 11, 2021, in order to evaluate the adequacy of the internal control system, corruption control and prevention, and compliance with the rules, regulations established by the Company, as well as applicable laws.

The results of such review indicates that the Company has an adequate internal control system in place, has conducted operations in accordance with rules, regulations and compliant with applicable laws, and has risk management measures, without findings of any flaws or indications of corruption in any material respect, as well as providing sufficient personnel to carry out such operations effectively, monitors and supervises the subsidiaries' operations to ensure that they can protect the property of the Company and its subsidiaries from the improper or unauthorized use by directors or executives. The Company found no material flaws in the internal control system over the past periods. The Internal Audit Office, on the other hand, gave recommendations for boosting operational efficiency in order to assure greater rapidity and decrease in repetitive activities that the audited work units acknowledge, monitor, and report on monitoring results at each Audit Committee's meeting, with the Internal Audit Office's recommendations for improvement being completely implemented.

The Board of Directors, the Audit Committee and the auditor's opinions have coincided that the Company's business operations are based on the Corporate Governance Code, transparency, with the Company having the suitable and effective internal control system which is capable of preventing improper or unauthorized use of the Company's property by executives or employees. Miss Orathai Ruangamporn, Director of the Internal Audit Office, serve as Head of the Internal Audit Unit of the Company, who, in the Audit Committee's opinion, possesses knowledge, capabilities, and experience; she is therefore suitably and adequately qualified to efficiently perform her duties as Head of the Internal Audit Unit of the Company, as well as continuously attending various training courses related to internal audit operations. In this regard, the appointment, removal, transfer of the person holding office as the Company's Head of the Internal Audit Unit shall be subject to the Audit Committee's approval. The qualifications of the person holding office as Head of the Internal Audit Unit are described in Attachment 3.

9.2

CONNECTED TRANSACTIONS

9.2.1 CRITERIA AND PROCEDURES FOR APPROVAL OF EXECUTION OF CONNECTED TRANSACTIONS

Transactions with persons who may have a conflict of interest are subject to the conditions and criteria in the ordinary course of business. The execution of connected transactions and transactions with a conflict of interest are in accordance with the regulations of the Stock Exchange of Thailand and the Office of the Securities and Exchange Commission.

In the consideration and approval of any connected transaction, the Company shall propose such matter to the Board of Directors' Meeting, in which the directors having any involvement which may give rise to a conflict of interest shall not be entitled to attend and vote on such matter. Furthermore, the Audit Committee, as assigned by the Board of Directors, shall consider justification of the transaction, including the disclosure of the Company's information in respect of the connected transaction or the transaction which may have a conflict of interest, to ensure accuracy and completeness.

In respect of connected transactions with general commercial terms which the Company and its subsidiaries have or may have in the future, the Company already requested approval in principle from the Board of Directors' Meeting.

9.2.2 POLICY OR TREND OF FUTURE CONNECTED TRANSACTIONS

The Company shall comply with the requirements and regulations of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, as well as the rules on disclosure of information on connected transactions and acquisition and disposition of material assets of the Company and its subsidiaries, including the accounting standards as prescribed by the Federation of Accounting Professions. In the future, engagement of a group of persons who may have a conflict of interest for construction, project management, maintenance, may be carried out, with the Board of Directors and the Audit Committee jointly considering the necessity and justification for

execution of such transaction, as well as pricing and conditions on the execution of such transaction whether they are in the ordinary course of business, and in comparison with third party prices or market price, provided that the interested parties shall not take part in the consideration and approval for execution of the transaction. The Company has no policy for lending loans or providing guarantee to any person who may have a conflict of interest in accordance with the definition of the SEC Office.

In case that the Audit Committee has no expertise to consider any potential connected transaction, the Company will arrange for an independent expert or the Company's auditor to provide an opinion on such connected transaction in support of the decision-making by the Board of Directors and/or the Audit Committee or shareholders, as the case may be. In this regard, the Company discloses its connected transactions in the Company's notes to the financial statements as audited or reviewed by the Company's auditor.

9.2.3 CONNECTED TRANSACTIONS OF THE COMPANY AND THE SUBSIDIARIES WITH PERSONS WHO MAY HAVE A CONFLICT OF INTEREST

1. Transactions of the Company and its Subsidiary with CH. Karnchang Public Company Limited ("CK")

CK engages in the construction business and a full range of development, investment and management of large-scale infrastructure concession projects within the country and the region. CK is connected with the Company since CK is the Company's major shareholder, holding shares in the Company representing 32.37⁽¹⁾ percent. CK and the Company also have common directors, namely, (1) Mr. Plew Trivisvavet, (2) Mr. Vitoon Tejatussanasoontorn, (3) Mr. Phongsarit Tantisuvanitchkul, and (4) Miss Supamas Trivisvavet.

Transaction	Transaction Volume (Million Baht)			Transaction Nature/ Necessity and Justification
	2022	2021	2020	
Repair, Improvement of the Structures and System Works of the Expressways				
<u>Transaction with the Company</u>				
- Improvement of the structures of the expressways	827.77	758.12	814.24	The Company and its subsidiaries have engaged the specialist company in inspection of the expressway structures on a yearly basis according to the specified schedule, covering all responsible routes to ensure that the expressway structures are in good condition. If a defect that requires repair is found, the Company and its subsidiaries will seek approval to proceed in accordance with the relevant regulations.
- Costs of repair of the structures of the expressways	106.57	-	35.50	
- Trade payable	117.88	51.85	12.14	
<u>Transaction with the Subsidiaries</u>				
- Improvement of the structures of the expressways	17.17	69.13	-	In the past 3 years, the Company and its subsidiaries have engaged CK to repair and improve the expressway structures as follows: 1) Construction and improvement of the structures of the Si Rat Expressway and the Prachin Rattaya Expressway on January 23, 2019, with the total value of Baht 780 Million. 2) No. 4, Phase 3: The Si Rat Expressway, Sector B (Uruphong - Bang Klo) and the Prachin Rattaya Expressway, on August 16, 2019, with the total value of Baht 233 Million. Subsequently, on July 17, 2020, the Company executed the Variation Order, with the value of Baht 4 Million. 3) Construction and improvement of the structures and system works of the Si Rat Expressway on April 14, 2020, with the total value of Baht 831 Million. 4) Improvement of the structures and system works, and No. 4, Phase 4: The Si Rat Expressway and the Prachin Rattaya Expressway on December 21, 2020, with the total value of Baht 920 Million, and the Udon Rattaya Expressway under the responsibility of the subsidiary, with the total value of Baht 86 Million.
- Trade payable	0.01	6.00	-	

⁽¹⁾ Information as at the Book Closing Date of the share register on October 31, 2022.

Transaction	Transaction Volume (Million Baht)			Transaction Nature/ Necessity and Justification
	2022	2021	2020	
				<p>5) Repair and improvement of the structures and system works of the Si Rat Expressway, the Prachin Ratthaya Expressway, and the Udon Ratthaya Expressway on July 12, 2022, with the total value of Baht 1,078 Million.</p> <p>The Audit Committee is of the opinion that the above-mentioned engagement is reasonable and beneficial to the Company and its subsidiaries, due to the fact that CK has experience in the construction of many expressway projects, with potential, ability, and readiness in machinery, equipment and personnel, and moreover, the work prices are reasonable and lower than the prices as appraised by the Company and the independent certification engineer.</p>
Management of Civil Infrastructure and Electrical and Mechanical Systems Maintenance for the MRT Project <ul style="list-style-type: none"> - Cost of maintenance of civil infrastructure and electrical and mechanical systems - Replacement of M&E Equipment - Trade payable 	603.88 75.62 266.69	338.15 137.19 27.82	549.03 467.91 389.49	<p>To ensure that the Company is committed to providing the MRT service with the optimum efficiency while lowering the burden of maintenance work, which dealings with many maintenance service providers had caused problems on arguments for the Company, thereby wasting time and manpower, as such, the Company has implemented a policy to engage the specialist in civil and E&M infrastructure to conduct management of maintenance work.</p> <p>Over the previous period, the Company has engaged CK to conduct management of the civil and E&M infrastructure maintenance work as follows:</p> <p>1) On November 17, 2015, the Project Management Agreement was entered into for the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line) for a period of 8 years and ending in 2023, with the total contract value of Baht 1,270 Million.</p> <p>On August 29, 2018, the Project Management Agreement was entered into for the MRT Blue Line Extension Project for a period of 8 years and 6 months, ending in 2027, together with the extension of the contract term of the M.R.T. Chaloem Ratchamongkhon Line Project (MRT Blue Line) for another 3 years and 5 months to end at the same time as the Agreement for the MRT Blue Line Extension Project, with the total value of Baht 2,778 Million.</p> <p>2) On November 17, 2015, the Project Management Agreement was entered into for the M.R.T. Chalong Ratchadham Line Project (MRT Purple Line), for a period of 8 years, ending in 2023, with the total contract value of Baht 1,520 Million. Subsequently, on December 14, 2016, additional engagement was carried out for the Bang Sue - Tao Poon Station, with the contract value of Baht 155 Million, for a period of 7 years, ending in 2023.</p>

Transaction	Transaction Volume (Million Baht)			Transaction Nature/ Necessity and Justification
	2022	2021	2020	
				The Audit Committee is of the opinion that the above-mentioned engagement is reasonable and beneficial to the Company, due to the fact that CK has readiness and has supplied and installed equipment of the MRT project from the beginning, thereby resulting in the continuity in the operation, and moreover, the work prices are reasonable and lower than the prices as appraised by the independent expert.
Project Management, as well as Supply, Installation, and Test Run and Commissioning of M&E Equipment for the MRT Blue Line Project - Project management cost - Trade payable	- -	- -	1,523.14 -	<p>To ensure that the supply, installation and test run and commissioning of M&E equipment for the MRT Blue Line Extension Project are completed within the period specified in the Concession Agreement, and no cost overrun incurs.</p> <p>On June 20, 2017, the Company executed Project Management Agreement with CK for Project Management, as well as Supply, Installation, and Test Run and Commissioning of M&E Equipment for the MRT Blue Line Project, in the total amount of Baht 19,643 Million.</p> <p>On February 9, 2018, the Company executed the Variation Order for construction and improvement of the administrative building in the area of Huai Khwang Depot, as well as supply and installation of the (additional) M&E Equipment, in the total amount of Baht 558 Million.</p> <p>On July 12, 2018, the Company executed the Variation Order for expediting the opening of the train operation ahead of schedule and installation of the telecommunication network system inside metro stations of the MRT Blue Line Extension Project, in the total amount of Baht 898 Million.</p> <p>On January 7, 2020, the Company executed the Variation Order for the M&E Equipment and the Civil Work as assigned by MRTA which were beyond the scope of works under the existing Agreement in the total amount of Baht 293 Million.</p> <p>The Audit Committee is of the opinion that the above-mentioned engagement is reasonable and beneficial to the Company, due to the fact that CK has potential, experience and expertise, and used to carry out project management in design, supply, and installation of M&E equipment for the MRT projects on a Lump Sum Turnkey basis for the Company, with CK completing such work according to schedule, budget, and with the quality work performance. The work prices are reasonable and lower than the prices as appraised by the independent expert.</p>

Transaction	Transaction Volume (Million Baht)			Transaction Nature/ Necessity and Justification
	2022	2021	2020	
Office Space Lease in Viriyathavorn 2 Building - Office space rental and service charge - Trade payable	9.01 0.09	9.05 0.09	9.03 0.09	The Company and its subsidiaries have taken a lease on Viriyathavorn 2 Building with CK, for the term of 3 years, ending 2025. The office rental rate was comparable to the rental rates charged by the lessor to third party lessees.

2. Transactions of the Company and its Subsidiary with Mass Rapid Transit Authority of Thailand ("MRTA")

MRTA engages in mass rapid transit business and other business for the benefit of Mass Rapid Transit Authority of Thailand and the people in using the mass rapid transit service. MRTA is connected with the Company since MRTA holds shares in the Company representing 8.22⁽²⁾ percent. In addition, MRTA's directors and executives, namely: (1) Mr. Piyakorn Apibalsri, and (2) Mr. Vithaya Punmongkol, are directors of the Company.

Transaction	Transaction Volume (Million Baht)			Transaction Nature/ Necessity and Justification
	2022	2021	2020	
Remuneration from Farebox Revenue and Commercial Development Revenue - Remuneration from farebox revenue and commercial development revenue - Prepaid project remuneration - Land and building taxes - Trade and other payables	421.10 12,400.55 17.24 281.19	220.64 9,775.52 3.40 234.10	350.69 7,307.90 1.87 224.99	The transaction was in accordance with the conditions of the Concession Agreement.
Space Lease for Billboard Installation - Remuneration for space use - Land and building taxes	17.54 0.06	9.58 -	9.90 0.86	The subsidiary took a lease on the space of MRTA for the purpose of commercial development, at the rental rate according to the market price.

⁽²⁾ Information as at the Book Closing Date of the share register on October 31, 2022.

Remark : On December 13, 2022, Mr. Vithaya Punmongkol resigned his position as director, and on December 21, 2022, Miss Jiranan Vorachak was appointed as director to take his place.



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PART • FINANCIAL
STATEMENTS

FINANCIAL STATEMENTS



REPORT ON RESPONSIBILITIES OF THE BOARD OF DIRECTORS TOWARDS THE FINANCIAL REPORT

The Company's Board of Directors realizes the significance of its duties and responsibilities in supervising the Company's business to ensure good management in accordance with laws, objectives and the Company's Articles of Association, as well as resolutions of the shareholders' meetings with integrity and prudence. The Board of Directors protects the benefits of the Company, shareholders and general investors by ensuring that the Company's financial report contains accurate and full accounting records that reflect the Company's actual financial status and operational results.

The Company's Board of Directors appointed the Audit Committee comprising independent directors fully qualified in accordance with the requirements of the Stock Exchange of Thailand to review and ensure accuracy and sufficiency of the financial report, including accurate and complete disclosure of connected transactions or transactions with possible conflict of interest, in compliance with the requirements of the Stock Exchange of Thailand and relevant rules and regulations. In this regard, the Audit Committee has already reported its performance to the Company's Board of Directors.

The Company's Board of Directors is of the opinion that the financial statements for 2022 of the Company and the Subsidiaries, which have been reviewed by the Audit Committee in conjunction with the management, and audited by the Company's auditor, reflect accurate financial status and operational results as appropriate in material aspects in accordance with generally accepted accounting principles.

On behalf of the Board of Directors

A handwritten signature in black ink, appearing to read 'Sombat Kitjalaksana'.

(Dr. Sombat Kitjalaksana)

Managing Director

22 February 2023

INDEPENDENT AUDITOR'S REPORT

To the Shareholders of Bangkok Expressway and Metro Public Company Limited

Opinion

I have audited the accompanying consolidated financial statements of Bangkok Expressway and Metro Public Company Limited and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2022, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and have also audited the separate financial statements of Bangkok Expressway and Metro Public Company Limited for the same period.

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Bangkok Expressway and Metro Public Company Limited and its subsidiaries and of Bangkok Expressway and Metro Public Company Limited as at 31 December 2022, their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Group in accordance with the *Code of Ethics for Professional Accountants including Independence Standards* issued by the Federation of Accounting Professions (Code of Ethics for Professional Accountants) that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code of Ethics for Professional Accountants. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the financial statements of the current period. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

I have fulfilled the responsibilities described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report, including in relation to these matters. Accordingly, my audit included the performance of procedures designed to respond to my assessment of the risks of material misstatement of the financial statements. The results of my audit procedures, including the procedures performed to address the matters below, provide the basis for my audit opinion on the accompanying financial statements as a whole.

Key audit matters and how audit procedures respond to each matter are described below.

Recognition of toll revenue, toll revenue sharing and fare box revenue

The Group recognises toll revenue, toll revenue sharing and fare box revenue in accordance with the accounting policy disclosed in Note 4.1 to the consolidated financial statements. The revenue accounts are the most significant amounts in the statement of income. In addition, the Group's service income is derived from numerous transactions and varies in terms of the toll and fare box rates. I have therefore paid attention to the audit of the measurement of the related transactions recorded by the Group.

I have examined the revenue recognition of the Group by assessing and testing the internal controls relevant to the revenue cycle of the Group, including the related information technology systems, by making inquiry of responsible executives, gaining an understanding of the controls and selecting representative samples to test the operation of the designed controls. In addition, I have examined the measurement and completeness of the revenue information that the Group used for accounting purposes by performing live audit testing and traffic volume observation. On a sampling basis, I examined documents supporting actual revenue transactions occurring during the year. I also performed analytical procedures on disaggregated data to detect possible irregularities in sales transactions throughout the period, particularly for accounting entries made through journal vouchers.

Recognition of capital expenditures

During the year ended 31 December 2022, the Group had capital expenditures amounting to Baht 1,218 million that were recorded as “Rights to operate expressway sectors and Intangible assets under concession agreement of the MRT Blue Line Project”, as disclosed in Notes 15 and 16 to the consolidated financial statements. I considered the recognition of capital expenditures as assets to be a significant transaction. In addition, management needed to exercise substantial judgment in determining whether the costs were direct costs and could be recognised as costs of acquiring intangible assets if they met the conditions stipulated under financial reporting standards.

I assessed the Group’s recognition of capital expenditures during the year by inquiring with management to gain an understanding of the basis applied and judgement exercised by management in capitalising expenses as assets and the disclosures in the notes to the financial statements. I reviewed the minutes of meetings, contracts and documents related to the capital expenditures. I also selected and checked representative samples of supporting documents for expenses recognised as assets during the year to determine whether the recognition met the criteria under financial reporting standards and reviewed the disclosures in the notes to the financial statements.

Intangible assets under concession agreement of the MRT Blue Line Project

As at 31 December 2022, the Group has intangible assets under concession agreement of the MRT Blue Line Project amounting to Baht 45,246 million in the consolidated financial statements, or equal to 39.64 percent of total assets. The Company commenced operation of the Through Operation systems of the MRT Blue Line Project on 30 March 2020 and it has been affected by the Coronavirus disease 2019 pandemic, which has affected commuter numbers on the metro system and significantly impacted the project’s revenue. The assessment of impairment of intangible assets under the concession agreement of the MRT Blue Line Project requires the management to exercise a high degree of judgement in forecasting operating results, estimating the cash inflows that are expected to be generated in the future, and setting an appropriate discount rate and other assumptions.

I assessed the impairment assessment performed by management on intangible assets under the concession agreement of the MRT Blue Line Project by gaining an understanding of and evaluating the financial model selected by the management and evaluating the key assumptions applied by the management in preparing

plans and projecting the cashflows to be generated from those assets in the future by gaining an understanding of the process through which the figures were derived, comparing the assumptions with external and internal sources of information, and reviewing the cashflow projections in comparison with the actual operating results. I also evaluated the discount rate applied by analysing the weighted average cost of capital and other information and reperforming the calculation of expected future cashflows under the financial model. In addition, I considered the sensitivity of the cashflow projections to key assumptions, especially the discount rate.

Other Information

Management is responsible for the other information. The other information comprise the information included in annual report of the Group, but does not include the financial statements and my auditor’s report thereon. The annual report of the Group is expected to be made available to me after the date of this auditor’s report.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated.

When I read the annual report of the Group, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance for correction of the misstatement.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Group’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group’s financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Thai Standards on Auditing, I exercise professional judgement and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

I am responsible for the audit resulting in this independent auditor's report.



Sirirat Sricharoensup

Certified Public Accountant (Thailand) No. 5419
EY Office Limited
Bangkok: 22 February 2023

STATEMENT OF FINANCIAL POSITION

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position

As at 31 December 2022

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
Assets					
Current assets					
Cash and cash equivalents	7	1,787,836,238	1,131,367,911	1,410,945,524	595,974,028
Bank deposit for unearned fare box revenue	8	229,984,555	225,201,031	229,984,555	225,201,031
Trade and other receivables	9	647,992,309	473,252,353	800,027,621	474,835,489
Current portion of receivable under the concession agreement	10	1,649,683,274	1,649,683,274	1,649,683,274	1,649,683,274
Current tax assets		144,533,107	120,971,846	142,532,837	115,868,135
Other current financial assets	11	946,995,194	765,670,719	946,995,194	765,670,719
Other current assets					
Prepaid expenses		93,333,670	92,564,380	90,311,982	88,690,123
Advance payment for service contracts		-	44,566,316	-	41,991,312
Spare parts		59,199,669	26,633,266	59,199,669	26,633,266
Others		6,002,968	10,729,409	3,757,694	5,135,588
Total current assets		5,565,560,984	4,540,640,505	5,333,438,350	3,989,682,965
Non-current assets					
Receivable under the concession agreement, net of current portion	10	4,261,681,792	5,911,365,066	4,261,681,792	5,911,365,066
Long term-loan to related party	6	-	-	300,000,000	-
Other non-current financial assets	11	13,418,815,206	15,909,924,565	13,418,815,206	15,909,924,565
Investments in subsidiaries	12	-	-	767,729,867	767,729,867
Investment properties	13	120,357,493	120,357,493	120,357,493	120,357,493
Building and equipment	14	337,931,815	383,984,663	324,762,189	360,192,223
Right-of-use assets	23	171,595,613	139,696,152	78,166,681	51,763,824
Rights to operate expressway sectors	15	31,860,051,536	31,920,531,506	27,123,127,708	27,241,674,791
Intangible asset under concession agreement of					
the MRT Blue Line Project	16	45,245,877,915	45,368,623,475	44,989,376,430	45,095,803,584
Project cost of the MRT Chalong Ratchadham Line	17	656,677,998	676,752,990	656,677,998	676,752,990
Prepaid project remuneration	6	12,400,550,604	9,775,518,134	12,400,550,604	9,775,518,134
Other intangible assets	18	33,948,492	48,351,411	33,431,861	45,676,244
Deferred tax assets	32	19,994,793	16,310,587	-	-
Other non-current assets		35,143,010	276,442,889	15,192,677	263,911,925
Total non-current assets		108,562,626,267	110,547,858,931	104,489,870,506	106,220,670,706
Total assets		114,128,187,251	115,088,499,436	109,823,308,856	110,210,353,671

The accompanying notes are an integral part of the financial statements.

STATEMENT OF FINANCIAL POSITION (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position (continued)

As at 31 December 2022

(Unit: Baht)

		Consolidated financial statements		Separate financial statements	
	Note	2022	2021	2022	2021
Liabilities and shareholders' equity					
Current liabilities					
Short-term loans from financial institution		-	2,000,000,000	-	2,000,000,000
Trade and other payables	19	1,762,804,876	1,492,413,420	1,703,436,123	1,422,538,023
Current portion of long-term loans from financial institutions	20	4,173,244,069	3,544,204,069	3,461,764,069	2,861,764,069
Current portion of lease liabilities	23	67,763,943	44,749,169	44,010,119	25,374,022
Current portion of debentures	21	5,500,000,000	3,000,000,000	5,500,000,000	3,000,000,000
Unearned fare box revenue	8	243,947,482	221,885,631	243,947,482	221,885,631
Deposits on stored value ticket		93,486,147	86,567,897	93,486,147	86,567,897
Income tax payable		11,603,425	27,693,411	-	-
Other current financial liabilities		105,052,472	102,555,542	101,692,473	95,813,158
Other current liabilities					
Value added tax payable		54,922,110	52,830,593	50,879,372	36,124,502
Withholding tax deducted at source payable		58,948,436	39,536,369	54,979,700	37,340,349
Others		19,956,115	33,041,963	19,773,525	32,193,082
Total current liabilities		12,091,729,075	10,645,478,064	11,273,969,010	9,819,600,733
Non-current liabilities					
Long-term loans from financial institutions, net of current portion	20	24,709,713,605	25,609,412,070	23,072,321,974	23,275,884,296
Lease liabilities, net of current portion	23	103,375,827	92,659,628	35,034,289	25,628,758
Debentures, net of current portion	21	36,058,427,918	37,057,371,553	36,058,427,918	37,057,371,553
Derivative financial liabilities		895,469	95,880,794	895,469	95,880,794
Unearned revenue from advertising management rights	22	-	-	6,871,964	8,120,323
Provision for long-term employee benefits	24	838,048,488	770,896,288	806,946,344	744,829,551
Deferred tax liabilities	32	3,051,921,707	3,108,954,593	3,051,921,707	3,108,954,593
Other non-current liabilities		10,512,349	9,014,047	7,272,200	6,348,700
Total non-current liabilities		64,772,895,363	66,744,188,973	63,039,691,865	64,323,018,568
Total liabilities		76,864,624,438	77,389,667,037	74,313,660,875	74,142,619,301

The accompanying notes are an integral part of the financial statements.

STATEMENT OF FINANCIAL POSITION (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of financial position (continued)

As at 31 December 2022

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
Shareholders' equity					
Share capital					
Registered					
15,285,000,000 ordinary shares of Baht 1 each		15,285,000,000	15,285,000,000	15,285,000,000	15,285,000,000
Issued and fully paid-up					
15,285,000,000 ordinary shares of Baht 1 each		15,285,000,000	15,285,000,000	15,285,000,000	15,285,000,000
Premium on ordinary shares		5,816,938,084	5,816,938,084	5,816,938,084	5,816,938,084
Capital deficit from change in shareholding in subsidiaries		(346,046,294)	(346,046,294)	-	-
Retained earnings					
Appropriated - statutory reserve	25	1,528,500,000	1,502,600,000	1,528,500,000	1,502,600,000
Unappropriated		16,451,236,957	15,193,997,725	8,246,983,467	7,030,014,932
Other components of shareholders' equity		(1,473,687,797)	244,792,547	4,632,226,430	6,433,181,354
Equity attributable to shareholders of the Company		37,261,940,950	37,697,282,062	35,509,647,981	36,067,734,370
Non-controlling interests of the subsidiaries		1,621,863	1,550,337	-	-
Total shareholders' equity		37,263,562,813	37,698,832,399	35,509,647,981	36,067,734,370
Total liabilities and shareholders' equity		114,128,187,251	115,088,499,436	109,823,308,856	110,210,353,671

The accompanying notes are an integral part of the financial statements.

INCOME STATEMENT

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Income statement

For the year ended 31 December 2022

(Unit: Baht)

		<u>Consolidated financial statements</u>		<u>Separate financial statements</u>	
	<u>Note</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Revenues					
Revenue from expressway business		8,191,799,140	6,450,160,064	7,008,021,427	5,490,299,714
Revenue from rail business		4,916,979,561	3,454,408,377	4,916,979,561	3,454,408,377
Revenue from commercial development business	27	920,660,523	822,153,949	811,397,020	745,500,142
Other income					
Interest income		187,223,397	227,222,451	185,487,663	225,696,287
Dividend income	6	551,535,569	492,182,682	551,535,569	492,182,682
Project management and maintenance incomes	6	-	-	772,709,325	228,000,000
Others		33,275,793	35,461,769	26,695,071	22,713,778
Total revenues		14,801,473,983	11,481,589,292	14,272,825,636	10,658,800,980
Expenses					
Cost of expressway business		1,893,315,303	1,498,829,128	1,603,119,588	1,310,602,267
Cost of rail business		4,877,034,831	4,335,390,944	4,877,034,831	4,335,390,944
Cost of commercial development business		275,713,008	223,855,683	364,532,355	332,797,919
Amortisation on rights to operate completed expressway sectors	15	933,228,251	686,150,894	703,338,200	504,626,835
Amortisation on intangible asset under concession agreement of the MRT Blue Line Project	16	467,772,833	245,443,987	419,933,226	197,331,449
Selling expenses		126,823,156	91,863,188	63,206,281	37,074,946
Administrative expenses		1,032,991,990	1,068,048,787	1,285,119,860	993,062,770
Total expenses		9,606,879,372	8,149,582,611	9,316,284,341	7,710,887,130
Operating profit		5,194,594,611	3,332,006,681	4,956,541,295	2,947,913,850
Finance cost	30	(2,360,679,969)	(2,187,044,061)	(2,276,594,977)	(2,101,847,890)
Profit before income tax expenses		2,833,914,642	1,144,962,620	2,679,946,318	846,065,960
Income tax expenses	32	(397,658,573)	(133,911,711)	(366,507,052)	(74,203,093)
Profit for the year		2,436,256,069	1,011,050,909	2,313,439,266	771,862,867
Profit attributable to:					
Equity holders of the Company		2,436,184,543	1,010,097,493	2,313,439,266	771,862,867
Non-controlling interests of the subsidiaries		71,526	93,416		
		<u>2,436,256,069</u>	<u>1,011,050,909</u>		
Basic earnings per share					
Profit attributable to equity holders of the Company	33	<u>0.16</u>	<u>0.07</u>	<u>0.15</u>	<u>0.05</u>

The accompanying notes are an integral part of the financial statements.

STATEMENT OF COMPREHENSIVE INCOME

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of comprehensive income

For the year ended 31 December 2022

(Unit: Baht)

	<u>Consolidated financial statements</u>		<u>Separate financial statements</u>	
<u>Note</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Profit for the year	<u>2,436,256,069</u>	<u>1,011,050,909</u>	<u>2,313,439,266</u>	<u>771,862,867</u>
Other comprehensive income				
<i>Other comprehensive income to be reclassified</i>				
<i>to profit or loss in subsequent periods:</i>				
Gain from cash flow hedges, net of income tax	<u>170,438,852</u>	<u>71,932,808</u>	<u>170,438,852</u>	<u>71,932,808</u>
Other comprehensive income to be reclassified				
to profit or loss in subsequent periods, net of income tax	<u>170,438,852</u>	<u>71,932,808</u>	<u>170,438,852</u>	<u>71,932,808</u>
<i>Other comprehensive income not to be reclassified</i>				
<i>to profit or loss in subsequent periods:</i>				
Gain (loss) on investments in equity designated at fair value				
through other comprehensive income, net of income tax	<u>(1,819,164,507)</u>	<u>55,349,674</u>	<u>(1,819,164,507)</u>	<u>55,349,674</u>
Actuarial gain, net of income tax	<u>24 -</u>	<u>178,424,063</u>	<u>-</u>	<u>173,600,711</u>
Other comprehensive income not to be reclassified				
to profit or loss in subsequent periods, net of income tax	<u>(1,819,164,507)</u>	<u>233,773,737</u>	<u>(1,819,164,507)</u>	<u>228,950,385</u>
Other comprehensive income for the year	<u>(1,648,725,655)</u>	<u>305,706,545</u>	<u>(1,648,725,655)</u>	<u>300,883,193</u>
Total comprehensive income for the year	<u>787,530,414</u>	<u>1,316,757,454</u>	<u>664,713,611</u>	<u>1,072,746,060</u>
Total comprehensive income attributable to:				
Equity holders of the Company	<u>787,458,888</u>	<u>1,315,788,120</u>	<u>664,713,611</u>	<u>1,072,746,060</u>
Non-controlling interests of the subsidiaries	<u>71,526</u>	<u>969,334</u>		
	<u>787,530,414</u>	<u>1,316,757,454</u>		

The accompanying notes are an integral part of the financial statements.

STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of changes in shareholders' equity

For the year ended 31 December 2022

(Unit: Baht)

Consolidated financial statements											
Equity attributable to the shareholders of the Company											
	Issued and paid-up share capital		Capital deficit from change in shareholding in subsidiaries	Retained earnings		Other comprehensive income		Total other components of shareholders' equity	Total equity attributable to shareholders of the Company	Equity attributable to non-controlling interests of the subsidiaries	Total shareholders' equity
	premium on ordinary shares			Appropriated - statutory reserve	Unappropriated	Cash flow hedge reserve	Fair value reserve				
Balance as at 1 January 2021	15,285,000,000	5,816,938,084	(264,641,165)	1,464,000,000	15,572,592,087	(148,637,443)	266,147,508	117,510,065	37,991,399,071	42,325,561	38,033,724,632
Profit for the year	-	-	-	-	1,010,097,493	-	-	-	1,010,097,493	953,416	1,011,050,909
Other comprehensive income for the year	-	-	-	-	178,408,145	71,932,808	55,349,674	127,282,482	305,690,627	15,918	305,706,545
Total comprehensive income for the year	-	-	-	-	1,188,505,638	71,932,808	55,349,674	127,282,482	1,315,788,120	969,334	1,316,757,454
Investment in subsidiary (Note 12)	-	-	(81,405,129)	-	-	-	-	-	(81,405,129)	(41,744,558)	(123,149,687)
Transferred to statutory reserve (Note 25)	-	-	-	38,600,000	(38,600,000)	-	-	-	-	-	-
Dividend paid (Note 34)	-	-	-	-	(1,528,500,000)	-	-	-	(1,528,500,000)	-	(1,528,500,000)
Balance as at 31 December 2021	<u>15,285,000,000</u>	<u>5,816,938,084</u>	<u>(346,046,294)</u>	<u>1,502,600,000</u>	<u>15,193,997,725</u>	<u>(76,704,635)</u>	<u>321,497,182</u>	<u>244,792,547</u>	<u>37,697,282,062</u>	<u>1,550,337</u>	<u>37,698,832,399</u>
											-
Balance as at 1 January 2022	15,285,000,000	5,816,938,084	(346,046,294)	1,502,600,000	15,193,997,725	(76,704,635)	321,497,182	244,792,547	37,697,282,062	1,550,337	37,698,832,399
Profit for the year	-	-	-	-	2,436,184,543	-	-	-	2,436,184,543	71,526	2,436,256,069
Other comprehensive income for the year	-	-	-	-	-	170,438,852	(1,819,164,507)	(1,648,725,655)	(1,648,725,655)	-	(1,648,725,655)
Total comprehensive income for the year	-	-	-	-	2,436,184,543	170,438,852	(1,819,164,507)	(1,648,725,655)	787,458,888	71,526	787,530,414
Transferred to retained earnings (Note 11)	-	-	-	-	69,754,689	-	(69,754,689)	(69,754,689)	-	-	-
Transferred to statutory reserve (Note 25)	-	-	-	25,900,000	(25,900,000)	-	-	-	-	-	-
Dividend paid (Note 34)	-	-	-	-	(1,222,800,000)	-	-	-	(1,222,800,000)	-	(1,222,800,000)
Balance as at 31 December 2022	<u>15,285,000,000</u>	<u>5,816,938,084</u>	<u>(346,046,294)</u>	<u>1,528,500,000</u>	<u>16,451,236,957</u>	<u>93,734,217</u>	<u>(1,567,422,014)</u>	<u>(1,473,687,797)</u>	<u>37,261,940,950</u>	<u>1,621,863</u>	<u>37,263,562,813</u>

The accompanying notes are an integral part of the financial statements.

STATEMENT OF CHANGES IN SHAREHOLDERS' EQUITY

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Statement of changes in shareholders' equity

For the year ended 31 December 2022

(Unit: Baht)

	Separate financial statements							
	Retained earnings				Other components of shareholders' equity			
					Other comprehensive income		Total other components of shareholders' equity	Total shareholders' equity
	Issued and paid-up share capital	Premium on ordinary shares	Appropriated - statutory reserve	Unappropriated	Cash flow hedge reserve	Fair value reserve		
Balance as at 1 January 2021	15,285,000,000	5,816,938,084	1,464,000,000	7,651,651,354	(148,637,443)	6,454,536,315	6,305,898,872	36,523,488,310
Profit for the year	-	-	-	771,862,867	-	-	-	771,862,867
Other comprehensive income for the year	-	-	-	173,600,711	71,932,808	55,349,674	127,282,482	300,883,193
Total comprehensive income for the year	-	-	-	945,463,578	71,932,808	55,349,674	127,282,482	1,072,746,060
Transferred to statutory reserve (Note 25)	-	-	38,600,000	(38,600,000)	-	-	-	-
Dividend paid (Note 34)	-	-	-	(1,528,500,000)	-	-	-	(1,528,500,000)
Balance as at 31 December 2021	<u>15,285,000,000</u>	<u>5,816,938,084</u>	<u>1,502,600,000</u>	<u>7,030,014,932</u>	<u>(76,704,635)</u>	<u>6,509,885,989</u>	<u>6,433,181,354</u>	<u>36,067,734,370</u>
								-
Balance as at 1 January 2022	15,285,000,000	5,816,938,084	1,502,600,000	7,030,014,932	(76,704,635)	6,509,885,989	6,433,181,354	36,067,734,370
Profit for the year	-	-	-	2,313,439,266	-	-	-	2,313,439,266
Other comprehensive income for the year	-	-	-	-	170,438,852	(1,819,164,507)	(1,648,725,655)	(1,648,725,655)
Total comprehensive income for the year	-	-	-	2,313,439,266	170,438,852	(1,819,164,507)	(1,648,725,655)	664,713,611
Transferred to retained earnings (Note 11)	-	-	-	152,229,269	-	(152,229,269)	(152,229,269)	-
Transferred to statutory reserve (Note 25)	-	-	25,900,000	(25,900,000)	-	-	-	-
Dividend paid (Note 34)	-	-	-	(1,222,800,000)	-	-	-	(1,222,800,000)
Balance as at 31 December 2022	<u>15,285,000,000</u>	<u>5,816,938,084</u>	<u>1,528,500,000</u>	<u>8,246,983,467</u>	<u>93,734,217</u>	<u>4,538,492,213</u>	<u>4,632,226,430</u>	<u>35,509,647,981</u>

The accompanying notes are an integral part of the financial statements.

CASH FLOW STATEMENT

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Cash flow statement

For the year ended 31 December 2022

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash flows from operating activities				
Profit before tax	2,833,914,642	1,144,962,620	2,679,946,318	846,065,960
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation on building and equipment	76,065,745	77,203,850	71,496,009	65,541,064
Amortisation on right-of-use assets	68,496,825	65,702,216	43,182,793	44,640,953
Amortisation on intangible asset under concession agreements	1,430,296,365	959,333,945	1,152,566,707	729,697,348
Amortisation on other intangible assets	14,402,919	26,366,367	12,244,384	24,121,546
Bad debt expenses	369,373	-	96,981	-
Allowance for expected credit losses (reversal)	(1,292,240)	2,809,203	(945,225)	2,305,818
Revenue recognition of unearned revenue from advertising management rights	-	-	(1,248,360)	(1,248,360)
Withholding tax deducted at source written off	-	1,060,664	-	-
Loss on sale of investments in financial assets	44,760	-	44,760	-
Gain on fair value adjustments of financial assets	(1,369,235)	(4,395,586)	(1,369,235)	(4,395,586)
Gain on disposal/write-off of equipment and intangible assets under concession agreement of the MRT Blue Line Project	(3,045,993)	(6,071,738)	(3,740,530)	(6,100,477)
Project remuneration expense	421,101,751	220,635,284	421,101,751	220,635,284
Provision for long-term employee benefits	95,848,906	93,139,079	90,813,499	88,678,311
Unrealised loss (gain) on exchange rate	179,699	(283,854)	179,699	(283,854)
Effect of reduction in rental expenses	-	(3,381,343)	-	(65,488)
Interest income	(187,223,397)	(227,222,451)	(185,472,961)	(225,696,287)
Dividend income	(551,535,569)	(492,182,682)	(551,535,569)	(492,182,682)
Interest expenses	2,327,131,223	2,163,893,619	2,243,252,859	2,079,408,674
Profit from operating activities before changes in operating assets and liabilities	6,523,385,774	4,021,569,193	5,970,613,880	3,371,122,224
Operating assets (increase) decrease				
Bank deposit for unearned fare box revenue	(4,783,524)	(714,335)	(4,783,524)	(714,335)
Trade and other receivables	(172,798,401)	106,486,620	(323,280,922)	69,254,207
Receivable under the concession agreement	1,649,683,274	1,649,683,274	1,649,683,274	1,649,683,274
Other current assets	27,632,706	(44,981,746)	20,856,598	(40,886,213)
Other non-current assets	(7,145,686)	(2,232,967)	(4,940,429)	(1,390,114)
Cash paid for project remuneration	(2,998,854,922)	(2,679,657,407)	(2,998,854,922)	(2,679,657,407)
Operating liabilities increase (decrease)				
Trade and other payables	253,415,423	(186,562,594)	400,072,303	(254,182,507)
Unearned fare box revenue	22,061,851	(6,404,631)	22,061,851	(6,404,631)
Deposits on stored value ticket	6,918,250	(1,159,600)	6,918,250	(1,159,600)
Other current liabilities	10,914,667	14,230,241	25,853,980	12,227,398
Other non-current liabilities	1,498,300	(4,768,722)	923,500	(4,617,708)
Cash paid for long-term employee benefits	(28,696,707)	(31,543,409)	(28,696,707)	(31,543,409)
Net cash flows from operating activities	5,283,231,005	2,833,943,917	4,736,427,132	2,081,731,179
Cash received from interest income	186,204,886	227,222,838	184,410,161	225,696,626
Cash received from withholding tax deducted at source	358,669,287	2,931,708	358,669,287	-
Cash paid for income tax	(195,569,220)	(194,699,585)	(142,532,837)	(115,868,135)
Net cash flows from operating activities	5,632,535,958	2,869,398,878	5,136,973,743	2,191,559,670

The accompanying notes are an integral part of the financial statements.

CASH FLOW STATEMENT (Continued)

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Cash flow statement (continued)

For the year ended 31 December 2022

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash flows from investing activities				
Cash received from sales of financial assets designated at FVTPL	870,000,000	-	870,000,000	-
Cash paid for purchase of financial assets designated at FVTPL	(1,050,000,000)	-	(1,050,000,000)	-
Cash received from sale of financial assets designated at FVOCI	334,321,496	-	334,321,496	-
Cash paid for purchase of investments in subsidiary	-	(123,149,687)	-	(123,149,687)
Cash paid for long-term loan to related party	-	-	(300,000,000)	-
Cash received from sales of equipment	4,373,953	7,848,476	4,114,514	7,848,476
Purchase of equipment	(31,104,242)	(87,435,912)	(36,534,733)	(80,109,505)
Cash received from dividend income	551,535,569	492,182,682	551,535,569	492,182,682
Cash paid for the improvement of expressway	(796,809,743)	(845,461,302)	(645,308,363)	(733,058,659)
Cash paid for intangible asset under concession agreement of the MRT Blue Line Project	(447,753,901)	(1,102,154,189)	(415,607,952)	(1,088,137,240)
Cash paid for project cost of the MRT Chalong Ratchadham Line	(31,829,054)	(61,270,758)	(31,829,054)	(61,270,758)
Increase in other intangible assets	(37,916)	(11,515,081)	(37,916)	(11,494,081)
Net cash flows used in investing activities	(597,303,838)	(1,730,955,771)	(719,346,439)	(1,597,188,772)
Cash flows from financing activities				
Cash received from short-term loan from financial institution	8,100,000,000	5,200,000,000	8,100,000,000	5,200,000,000
Repayment of short-term loans from financial institution	(10,100,000,000)	(6,200,000,000)	(10,100,000,000)	(6,200,000,000)
Cash received from long-term loans from financial institutions	3,000,000,000	5,000,000,000	3,000,000,000	5,000,000,000
Repayment of long-term loans from financial institutions	(3,544,204,069)	(3,403,941,069)	(2,861,764,069)	(3,091,761,069)
Cash payment for lease liabilities	(70,714,108)	(67,283,541)	(44,345,722)	(47,488,832)
Cash received from debentures	4,500,000,000	6,000,000,000	4,500,000,000	6,000,000,000
Cash paid for redemption of debentures	(3,000,000,000)	(4,615,000,000)	(3,000,000,000)	(4,615,000,000)
Cash paid for financial fees	(16,007,795)	(25,042,356)	(16,007,795)	(25,042,356)
Interest paid	(2,025,037,821)	(1,980,892,338)	(1,957,738,222)	(1,904,696,102)
Dividend paid	(1,222,800,000)	(1,528,500,000)	(1,222,800,000)	(1,528,500,000)
Net cash flows used in financing activities	(4,378,763,793)	(1,620,659,304)	(3,602,655,808)	(1,212,488,359)
Net increase (decrease) in cash and cash equivalents	656,468,327	(482,216,197)	814,971,496	(618,117,461)
Cash and cash equivalents at beginning of year	1,131,367,911	1,613,584,108	595,974,028	1,214,091,489
Cash and cash equivalents at end of year	1,787,836,238	1,131,367,911	1,410,945,524	595,974,028

Supplemental cash flows information

Non-cash items consist of:

Increase in other payable from acquisition of equipment	-	966,134	-	672,774
Increase in payable from cost of expressway improvement	75,940,257	55,179,489	-	47,976,289
Increase in payable from the MRT Chalong Ratchadham Line	-	16,430,973	-	16,430,973
Increase in right-of-use assets from lease liabilities	100,974,285	119,270,679	70,163,649	38,357,588

The accompanying notes are an integral part of the financial statements.

Bangkok Expressway and Metro Public Company Limited and its subsidiaries

Notes to consolidated financial statements

For the year ended 31 December 2022

1. General information

Bangkok Expressway and Metro Public Company Limited (“the Company”) is a public company incorporated from an amalgamation on 30 December 2015 and domiciled in Thailand. The Company’s major shareholder is the CH. Karnchang Public Company Limited, which is a public company incorporated in Thailand. The registered office of the Company is at 587 Sutthisarn Road, Ratchacaphisek Subdistrict, Dindaeng District, Bangkok. The Company has four branches.

The Company is principally engaged in the construction and management of expressways, the operation of metro services and commercial development. Details are as follows:

A. Construction and management of expressways

The Group has been granted concessions by the Expressway Authority of Thailand (“EXAT”) for the construction and management of expressways, as follows:

A.1 The Si Rat Expressway under the Second Stage Expressway agreement (Sector A, Sector B and Sector C) and the Extension of the Second Stage Expressway agreement (Sector D).

The Company, as a concessionaire, invested in the design, construction and management of expressways. These consists of 4 sectors: Sector A (Rama IX-Ratchadapisek), Sector B (Phayathai-Bangkhlo), Sector C (Ratchadapisek-Chaeng Watthana) and Sector D (Rama IX-Srinagarindra). The concession periods are 30 years commencing on 1 March 1990 for Sector A, Sector B and Sector C, and on 17 April 1997 for Sector D. The EXAT has the rights to collect all toll revenues and is to compensate the Company in the form of toll revenue sharing at the rates specified in the concession agreement, throughout the concession period. The Company has the rights to extend the concession for two further periods of 10 years each, depending upon terms and conditions that are to be agreed between the parties.

On 20 February 2020, the Company and EXAT signed the Second Stage Expressway Agreement (Amendment). The Company was granted extensions to 31 October 2035 of the terms of the existing agreements for both the Second Stage Expressway agreement (Sector A, Sector B and Sector C), which was to end on 29 February 2020, and the Extension of the Second Stage Expressway agreement (Sector D), which was to end on 21 April 2027. In addition, the Company retains all rights to extend the concessions specified in the existing agreements. The remaining periods of the existing agreements are 4 years and 4 months for the Second Stage Expressway agreement and 11 years and 6 months for the Extension of the Second Stage Expressway agreement (Sector D), commencing from the end of the amended agreements. The toll rates are to be increased every 10 years by fixed amounts specified in the agreements, commencing from 1 September 2018.

- A.2 The Prachin Ratthaya Expressway Project under the Si Rat - Outer Ring Road Expressway Project agreement in respect of the investment, design, construction, management, operation and maintenance.

The Company, as concessionaire, invested in the design, construction, management, operation and maintenance of the Prachin Ratthaya Expressway, and is also responsible for expressway operation expenses throughout the concession period, which is for 30 years commencing on 15 December 2012. The Company has the rights to collect all toll revenue and all other related income, and the Company agreed in the concession agreement to share toll revenues received to the EXAT, throughout the concession period.

The Prachin Ratthaya Expressway started operation on 22 August 2016.

- A.3 The Udon Ratthaya Expressway Project under the Bang Pa-In - Pak Kret Expressway Agreement in respect of the construction and management of the expressway project of a subsidiary.

The Subsidiary, as concessionaire, invested in the design, construction and management of the expressway, together with related business under a 30-year concession commencing on 27 September 1996. The EXAT has the rights to collect all toll revenue and is to compensate the subsidiary in the form of revenue sharing at the rates specified in the concession agreement, throughout the concession period. The subsidiary has the rights to extend the concession for two further periods of 10 years each, depending upon terms and conditions that are to be agreed between the parties.

On 20 February 2020, the subsidiary and EXAT signed the Bang Pa-In - Pak Kret Expressway Project Agreement (Amendment). The subsidiary received an extension of the term of the existing agreement, which was to end on 26 September 2026, to 31 October 2035. The subsidiary retains all rights to extend the concession specified in the existing agreement, of which the remaining period is 10 years and 11 months commencing from the end of the amended agreements. The toll rates are to be increased every 10 years by fixed amounts specified in the agreements, commencing from 1 November 2018.

B. Operation of metro services

The Company received concessions from the Mass Rapid Transit Authority of Thailand (“MRTA”) to operate metro services, as follows:

B.1 The MRT Chaloe Ratchamongkhon Line Project (the “MRT Blue Line Project”)

The Company, as concessionaire of the MRTA Initial System Project - Chaloe Ratchamongkhon Line (The MRT Blue Line: Hua Lamphong Station - Bang Sue Station) under the MRTA Initial System Project - Chaloe Ratchamongkhon Line, invested in M&E Equipment and is to operate and maintain the MRTA Initial System for a concession period of 25 years, commencing on 2 July 2004.

On 31 March 2017, the Company signed the MRT Blue Line Concession Agreement for a concession period of approximately 33 years under the Build, Transfer and Operate basis, with the MRTA. The MRT Blue Line Project consists of the MRTA Initial System Project - Chaloe Ratchamongkhon Line: Hua Lamphong Station-Bang Sue Station and the MRT Blue Line Extension: Hua Lamphong Station-Lak Song Station and Bang Sue Station-Tha Phra Station.

Under the MRT Blue Line Concession Agreement, a concession agreement with the MRTA for the MRTA Initial System Project - Chaloe Ratchamongkhon Line is deemed to be part of the MRT Blue Line Concession Agreement, and only the clauses relating the rights, duties and provisions with respect to fares, fare rates and payment of remuneration to the MRTA will remain in effect until the end of the concession agreement with the MRTA for the MRTA Initial System Project - Chaloe Ratchamongkhon Line.

The Company, as concessionaire of the MRT Blue Line Concession Agreement is responsible for the supply, installation and testing of the M&E Systems of the MRT Blue Line Extension Project (Phase 1 of the concession, which has a terms of 36 months) and operation of the Through Operation systems of the MRT Blue Line Project (Phase 2 of the concession, which has a term of 30 years from the commencement date of the revenue-generating service on all sectors). The Company has rights, duties and obligations to claim, collect, and retain all fares, and to generate revenue from commercial development, and is responsible for all investment, payment of operating costs, and payment of remuneration to the MRTA in accordance with the Concession.

The Company is required to gradually commence operation of the MRT Blue Line Extension Project in 3 sectors.

Sector 1: Bang Sue Station-Tao Poon Station within 15 August 2017.

Sector 2: Hua Lamphong Station-Lak Song Station within 30 months.

Sector 3: Tao Poon Station-Tha Phra Station within 36 months.

On 30 March 2020, the Company officially commenced commercial operation of the MRT Blue Line Project: Tao Poon Station-Tha Phra Station. As a result, the Company commenced operation and revenue-generating service of the Through Operation systems of the MRT Blue Line Project in accordance with the MRT Blue Line Concession Agreement. The MRT Blue Line Concession Agreement has a term of 30 years from the commencement date of the revenue-generating service on all sectors (30 March 2020).

B.2 The MRT Chalong Ratchadham Line Project (Bang Yai-Rat Burana, Bang Yai-Bang Sue Section (Khlung Bang Phai Station-Tao Poon Station)) (the "MRT Purple Line Project") Contract 4: Concession for Supply of M&E Systems and O&M Services.

The Company, as concessionaire, invested in the M&E Systems and rolling stock. In addition, the Company provides operation and maintenance services. The MRTA has the rights to collect fare box revenues and commercial revenues from the use of all civil infrastructure and the M&E Systems, and is to compensate the Company in the form of M&E Systems equipment costs (Phase I) and operation and maintenance service fees (Phase II). Details are as below:

Phase I: Design and Build

The Company is to design, supply, install and test the M&E Systems. In return the Company is to receive remuneration and interest totaling Baht 20,011 million from the MRTA in the form of monthly payments over a period of 10 years, beginning from the date of the Commissioning Certificate.

On 6 August 2016, the Company delivered the M&E Systems and Rolling Stocks under Phase 1 of the concession agreement to the MRTA and recorded amounts receivable from the MRTA under the account of receivable under the concession agreement, as described in Note 10 to the consolidated financial statements.

Phase II: O&M services

The Company is responsible for the operation of metro services, including repair, maintenance and improvement of all equipment and materials related to the civil infrastructure works and M&E Systems from the date specified in the Commissioning Certificate until the end of the concession period. In addition, the Company shall transfer rights of civil infrastructure and M&E Systems to the MRTA when the concession agreement ends. The compensation for Phase II under the agreement, amounting to approximately Baht 57,208 million (excluding escalations for inflation and adjustments to reflect electricity prices), will be paid to the Company on a monthly basis until the expiration of the concession agreement (3 September 2043).

On 6 August 2016, the Company is delivered the operating civil infrastructure and M&E Systems equipment of the MRT Chalong Ratchadham Line from the MRTA. On that day, the operation of the MRT Chalong Ratchadham Line Project officially started.

- C. Commercial development business, which consists of commercial developments related to the expressways and the operation of metro services.

On 1 October 2018, the Company and Bangkok Metro Network Limited (a subsidiary company) agreed to terminate and replace the amendment to the commercial development rights agreement dated 11 March 2015, and terminate the contract granting commercial development rights to manage advertising services through the Passenger Information Display System (PIDs) dated 1 January 2010. Under the agreements, the Company transferred the commercial development rights to provide services relating to the MRTA Initial System Project - Chaloem Ratchamongkhon Line and to manage advertising services through PIDs in the MRTA Initial System Project - Chaloem Ratchamongkhon Line to the subsidiary. It also had the rights to receive commercial development revenue and share the revenue with the Company at the rates specified in the agreement. On the same day, the Company and the subsidiary entered into a management agreement for commercial development of the MRT Blue Line Project (the MRTA Initial System Project - Chaloem Ratchamongkhon Line and the MRT Blue Line Extension Project). Under this agreement, the Company authorised the subsidiary to act on its behalf in managing commercial development and advertising services through the Passenger Information Display System (PIDs) for the MRT Blue Line Project. The contract will expire in July 2029, and the Company is to pay a management fee to the subsidiary based on the specified rate.

2. Basis of preparation

- 2.1 The financial statements have been prepared in accordance with Thai Financial Reporting Standards enunciated under the Accounting Profession Act B.E. 2547 and their presentation has been made in compliance with the stipulations of the Notification of the Department of Business Development, issued under the Accounting Act B.E. 2543.

The financial statements in Thai language are the official statutory financial statements of the Company. The financial statements in English language have been translated from the Thai language financial statements.

The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.

2.2 Basis of consolidation

- a) The consolidated financial statements include the financial statements of Bangkok Expressway and Metro Public Company Limited (“the Company”) and its subsidiaries (“the subsidiaries”) (collectively as “the Group”). Details are as follows:

Company's name	Nature of business	Country of incorporation	Proportion of Shareholding	
			<u>2022</u> (Percent)	<u>2021</u> (Percent)
Northern Bangkok Expressway Company Limited	Operation and management of Bang Pa-In - Pak Kret Expressway project	Thailand	99.99	99.99
Bangkok Metro Networks Limited	Management on commercial development of the MRT projects and Expressways	Thailand	99.67	99.67

- b) The Company is deemed to have control over an investee or subsidiaries if it has rights, or is exposed, to variable returns from its involvement with the investee, and it has the ability to direct the activities that affect the amount of its returns.
- c) Subsidiaries are fully consolidated, being the date on which the Company obtains control, and continue to be consolidated until the date when such control ceases.
- d) The financial statements of the subsidiaries are prepared using the same significant accounting policies as the Company.
- e) Material balances and transactions between the Group have been eliminated from the consolidated financial statements.

- f) Non-controlling interests represent the portion of profit or loss and net assets of the subsidiaries that are not held by the Company and are presented separately in the consolidated profit or loss and within equity in the consolidated statement of financial position.

2.3 The separate financial statements, which present investment in subsidiaries presented under the cost method.

3. New financial reporting standards

3.1 Financial reporting standards that became effective in the current year

During the year, the Group has adopted the revised financial reporting standards and interpretations which are effective for fiscal years beginning on or after 1 January 2022. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting treatment and providing accounting guidance for users of the standards.

The adoption of these financial reporting standards does not have any significant impact on the Group's financial statements.

However, the Group has adopted the temporary reliefs in accordance with TFRS 9 Financial Instruments, TFRS 7 Disclosure of Financial Instruments, TFRS 4 Insurance Contracts and TFRS 16 Leases, which apply to transactions directly affected by interest rate benchmark reform, including changes to contractual cash flows or hedging relationships arising from the replacement of the referenced interest rate benchmark with an alternative benchmark rate.

The adoption of these temporary reliefs does not have any significant impact on the Group's financial statements.

3.2 Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2023

The Federation of Accounting Professions issued a number of revised financial reporting standards, which are effective for fiscal years beginning on or after 1 January 2023. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting treatment and providing accounting guidance for users of the standards.

The management of the Group believes that adoption of these amendments will not have any significant impact on the Group's financial statements.

4. Significant accounting policies

4.1 Revenue and expense recognition

a) Toll revenue recognition

Toll revenue represent the invoiced value, excluding value added tax, at a point in time upon completion of the service.

b) Toll revenue sharing recognition

Toll revenue sharing represent the invoiced value, excluding value added tax, on accrual basis.

c) Fare box revenue recognition

Smart card and smart token sales are recognised as revenue at a point in time upon completion of the service. Prepaid value in stored value smart cards is recorded as unearned fare box revenue in current liabilities in the statement of financial position.

d) Revenue recognition from provision of operating services

Revenue from provision of operating services is recognised over time when services have been rendered, excluding value added tax. Service rate charged is in accordance with rates stipulated in the agreement.

e) Revenue recognition from commercial development revenue

Commercial development revenue is recognised over time when services have been rendered.

f) Other revenues and expenses recognition

Interest income

Interest income is calculated using the effective interest method and recognised on an accrual basis. The effective interest rate is applied to the gross carrying amount of a financial asset, unless the financial assets subsequently become credit-impaired when it is applied to the net carrying amount of the financial asset (net of the expected credit loss allowance).

Interest income from receivable under the concession agreement is realised over the installment period using the effective interest rate method. Interest income is recognised when installments come due, regardless of whether collection is made, and is presented under interest income in profit and loss.

Finance cost

Interest expense from financial liabilities at amortised cost is calculated using the effective interest method and recognised on an accrual basis.

Dividends

Dividends are recognised when the rights to receive the dividends is established.

Other expenses

Expenses are recognised on accrual basis.

4.2 Cash and cash equivalents

Cash and cash equivalents consist of cash in hand and cash at banks, and all highly liquid investments with an original maturity of three months or less and not subject to withdrawal restrictions.

4.3 Investments in subsidiaries

Investments in subsidiaries are accounted for in the separate financial statements using the cost method.

4.4 Investment properties

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated at cost less accumulated depreciation and allowance for loss on impairment (if any).

No depreciation has been provided for land awaiting sales.

On disposal of investment properties, the difference between the net disposal proceeds and the carrying amount of the asset is recognised in profit or loss in the period when the asset is derecognised.

4.5 Building and equipment and depreciation

Building and equipment are stated at cost less accumulated depreciation and allowance for loss on impairment of assets (if any).

Depreciation of building and equipment is calculated by reference to their costs on the straight-line basis over the following estimated useful lives:

Building and construction improvement	5 years, 20 years
Furniture, fixture and equipment	3 - 5 years
Vehicles	5 - 15, 30 years

Depreciation is included in determining income. No depreciation has been provided for assets under installations.

An item of building and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on disposal of an asset is included in profit or loss when the asset is derecognised.

4.6 Amortisation of rights to operate expressway sectors and amortisation

Rights to operate expressway sectors represent the cost of construction of the Second Stage Expressway System, the Si Rat - Outer Ring Road Expressway and the Bang Pa-In - Pak Kret Expressway. It is stated at cost less accumulated amortisation and allowance for loss on impairment (if any).

The rights to operate completed expressway sectors are amortised as expenses in income statements with the unit of throughput method over the concession period as follows:

Amortisation for the year = Net rights to operate expressway sectors x Percentage of the number of vehicle volume for the year

Percentage of the number of vehicles volume for the year =
$$\frac{\text{Current year's number of actual vehicle volume}}{(\text{Current year's number of actual vehicle volume} + \text{Projected vehicle volume for the remaining years of the agreement})}$$

Equipment to operate expressway sectors purchased during the concession period and having a limited useful life is depreciated on a straight-line basis over the estimated useful life or residual life of the concession period, whichever is less, as follows:

Toll collection system equipment and traffic management system equipment	7 years and concession period
Other equipments	5 - 15 years and concession period

Amortisation of the expressway sectors is included in profit or loss. No amortisation is provided on project costs under construction.

4.7 Intangible assets under concession agreement of the MRT Blue Line Project and amortisation

Intangible assets under concession agreement of the MRT Blue Line Project are stated at cost less accumulated amortisation and allowance for loss on impairment (if any).

The Group capitalised as assets all expenditures related to the MRT Blue Line Project, which including management and consultant fees, design costs, electrical and mechanical works and rolling stock purchased during the concession period, interest and other financing expenses. These will be amortised to expenses over the concession period after the commencement of operations.

Equipment - Metro system

The Company has been adopting the unit of throughput method to amortise such intangible assets, which related to equipment of metro system, over concession period of the MRT Blue Line Project and based on the following methodology:

$$\begin{aligned} \text{Amortisation for the year} &= \text{Net intangible assets under concession agreement of the MRT Blue Line Project} \\ &\quad \times \text{Percentage of passengers for the year} \\ \text{Percentage of Passengers for the year} &= \frac{\text{Current year's actual passengers}}{(\text{Actual passengers for the current year} + \text{Projected passengers through the remaining concession year})} \end{aligned}$$

Equipment - Other system

Amortisation of intangible assets under the concession agreement of the MRT Blue Line Project related to other system such as station's equipment rental area improvement, telecommunication equipment at station, advertising equipment etc. is calculated by reference to its cost on the straight-line basis over the following estimated useful lives:

Electrical equipment and station's rental area improvement	5 - 15 years and concession period
Telecommunication equipment	5 years and concession period
Advertising equipment	5 - 7 years

Amortisation of intangible assets under concession agreement of the MRT Blue Line Project is included in profit or loss. No amortisation is provided on assets under installations.

4.8 Project cost of the MRT Chalong Ratchadham Line and amortisation

Project cost of the MRT Chalong Ratchadham Line is stated at cost less accumulated amortisation and allowance for loss on impairment (if any). The amortisation is calculated on the straight-line basis over the concession period.

The amortisation is included in profit or loss. No amortisation is provided on project cost under installations.

4.9 Prepaid project remuneration

The Company records remuneration expense of the MRT Blue Line Project in profit or loss for each year based on the proportion of projected remuneration to projected revenue under the concession agreement over the concession period. Differences between the remuneration that the Company pays to the MRTA and the recognised remuneration expenses are recorded under "prepaid project remuneration" in the statement of financial position.

The proportion of projected remuneration to projected revenue under the concession agreement of the MRT Blue Line Project is reviewed at least once a year.

4.10 Other intangible assets and amortisation

The Group is initially recognised intangible assets at cost. Following the initial recognition, the intangible assets are carried at cost less any accumulated amortisation and allowance for loss on impairment (if any).

Intangible assets with finite useful lives are amortised on the straight-line basis over the economic useful life and tested for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method of such intangible assets are reviewed at least at each financial year end. The amortisation is included in profit or loss.

The intangible assets with finite useful lives is computer software with 3 years, 5 years and 10 years useful lives.

4.11 Leases

At inception of contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Group as a lessee

The Group applied a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. At the commencement date of the lease (i.e. the date the underlying asset is available for use), the Group recognises right-of-use assets representing the right to use underlying assets and lease liabilities based on lease payments.

Right-of-use assets

Right-of-use assets are measured at cost, less accumulated depreciation, any accumulated impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities initially recognised, initial direct costs incurred, and lease payments made at or before the commencement date of the lease, and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located less any lease incentives received.

Depreciation of right-of-use assets are calculated by reference to their costs, on the straight-line basis over the shorter of their estimated useful lives and the lease term.

Building and construction improvement	3 - 6 years
Vehicles	1 - 7 years

If ownership of the leased asset is transferred to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

Lease liabilities

Lease liabilities are measured at the present value of the lease payments to be made over the lease term. The lease payments include fixed payments less any lease incentives receivable, and amounts expected to be payable under residual value guarantees. Moreover, the lease payments include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating the lease, if the lease term reflects the Group exercising an option to terminate.

The Group discounted the present value of the lease payments by the interest rate implicit in the lease or the Group's incremental borrowing rate. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

Short-term leases and leases of low-value assets

A lease that has a lease term less than or equal to 12 months from commencement date or a lease of low-value assets is recognised as expenses on a straight-line basis over the lease term.

4.12 Related party transactions

Related parties comprise individuals or enterprises that control, or are controlled by, the Group, whether directly or indirectly, or which are under common control with the Group.

They also include associates, and individuals or enterprises which directly or indirectly own a voting interest in the Company that gives them significant influence over the Group, key management personnel, directors and officers with authority in the planning and direction of the Group's operations.

4.13 Foreign currencies

The consolidated and separate financial statements are presented in Baht, which is also the Company's functional currency.

Transactions in foreign currencies are translated into Baht at the exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into Baht at the exchange rate ruling at the end of reporting period.

Gains and losses on exchange are included in determining income.

4.14 Impairment of non-financial assets

At the end of each reporting period, the Group performs impairment reviews in respect of the building and equipment, right-of-use assets, investment properties and other intangible assets whenever events or changes in circumstances indicate that an asset may be impaired. The Group also carries out annual impairment reviews in respect of goodwill. An impairment loss is recognised when the recoverable amount of an asset, which is the higher of the asset's fair value less costs to sell and its value in use, is less than the carrying amount.

An impairment loss is recognised in profit or loss.

4.15 Employee benefits

Short-term employee benefits

The Group will recognise salaries, wages, bonuses and contributions to the social security fund as expenses when incurred.

Post-employment benefits

Defined contribution plans

The Group and its employees have jointly established a provident fund. The fund is monthly contributed by employees and by the Group. The fund's assets are held in a separate trust fund and the contributions of the Group is recognised as expenses when incurred.

Defined benefit plans

The Group has obligations in respect of the severance payments they must make to employees upon retirement under labor law. The Group treats these severance payment obligations as a defined benefit plan.

The obligation under the defined benefit plan is determined by a professionally qualified independent actuary based on actuarial techniques, using the projected unit credit method.

Actuarial gains and losses arising from post-employment benefits are recognised immediately in other comprehensive income.

4.16 Provisions

Provisions are recognised when the Group has a present obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

4.17 Income tax

Income tax expense represents the sum of corporate income tax currently payable and deferred tax.

Current tax

Current income tax is provided in the accounts at the amount expected to be paid to the taxation authorities, based on taxable profits determined in accordance with tax legislation.

Deferred tax

Deferred income tax is provided on temporary differences between the tax bases of assets and liabilities and their carrying amounts at the end of each reporting period, using the tax rates enacted at the end of the reporting period.

The Group recognises deferred tax liabilities for all taxable temporary differences while it recognises deferred tax assets for all deductible temporary differences and tax losses carried forward to the extent that it is probable that future taxable profit will be available against which such deductible temporary differences and tax losses carried forward can be utilised.

At each reporting date, the Group reviews and reduces the carrying amount of deferred tax assets to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised.

The Group records deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to shareholders' equity.

4.18 Financial instruments

The Group initially measures financial assets at its fair value plus, in the case of financial assets that are not measured at fair value through profit or loss, transaction costs. However, trade receivables, that do not contain a significant financing component, are measured at the transaction price as disclosed in the accounting policy relating to revenue recognition.

Classification and measurement of financial assets

Financial assets are classified, at initial recognition, as to be subsequently measured at amortised cost, fair value through other comprehensive income ("FVOCI"), or fair value through profit or loss ("FVTPL"). The classification of financial assets at initial recognition is driven by the Group's business model for managing the financial assets and the contractual cash flows characteristics of the financial assets.

Financial assets at amortised cost

The Group measures financial assets at amortised cost if the financial asset is held in order to collect contractual cash flows and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortised cost are subsequently measured using the effective interest rate (“EIR”) method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

Financial assets designated at FVOCI (equity instruments)

Upon initial recognition, the Group can elect to irrevocably classify its equity investments which are not held for trading as equity instruments designated at FVOCI. The classification is determined on an instrument-by-instrument basis.

Gains and losses recognised in other comprehensive income on these financial assets are never recycled to profit or loss.

Dividends are recognised as other income in profit or loss, except when the dividends clearly represent a recovery of part of the cost of the financial asset, in which case, the gains are recognised in other comprehensive income.

Equity instruments designated at FVOCI are not subject to impairment assessment.

Financial assets designated at FVTPL

Financial assets measured at FVTPL are carried in the statement of financial position at fair value with net changes in fair value recognised in profit or loss.

Classification and measurement of financial liabilities

Except for derivative liabilities, at initial recognition the Group’s financial liabilities are recognised at fair value net of transaction costs and classified as liabilities to be subsequently measured at amortised cost using the EIR method. Gains and losses are recognised in profit or loss when the liabilities are derecognised as well as through the EIR amortisation process. In determining amortised cost, the Group takes into account any discounts or premiums on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in finance costs in profit or loss.

Derecognition of financial instruments

A financial asset is primarily derecognised when the rights to receive cash flows from the asset have expired or have been transferred and either the Group has transferred substantially all the risks and rewards of the asset, or the Group has transferred control of the asset.

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in profit or loss.

Impairment of financial assets

The Group recognises an allowance for expected credit losses (“ECLs”) for all debt instruments not held at FVTPL. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate.

For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure (a lifetime ECL).

The Group considers a significant increase in credit risk to have occurred when contractual payments are more than 30 days past due and considers a financial asset as credit impaired or default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to have a significant increase in credit risk and to be in default using other internal or external information, such as credit rating of issuers.

For trade receivables, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date.

ECLs are calculated based on its historical credit loss experience and adjusted for forward-looking factors specific to the debtors and the economic environment.

A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Offsetting of financial instruments

Financial assets and financial liabilities are offset, and the net amount is reported in the statement of financial position if there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis, to realise the assets and settle the liabilities simultaneously.

4.19 Derivatives and hedge accounting

The Company uses derivatives, which are the interest rate swaps and cross currency and interest rate swaps, to hedge its interest rate risks and foreign currency and interest rate risks, respectively.

Derivatives are initially recognised at fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. The subsequent changes including interest income are recognised in profit or loss unless the derivative is designated and effective as a hedging instrument under cash flow hedge. Derivatives are carried as financial assets when the fair value is positive and as financial liabilities when the fair value is negative.

Derivatives are presented as non-current assets or non-current liabilities if the remaining maturity of the instrument is more than 12-months and it is not due to be realised or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

Hedge accounting

For the purpose of hedge accounting, hedges are classified as:

- Fair value hedges when hedging the exposure to changes in the fair value of a recognised asset or liability or an unrecognised firm commitment
- Cash flow hedges when hedging the exposure to a variability in cash flows that is either attributable to a particular risk associated with a recognised asset or liability or a highly probable forecast transaction

At the inception of a hedging relationship, the Company formally designates and documents the hedging relationship to which it wishes to apply hedge accounting and the risk management objective and strategy for undertaking the hedge.

The documentation, at the inception of the hedge and on an ongoing basis, includes identification of the hedging instrument, the hedged item, the nature of the risk being hedged and how the Company will assess whether the hedging relationship meets the hedge effectiveness requirements, including analysis of the sources of hedge ineffectiveness and how the hedge ratio is determined.

A hedging relationship qualifies for hedge accounting if it meets all of the following hedge effectiveness requirements:

- There is 'an economic relationship' between the hedged item and the hedging instrument.
- The effect of credit risk is not the dominant factor in the value changes that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Group actually hedges and the quantity of the hedging instrument that the Group actually uses to hedge that quantity of hedged item.

Hedges that meet all of the qualifying criteria for hedge accounting are accounted for, as described below:

Fair value hedges

The change in the fair value of a hedging instrument is recognised in profit or loss. The change in the fair value of the hedged item attributable to the risk hedged is recorded as part of the carrying value of the hedged item and is also recognised in profit or loss.

Any adjustment to the carrying value of fair value hedges relating to items carried at amortised cost, is amortised through profit or loss over the remaining term of the hedge using the effective interest method. The amortisation may begin as soon as an adjustment exists and no later than when the hedged item ceases to be adjusted for changes in its fair value attributable to the risk being hedged. If the hedged item is derecognised, the unamortised fair value is recognised immediately in profit or loss.

When an unrecognised firm commitment is designated as a hedged item, the subsequent cumulative change in the fair value of the firm commitment attributable to the hedged risk is recognised as an asset or liability with a corresponding gain or loss recognised in profit or loss.

Cash flow hedges

The effective portion of the gain or loss on the hedging instrument is recognised in other comprehensive income in the cash flow hedge reserve, while any ineffective portion is recognised immediately in profit or loss. The cash flow hedge reserve is adjusted to the lower (in absolute amounts) of the cumulative gain or loss on the hedging instrument and the cumulative change in fair value of the hedged item.

The way cash flow hedge reserve accumulated in other comprehensive income are subsequently accounted for, depends on the nature of the underlying hedged transaction. If the hedged transaction subsequently results in the recognition of a non-financial item, the reserve accumulated in equity is removed from the separate component of equity and included in the initial cost or other carrying amount of the hedged asset or liability. This is not a reclassification adjustment and is not recognised in other comprehensive income for the period. For any other cash flow hedges, the reserve accumulated in other comprehensive income is subsequently reclassified to profit or loss as a reclassification adjustment in the same period which the hedged cash flows affect profit or loss.

If cash flow hedge accounting is discontinued, the cash flow hedge reserve accumulated in other comprehensive income must remain in equity if the hedged future cash flows are still expected to occur. Otherwise, the reserve will be immediately reclassified to profit or loss as a reclassification adjustment. After discontinuation, once the hedged cash flow occurs, the way the reserve remaining in equity is accounted for depends on the nature of the underlying transaction as described above.

4.20 Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between buyer and seller (market participants) at the measurement date. The Group applies a quoted market price in an active market to measure their assets and liabilities that are required to be measured at fair value by relevant financial reporting standards. Except in case of no active market of an identical asset or liability or when a quoted market price is not available, the Group measures fair value using valuation technique that are appropriate in the circumstances and maximises the use of relevant observable inputs related to assets and liabilities that are required to be measured at fair value.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy into three levels based on categorise of input to be used in fair value measurement as follows:

Level 1 - Use of quoted market prices in an observable active market for such assets or liabilities

Level 2 - Use of other observable inputs for such assets or liabilities, whether directly or indirectly

Level 3 - Use of unobservable inputs such as estimates of future cash flows

At the end of each reporting period, the Group determines whether transfers have occurred between levels within the fair value hierarchy for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis.

5. Significant accounting judgements and estimates

The preparation of financial statements in conformity with financial reporting standards at times requires management to make subjective judgements and estimates regarding matters that are inherently uncertain. These judgements and estimates affect reported amounts and disclosures; and actual results could differ from these estimates. Significant judgements and estimates are as follows:

Leases

Determining the lease term with extension and termination options - The Group as a lessee

In determining the lease term, the management is required to exercise judgement in assessing whether the Group is reasonably certain to exercise the option to extend or terminate the lease considering all relevant facts and circumstances that create an economic incentive for the Group to exercise either the extension or termination option.

Estimating the incremental borrowing rate - The Group as a lessee

The Group cannot readily determine the interest rate implicit in the lease, therefore, the management is required to exercise judgement in estimating its incremental borrowing rate to discount lease liabilities. The incremental borrowing rate is the rate of interest that the Group would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment.

Fair value of financial instruments

In determining the fair value of financial instruments recognised in the statement of financial position that are not actively traded and for which quoted market prices are not readily available, the management exercise judgement, using a variety of valuation techniques and models. The input to these models is taken from observable markets, and includes credit risks for both bank and counter parties consideration of liquidity, correlation and longer-term volatility of financial instruments. Change in assumption which is related to calculating input, could affect fair value in financial statement and the disclosure of fair value hierarchy.

Impairment of investment in subsidiaries

The Company reviews impairment of investment in subsidiaries, which requires management to prepare projection of the cash flow expected to be generated by the investment in the future, and to choose a suitable discount rate in order to calculate the present value of those cash flows.

Building improvement and equipment/Depreciation

In determining depreciation of building improvement and equipment, the management is required to make estimates of the useful lives and residual values of the Company's building improvement and equipment and to review estimate useful lives and residual values when there are any changes.

In addition, the management is required to review building improvement and equipment for impairment on a periodical basis and record impairment losses in the period when it is determined that their recoverable amount is lower than the carrying amount. This requires judgements regarding forecast of future revenues and expenses relating to the assets subject to the review.

Amortisation of rights to operate completed expressway sectors

In determining amortisation of rights to operate completed expressway sectors, the management has to project vehicle volume after current year for the remaining years of the agreement. Vehicle volume is projected based on the number of vehicles as assessed by an independent appraiser, and adjusted by comparison to actual vehicle volume. However, the actual vehicle volume in the future could differ from the estimate depending upon changes in external factors that may affect toll rates and vehicle volume.

Amortisation of intangible asset under concession agreement of the MRT Blue Line Project

In determining amortisation of intangible assets under the concession agreement of the MRT Blue Line Project, the management has to project the number of passengers for the remaining years of the agreement. Various assumptions needed for the projection by an accredited independent valuer include traffic model, network rail, average cost of fuel, and fare structure.

In addition, the intangibles assets under concession agreement of the MRT Blue Line Project are subject to impairment if there is an indication that they may be impaired, and impairment losses are to be recorded if it is expected that the recoverable amount will lower than the carrying amount of the underlying assets.

The impairment analysis of intangibles assets under concession agreement of the MRT Blue Line Project requires the management to exercise judgments concerning estimates of cash flows to be generated by the assets or the cash generating units and to choose a suitable discount rate in order to determine the present value of those cash flows. The cash flow estimates are based on currently available information about the operations and the management is required to exercise judgments regarding the number of passengers throughout the period of the concession agreement, future revenues and expenses relevant to the assets or the cash generating units. Events and factors that may significantly affect

the estimates include, among others, behavioral trends of riders who use the transportation system, competitive landscape, changes in revenue fare box rates, cost structures, changes in discount rates and relevant industry or market sector conditions

Deferred tax assets

Deferred tax assets are recognised for deductible temporary differences and unused tax losses to the extent that it is probable that taxable profit will be available against which the temporary differences and losses can be utilised. Significant management judgement is required to determine the amount of deferred tax assets that can be recognised, based upon the likely timing and level of estimate future taxable profits.

Post-employment benefits under defined benefit plans

The obligation under the defined benefit plan is determined based on actuarial techniques. Such determination is made based on various assumptions, including discount rate, future salary increase rate, mortality rate and staff turnover rate.

6. Related party transactions

During the year, the Group had significant business transactions with related parties. Such transactions arose in the ordinary course of business and were concluded on commercial terms and bases agreed upon between the Group and those related parties.

The relationship between the Company and the related parties which have transactions with during the year summarised below.

<u>Name of related parties</u>	<u>Relationship with the Company</u>
CH. Karnchang Public Company Limited	Major shareholders
Mass Rapid Transit Authority of Thailand	Shareholders
Northern Bangkok Expressway Company Limited	Subsidiary company
Bangkok Metro Networks Limited	Subsidiary company
TTW Public Company Limited	Related company through common directors of the Company
CK Power Public Company Limited	Related company through common directors of the Company
Bangpa-in Land Development Company Limited	Related company through common directors of the Company

Such significant transactions for the years ended 31 December 2022 and 2021 are summarised below.

(Unit: Million Baht)					
	Consolidated		Separate		Pricing policy
	financial statements		financial statements		
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>	
<u>Transactions with major shareholder</u>					
Cost of rail projects	76	137	76	137	Based on contracts
Cost of expressway improvement	845	827	828	758	Based on contracts
Expressway and civil works maintenance expenses	710	338	710	338	Based on contracts
Office rental and service expenses	9	9	-	-	Based on contracts
<u>Transactions with subsidiary companies</u>					
(eliminated from the consolidated financial statements)					
Commercial development revenue	-	-	4	3	Based on contracts
Project management and maintenance incomes	-	-	773	228	Based on contract
Commercial development management fee	-	-	240	240	Based on contract
Purchase of vehicles	-	-	7	-	Agreed between the parties
<u>Transactions with related companies</u>					
Interest income from M&E Systems	176	218	176	218	FDR plus stipulated margin per annum
Dividend income	552	492	552	492	As declared
Cost of commercial development	18	10	-	-	Agreed between the parties
Remuneration from fare box (Inclusive of VAT)	394	203	394	203	Concession agreement
Remuneration from commercial development	27	18	27	18	Concession agreement
Property tax	17	3	17	3	At the rates charged by Bangkok Metropolitan Administration
Utility expenses	2	2	2	2	Based on contract

As at 31 December 2022 and 2021, the balances of the accounts between the Group and related parties are as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
<u>Trade and other receivables (Note 9)</u>				
<u>Trade receivables</u>				
Subsidiary	-	-	311	148
Related company	220,806	183,672	220,806	183,672
Total	220,806	183,672	221,117	183,820
<u>Other receivables</u>				
Subsidiary	-	-	51,870	20,330
<u>Accrued income</u>				
Subsidiary	-	-	144,140	72
Related company	207,605	172,386	207,605	172,386
Total	207,605	172,386	351,745	172,458
<u>Guarantee paid for area</u>				
Major shareholder	1,914	1,914	-	-
<u>Advance payment under service contract</u>				
Major shareholder	-	37,611	-	35,036
<u>Receivable under the concession agreement (Note 10)</u>				
Related company	5,911,365	7,561,049	5,911,365	7,561,049
<u>Prepaid project remuneration</u>				
Related company	12,400,551	9,775,518	12,400,551	9,775,518
<u>Trade and other payables (Note 19)</u>				
Subsidiary	-	-	23,779	21,443
Major shareholder	384,664	85,757	384,563	79,667
Related companies	281,515	234,429	281,511	234,425
Total	666,179	320,186	689,853	335,535
<u>Retention guarantees</u>				
Major shareholder	87,354	87,990	87,354	84,862
<u>Guarantees obtained for area</u>				
Subsidiary	-	-	723	723
<u>Unearned revenue from advertising management rights (Note 22)</u>				
Subsidiary	-	-	8,119	9,369

Long-term loan to related party

As at 31 December 2022 and 2021, the balances of long-term loan between the Company and related company and the movement in loan, which is presented in the separate financial statements are as follows:

(Unit: Thousand Baht)				
Loan to related party	Related by	Balance as at	Increase	Balance as at
		31 December 2021	during the year	31 December 2022
Northern Bangkok Expressway				
Company Limited	Subsidiary	-	300,000	300,000

The long-term loan to related party has a credit facility of Baht 2,000 million, carrying a floating interest of FDR plus a stipulated margin per annum. The loan is repayable within 30 December 2030.

Directors and management's remuneration

During the years ended 31 December 2022 and 2021, the Group had employee benefit expenses payable to their directors and management as below.

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Short-term employee benefits	87,306	106,457	72,460	90,435
Post-employment benefits	4,038	7,300	3,147	6,448
Total	91,344	113,757	75,607	96,883

7. Cash and cash equivalents

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash	41,219	39,732	38,070	36,435
Bank deposits	1,746,617	1,091,636	1,372,876	559,539
Total	1,787,836	1,131,368	1,410,946	595,974

The Company has pledged the bank accounts used to deposit moneys received for work on the MRT Chalong Ratchadham Line Project (Note 10), as well as for receiving fare and commercial development revenue related to the MRT Blue Line Project, and transferred rights to debit or withdraw from the deposit accounts used to make payment of loans and related financial fees to a group of lenders to secure the Company's loan, as described in Note 20 to the consolidated financial statements.

As at 31 December 2022, the balance of the pledged bank accounts amounted to Baht 1.46 million (2021: Baht 1.27 million).

8. Bank deposit for unearned fare box revenue

Bank deposit for unearned fare box revenue is a reserve bank account set aside in compliance with the Notification of the Bank of Thailand applicable to electronic card businesses. These funds cannot be used for any purpose other than making payment for fare box revenue.

9. Trade and other receivables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
<u>Trade receivables</u>				
Trade receivables				
- Related parties (Note 6)	220,806	183,672	221,117	183,820
- Unrelated parties	166,759	112,043	130,763	93,550
Less: Allowance for expected credit losses	(1,907)	(3,199)	(1,751)	(2,696)
Total trade receivables - net	385,658	292,516	350,129	274,674
<u>Other receivables</u>				
Other receivables				
- Related parties (Note 6)	-	-	51,870	20,330
- Unrelated parties	2,761	2,263	2,157	1,934
Accrued income				
- Related parties (Note 6)	207,605	172,386	351,745	172,458
- Unrelated parties	51,968	6,087	44,127	5,439
Total other receivables	262,334	180,736	449,899	200,161
Total trade and other receivables - net	647,992	473,252	800,028	474,835

Most of the trade receivables of the Group was within their credit terms or past due up to 3 months. As at 31 December 2022, the outstanding balances of trade receivables in the consolidated and separate financial statements that are one year past due amounted to approximately Baht 0.6 million (2021: consolidated financial statement: Baht 1.1 million, Separate financial statements Baht 0.8 million).

Set out below is the movement in the allowance for expected credit losses of trade receivables.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Beginning balance	3,199	390	2,696	390
Provision for expected credit losses	-	2,809	-	2,306
Reversal of provision for expected credit losses	(1,020)	-	(945)	-
Amount written off	(272)	-	-	-
Ending balance	<u>1,907</u>	<u>3,199</u>	<u>1,751</u>	<u>2,696</u>

10. Receivable under the concession agreement

	(Unit: Thousand Baht)	
	Consolidated and	
	Separate financial statements	
	<u>2022</u>	<u>2021</u>
Net book value at the beginning of the year	7,561,049	9,210,732
Collection	(1,649,684)	(1,649,683)
Net book value at the end of the year	<u>5,911,365</u>	<u>7,561,049</u>
Current	1,649,683	1,649,683
Non-current	<u>4,261,682</u>	<u>5,911,366</u>
Total receivable under the concession agreement	<u>5,911,365</u>	<u>7,561,049</u>

Receivable under the concession agreement is a receivable for M&E Systems (Inclusive of VAT) of Phase 1 of the MRT Chalong Ratchadham Line Project as described in Note 1 B.2 to the consolidated financial statements. The MRTA will pay the remuneration and interest in the form of monthly installments until 2026. The Company transferred rights to receive cash from receivable under the concession agreement to the group of lenders, in settlement of long-term loans from financial institutions, as described in Note 20 to the consolidated financial statements under the details of loans No. 20.1 and 20.2.

Interest income for M&E Systems for the year ended 31 December 2022 amounted to Baht 176 million (2021: Baht 218 million).

11. Other financial assets

	(Unit: Thousand Baht)	
	Consolidated and Separate financial statements	
	2022	2021
<u>Financial assets at amortised cost</u>		
- Certificates of deposit	350,000	-
Total	350,000	-
<u>Financial assets at FVTPL</u>		
- Unit trusts	596,995	765,671
Total	596,995	765,671
<u>Equity instruments designated at FVOCI</u>		
Equity instruments of listed companies		
- CK Power Public Company Limited	6,235,547	7,148,954
- TTW Public Company Limited	6,632,100	8,326,970
Equity instruments of non-listed company		
- Asia Era One Company Limited	434,000	434,000
Total	13,301,647	15,909,924
<u>Derivative designated as hedging instruments</u>		
- Interest rate swap contracts	117,168	-
Total	117,168	-
Total other financial assets - net	14,365,810	16,675,595
Current	946,995	765,671
Non-current	13,418,815	15,909,924
Total other financial assets	14,365,810	16,675,595

Equity instruments designated at FVOCI include listed and non-listed equity investments which the Group considers these investments to be strategic in nature.

CK Power Public Company Limited

During the year 2022, the Company sold 62 million ordinary shares of CK Power Public Company Limited amounting to Baht 334 million, and recorded gains on sale of investment net of income tax of Baht 70 million in the consolidated statement of comprehensive income (Separate financial statement: Baht 152 million). As a result of this transaction, its equity interest in this company decreased from 17.59 percent to 16.82 percent.

12. Investments in subsidiaries

Details of investments in subsidiaries as presented in separate financial statements are as follows:

(Unit: Million Baht)								
Company's name	Registered capital		Paid-up capital		Proportion of investment		Cost	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
					(percent)			
Northern Bangkok Expressway Company Limited	6,000	6,000	5,250	5,250	99.99	99.99	2,604	2,604
Bangkok Metro Networks Limited	254	254	254	254	99.67	99.67	630	630
Total cost							3,234	3,234
Allowance for impairment							(2,466)	(2,466)
Net book value							768	768

In May 2021, the Company purchased 2.3 million ordinary shares of Bangkok Metro Networks Limited ("BMN") (equal to 9.15 percent of its issued and paid-up share capital) from its existing shareholders, for a total of Baht 123 million. As a result of this transaction, its shareholding changed from 90.52 percent to 99.67 percent.

The purchase transaction of investment in the subsidiary for the year ended 31 December 2021 which was presented in the consolidated financial statements, was described in detail below.

(Unit: Thousand Baht)	
Purchase price of investment in subsidiary	123,150
Less: Non-controlling interests of subsidiary adjusted	(41,745)
Capital deficit from change in shareholding interest in subsidiary	81,405

13. Investment properties

As at 31 December 2022, the Company has investment properties, consisting of land, which is presented in the consolidated and separate financial statements at its fair value of Baht 346 million (2021: Baht 321 million).

The fair value has been determined based on the valuation performance by an accredited independent valuer, using market approach.

14. Building and equipment

(Unit: Thousand Baht)

	Consolidated financial statements				
	Building and construction improvement	Furniture, fixture and office equipment	Vehicles	Asset under installation	Total
Cost:					
1 January 2021	92,998	258,636	467,504	68,464	887,602
Additions	17,621	6,476	41,431	22,875	88,403
Disposals/Write off	-	(978)	(41,796)	-	(42,774)
Reclassification/ Transfer in (out)	6,616	2,037	7,553	(20,981)	(4,775)
31 December 2021	117,235	266,171	474,692	70,358	928,456
Additions	752	8,173	18,663	2,552	30,140
Disposals/Write off	-	(8,954)	(21,129)	-	(30,083)
Reclassification/ Transfer in (out)	65,305	-	4,579	(66,997)	2,887
31 December 2022	183,292	265,390	476,805	5,913	931,400
Accumulated depreciation:					
1 January 2021	65,764	194,887	247,673	-	508,324
Depreciation for the year	10,720	24,747	41,737	-	77,204
Accumulated depreciation on disposals/write off	-	(940)	(40,057)	-	(40,997)
Reclassification	-	(60)	-	-	(60)
31 December 2021	76,484	218,634	249,353	-	544,471
Depreciation for the year	24,502	16,848	34,716	-	76,066
Accumulated depreciation on disposals/write off	-	(8,929)	(20,450)	-	(29,379)
Reclassification	-	-	2,310	-	2,310
31 December 2022	100,986	226,553	265,929	-	593,468
Net book value:					
31 December 2021	40,751	47,537	225,339	70,358	383,985
31 December 2022	82,306	38,837	210,876	5,913	337,932
Depreciation for the year					
2021 (Baht 45 million included in cost of services and the remaining balance in selling and administrative expense)					77,204
2022 (Baht 39 million included in cost of services and the remaining balance in selling and administrative expense)					76,066

(Unit: Thousand Baht)

Separate financial statements					
	Building and construction improvement	Furniture, fixture and office equipment	Vehicles	Asset under installation	Total
Cost:					
1 January 2021	62,436	199,164	457,689	63,749	783,038
Additions	17,396	3,283	38,920	21,183	80,782
Disposals/Write off	-	(945)	(41,796)	-	(42,741)
Reclassification/ Transfer in (out)	6,616	2,037	7,553	(16,266)	(60)
31 December 2021	86,448	203,539	462,366	68,666	821,019
Additions	582	7,507	25,328	2,446	35,863
Disposals/Write off	-	(8,839)	(18,257)	-	(27,096)
Reclassification/ Transfer in (out)	65,305	-	2,887	(65,305)	2,887
31 December 2022	152,335	202,207	472,324	5,807	832,673
Accumulated depreciation:					
1 January 2021	50,905	143,635	241,799	-	436,339
Depreciation for the year	6,746	18,049	40,746	-	65,541
Accumulated depreciation on					
disposals/write off	-	(936)	(40,057)	-	(40,993)
Reclassification	-	(60)	-	-	(60)
31 December 2021	57,651	160,688	242,488	-	460,827
Depreciation for the year	21,908	15,055	34,533	-	71,496
Accumulated depreciation on					
disposals/write off	-	(8,839)	(17,883)	-	(26,722)
Reclassification	-	-	2,310	-	2,310
31 December 2022	79,559	166,904	261,448	-	507,911
Net book value:					
31 December 2021	28,797	42,851	219,878	68,666	360,192
31 December 2022	72,776	35,303	210,876	5,807	324,762
Depreciation for the year					
2021 (Baht 37 million included in cost of services and the remaining balance in selling and administrative expense)					65,541
2022 (Baht 35 million included in cost of services and the remaining balance in selling and administrative expense)					71,496

As at 31 December 2022, the Group have certain items of building improvement and equipment which were fully depreciated but are still in use. The gross carrying amount before deducting accumulated depreciation of those assets amounted to approximately Baht 386 million (2021: Baht 364 million) (The Company only: Baht 315 million, 2021: Baht 284 million).

15. Rights to operate expressway sectors

(Unit: Thousand Baht)

	Consolidated financial statements		
	Rights to operate completed expressway sector	Project costs under construction	Total
Cost:			
1 January 2021	86,969,996	691,283	87,661,279
Additions	118,124	782,517	900,641
Reclassification/ Transfer in (out)	191,300	(186,780)	4,520
31 December 2021	87,279,420	1,287,020	88,566,440
Additions	324,404	548,345	872,749
Transfer in (out)	1,287,020	(1,287,020)	-
31 December 2022	88,890,844	548,345	89,439,189
Accumulated amortisation:			
1 January 2021	55,959,758	-	55,959,758
Amortisation for the year	686,151	-	686,151
31 December 2021	56,645,909	-	56,645,909
Amortisation for the year	933,228	-	933,228
31 December 2022	57,579,137	-	57,579,137
Net book value:			
31 December 2021	30,633,511	1,287,020	31,920,531
31 December 2022	31,311,707	548,345	31,860,052
Amortisation for the year			
2021			686,151
2022			933,228

(Unit: Thousand Baht)

Separate financial statements

	Rights to operate completed expressway sector	Project costs under construction	Total
Cost:			
1 January 2021	74,120,276	690,903	74,811,179
Additions	92,741	688,294	781,035
Transfer in (out)	190,920	(190,920)	-
31 December 2021	74,403,937	1,188,277	75,592,214
Additions	211,590	373,202	584,792
Transfer in (out)	1,188,277	(1,188,277)	-
31 December 2022	75,803,804	373,202	76,177,006
Accumulated amortisation:			
1 January 2021	47,845,912	-	47,845,912
Amortisation for the year	504,627	-	504,627
31 December 2021	48,350,539	-	48,350,539
Amortisation for the year	703,339	-	703,339
31 December 2022	49,053,878	-	49,053,878
Net book value:			
31 December 2021	26,053,398	1,188,277	27,241,675
31 December 2022	26,749,926	373,202	27,123,128
Amortisation for the year			
2021			504,627
2022			703,339

16. Intangible asset under concession agreement of the MRT Blue Line Project

(Unit: Thousand Baht)

	Consolidated financial statements		
	Intangible asset under concession agreement of the MRT Blue Line Project	Project costs under installation	Total
Cost:			
1 January 2021	47,960,660	1,512,545	49,473,205
Additions	160,306	770,489	930,795
Write off	-	(642)	(642)
Reclassification/ Transfer in (out)	1,747	(1,552)	195
31 December 2021	48,122,713	2,280,840	50,403,553
Additions	322,428	23,224	345,652
Write off	(7,781)	-	(7,781)
Transfer in (out)	2,273,850	(2,273,850)	-
31 December 2022	50,711,210	30,214	50,741,424
Accumulated amortisation:			
1 January 2021	4,789,486	-	4,789,486
Amortisation for the year	245,444	-	245,444
31 December 2021	5,034,930	-	5,034,930
Amortisation for the year	467,773	-	467,773
Write off	(7,157)	-	(7,157)
31 December 2022	5,495,546	-	5,495,546
Net book value:			
31 December 2021	43,087,783	2,280,840	45,368,623
31 December 2022	45,215,664	30,214	45,245,878
Amortisation for the year			
2021			245,444
2022			467,773

(Unit: Thousand Baht)

Separate financial statements

	Intangible asset under concession agreement of the MRT Blue Line Project	Project costs under installation	Total
Cost:			
1 January 2021	47,288,819	1,511,461	48,800,280
Additions	146,607	769,529	916,136
Transfer in (out)	1,487	(1,487)	-
31 December 2021	47,436,913	2,279,503	49,716,416
Additions	306,386	7,119	313,505
Transfer in (out)	2,272,890	(2,272,890)	-
31 December 2022	50,016,189	13,732	50,029,921
Accumulated amortisation:			
1 January 2021	4,423,281	-	4,423,281
Amortisation for the year	197,331	-	197,331
31 December 2021	4,620,612	-	4,620,612
Amortisation for the year	419,933	-	419,933
31 December 2022	5,040,545	-	5,040,545
Net book value:			
31 December 2021	42,816,301	2,279,503	45,095,804
31 December 2022	44,975,644	13,732	44,989,376
Amortisation for the year			
2021			197,331
2022			419,933

17. Project cost of the MRT Chalong Ratchadham Line

(Unit: Thousand Baht)

	Consolidated and Separate financial statements		
	Project Cost of the MRT Chalong Ratchadham Line	Project costs under installation	Total
Cost:			
1 January 2021	703,300	70,060	773,360
Additions	-	77,701	77,701
Decrease	(1)	(33,644)	(33,645)
Transfer in (out)	36,416	(36,416)	-
31 December 2021	739,715	77,701	817,416
Additions	7,898	1,322	9,220
Transfer in (out)	77,701	(77,701)	-
31 December 2022	825,314	1,322	826,636
Accumulated amortisation:			
1 January 2021	112,924	-	112,924
Amortisation for the year	27,739	-	27,739
31 December 2021	140,663	-	140,663
Amortisation for the year	29,295	-	29,295
31 December 2022	169,958	-	169,958
Net book value:			
31 December 2021	599,052	77,701	676,753
31 December 2022	655,356	1,322	656,678
Amortisation for the year			
2021			27,739
2022			29,295

18. Other intangible assets

The net book value of other intangible assets which are computer software as at 31 December 2022 and 2021 is presented below.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Cost	223,484	223,484	209,262	209,262
Less: Accumulated amortisation	(189,536)	(175,133)	(175,830)	(163,586)
Net book value	<u>33,948</u>	<u>48,351</u>	<u>33,432</u>	<u>45,676</u>

A reconciliation of the net book value of other intangible assets for the years 2022 and 2021 is presented below.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Net book value at beginning of year	48,351	63,165	45,676	58,266
Acquisition	-	11,553	-	11,532
Amortisation for the year	(14,403)	(26,367)	(12,244)	(24,122)
Net book value at end of year	<u>33,948</u>	<u>48,351</u>	<u>33,432</u>	<u>45,676</u>

19. Trade and other payables

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Trade payables - related parties (Note 6)	586,698	305,189	608,899	320,538
Trade payables - unrelated parties	293,037	370,747	279,201	354,761
Accrued expenses - related parties (Note 6)	79,481	14,997	80,954	14,997
Accrued expenses - unrelated parties	535,585	549,428	468,153	482,024
Accrued interest	251,392	227,327	251,049	226,928
Other payables	16,612	24,725	15,180	23,290
Total trade and other payables	<u>1,762,805</u>	<u>1,492,413</u>	<u>1,703,436</u>	<u>1,422,538</u>

20. Long-term loans from financial institutions

(Unit: Thousand Baht)

Loans	Credit facility	Objective	Interest rate	Period of repayment	Consolidated financial statements		Separate financial statements	
					2022	2021	2022	2021
	(Million Baht)		(percent)					
20.1 Tranche A (Fully drew down)	13,557	To invest in the MRT Chalong Ratchadham Line Project	Interest rate of FDR plus stipulated margins	Repayment in monthly installments commencing October 2017 to July 2026	1,541,760	7,034,274	1,541,760	7,034,274
20.2 Tranche B (Fully drew down)	62	To invest in the MRT Chalong Ratchadham Line Project	Interest rate of FDR plus stipulated margins	Repayment in monthly installments commencing October 2017 to July 2026	3,982,880	32,126	3,982,880	32,126
20.3 Long-term loan (Fully drew down)	14,000	To invest in the MRT Blue Line Extension Project	Interest rate of 6M THBFIX plus stipulated margins	Repayment in quarterly installments commencing December 2021 to December 2035	13,749,993	13,949,997	13,749,993	13,949,997
20.4 Long-term loan (Fully drew down)	5,000	To refinance existing debt and working capital	Interest rate of 6M THBFIX plus stipulated margins	Repayment installments in every six month commencing April 2022 to April 2026	3,880,000	5,000,000	3,880,000	5,000,000
20.5 Sustainability loan (Fully drew down)	3,000	To refinance existing debt or debentures and to invest in eligible green and social projects	A fixed interest rate	Repayment in annually installments commencing February 2023 to February 2027	3,000,000	-	3,000,000	-
20.6 Long-term loan (Fully drew down)	3,630	Repayment for loan obtained from the Company	Interest rate of 6M FDR plus stipulated margins	Repayment in quarterly installments within December 2025	2,323,200	3,005,640	-	-
Total	39,249							
Less: Gain from cross currency and interest rate swap contracts					(1,052)	-	(1,052)	-
Total					28,476,781	29,022,037	26,153,581	26,016,397
Less: Current portion of long-term loans					(4,173,244)	(3,544,204)	(3,461,764)	(2,861,764)
Less: Deferred financial fees					(59,196)	(65,534)	(59,196)	(65,534)
Add: Deferred interest expense					465,373	197,113	439,701	186,785
Long-term loans - net of current portion					24,709,714	25,609,412	23,072,322	23,275,884

Movements in the long-term loans account for the years ended 31 December 2022 and 2021 are as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Beginning balance	29,022,037	27,425,978	26,016,397	24,108,158
Add: Additional borrowings	3,000,000	5,000,000	3,000,000	5,000,000
Less: Repayments	(3,544,204)	(3,403,941)	(2,861,764)	(3,091,761)
Less: Gain from cross currency				
and interest rate swap contracts	(1,052)	-	(1,052)	-
Ending balance	<u>28,476,781</u>	<u>29,022,037</u>	<u>26,153,581</u>	<u>26,016,397</u>

For the long-term loans number 20.1 and 20.2

The Company pledged bank accounts used to deposit moneys received for work on the M&E system of Phase 1 of the MRT Chalong Ratchadham Line (Note 10) and transferred rights to receive payments for such work to the group of lenders as collateral to secure these loans. The Company had interest expenses amounting to Baht 176 million on such loans for the year ended 31 December 2022 (2021: Baht 218 million).

Under the Credit Facility Agreements, the Company must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

For Long-term loan number 20.3

The Company entered into interest rate swap agreements for parts of these loans to change the interest rate from a floating rate of 6M THBFIX plus a stipulated margins to a fixed rate. The Company applied hedge accounting on this transaction.

The Company pledged the bank accounts used for receiving fare and commercial development revenue related to the MRT Blue Line Project (Note 7) and the transferred the rights to receive for such revenue to the lender as collateral to secure this loan.

Under the Credit Facility Agreements, the Company must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

For Long-term loan number 20.4

The Company signed a long-term loan agreement with a financial institution and also entered into an interest rate swap contract to change the interest rate from a floating rate of 6M THBFIX plus stipulated margin to a fixed rate. The Company applied hedge accounting on this transaction.

Under the loan agreement, the Company must comply with normal financial covenants relating to various matters, such as the maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and mandatory prepayment conditions.

For Long-term loan number 20.5

The Company entered into the Sustainability loan agreement with a local financial institution. The loan, to be provided in Thai Baht or foreign currency, The credit facility is the Thai Baht equivalent of no more than Baht 3,000 million, that carries interest at a fixed interest rate.

During the year, the Company drew down USD 91 million, equivalent to Baht 3,000 million. On the draw down date, the Company entered into the cross currency and interest rate swap contracts with the financial institution to swap the long-term loan in USD carrying interest at a fixed rate to a long-term loan in Thai Baht carrying interest at a floating rate of THOR plus a stipulated margin. To mitigate the risk of loan and interest, the Company applied hedge accounting on these transactions.

Under the loan agreements, the Company must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage and debt to equity ratios, dividend payment, mandatory prepayment conditions and other conditions as specified in the agreements.

For Long-term loan number 20.6

This is a loan of a subsidiary company. Under the loan agreement, the subsidiary must comply with normal financial covenants relating to various matters, such as maintenance of debt service coverage ratio and debt to equity ratio, dividend payment and conditions for mandatory prepayment.

21. Debentures

Debentures as at 31 December 2022 and 2021 have the following details:

Type of debenture	Term	Issuance date	Maturity date	Interest rate (% per annum)	(Unit: Thousand Baht)	
					Consolidated and Separate	
					financial statements	
					2022	2021
1. No. 1/2016						
- Tranche 3	7 years	24 June 2016	24 June 2023	3.00	2,000,000	2,000,000
- Tranche 4	10 years	24 June 2016	24 June 2026	3.30	3,335,000	3,335,000
- Tranche 5	12 years	24 June 2016	24 June 2028	3.61	2,750,000	2,750,000
2. No. 2/2016	12 years	11 August 2016	24 June 2028	3.61	500,000	500,000
3. No. 3/2016						
- Tranche 2	9 years	21 October 2016	21 October 2025	3.78	2,500,000	2,500,000
- Tranche 3	11 years	21 October 2016	21 October 2027	3.95	3,000,000	3,000,000
4. No. 1/2017						
- Tranche 1	5 years	7 September 2017	7 September 2022	2.65	-	2,000,000
- Tranche 2	7 years	7 September 2017	7 September 2024	3.10	3,000,000	3,000,000
5. No. 1/2018						
- Tranche 2	5 years	5 April 2018	5 April 2023	2.46	3,500,000	3,500,000
- Tranche 3	7 years	5 April 2018	5 April 2025	3.01	3,500,000	3,500,000
6. No. 1/2019						
- Tranche 1	3 years	9 May 2019	9 May 2022	2.65	-	1,000,000
- Tranche 2	5 years	9 May 2019	9 May 2024	3.18	2,000,000	2,000,000
- Tranche 3	7 years	9 May 2019	9 May 2026	3.59	1,000,000	1,000,000
- Tranche 4	10 years	9 May 2019	9 May 2029	3.84	1,000,000	1,000,000
7. No. 1/2020						
- Tranche 1	4 years	10 June 2020	10 June 2024	2.88	1,000,000	1,000,000
- Tranche 2	10 years	10 June 2020	10 June 2030	3.50	1,300,000	1,300,000
- Tranche 3	12 years	10 June 2020	10 June 2032	3.78	700,000	700,000
8. No. 1/2021						
- Tranche 1	3 years	28 April 2021	28 April 2024	1.56	2,000,000	2,000,000
- Tranche 2	5 years	28 April 2021	28 April 2026	2.24	2,000,000	2,000,000
- Tranche 3	7 years	28 April 2021	28 April 2028	2.91	1,000,000	1,000,000
- Tranche 4	10 years	28 April 2021	28 April 2031	3.33	1,000,000	1,000,000
9. No. 1/2022						
- Tranche 1	3 years	5 September 2022	5 September 2025	2.76	1,000,000	-
- Tranche 2	5 years	5 September 2022	5 September 2027	3.33	1,500,000	-
- Tranche 3	10 years	5 September 2022	5 September 2032	4.01	1,000,000	-
- Tranche 4	12 years	5 September 2022	5 September 2034	4.15	1,000,000	-
Total					41,585,000	40,085,000
Less: Current portion of debentures					(5,500,000)	(3,000,000)
Less: Deferred debentures issuing cost					(25,242)	(26,288)
Less: Deferred interest expense					(1,330)	(1,340)
Debentures - net of current portion					36,058,428	37,057,372

Movements in the debentures account for the years ended 31 December 2022 and 2021 are summarised below.

	(Unit: Thousand Baht)	
	Consolidated and Separate financial statements	
	<u>2022</u>	<u>2021</u>
Beginning balance	40,085,000	38,700,000
Issuance	4,500,000	6,000,000
Redemption	(3,000,000)	(4,615,000)
Ending balance	<u>41,585,000</u>	<u>40,085,000</u>

On 5 September 2022, the Company issued four tranches of Sustainability Bond No.1/2022, totaling Baht 4,500 million to fund the refinancing of existing debt and/or invest in the MRT Blue Line Project.

All of the Company's debentures are registered debentures, unsubordinated, and unsecured, without a debenture holders' representative, except for the debenture number 6 to number 9 which have a debenture holders' representative, that pay interest semi-annually. The debentures contain covenants relating to maintenance of interest bearing debt to equity ratio.

22. Unearned revenue from advertising management rights

The Company received remuneration of Baht 35 million from the subsidiary for granting the rights to manage advertising services through the Passenger Information Display System (PIDs), as described in Note 1 C. to the consolidated financial statements, on the execution date of the agreement (1 January 2010) and this rights will expire in July 2029. The amount is presented under the caption of "Unearned revenue from advertising management rights" and is being amortised to revenue throughout the contract period.

Movements in unearned revenue from advertising management rights account are summarised below.

	(Unit: Thousand Baht)	
	Separate financial statements	
	<u>2022</u>	<u>2021</u>
Beginning balance	9,369	10,618
Recognise to revenue during the year	(1,248)	(1,249)
Ending balance	8,121	9,369
Less: Current portion	(1,249)	(1,249)
Unearned revenue from advertising management rights - net of current portion	<u>6,872</u>	<u>8,120</u>

23. Leases

The Group, as a lessee, has lease contracts for various items of equipment used in its operations. Leases generally have lease terms between 1 - 7 years.

a) Right-of-use assets

Movements of right-of-use assets for the years ended 31 December 2022 and 2021 are summarised below.

(Unit: Thousand Baht)

Consolidated financial statements			
	Buildings and construction improvement	Vehicles	Total
1 January 2021	32,810	53,704	86,514
Additions	116,838	2,433	119,271
Depreciation for the year	(46,909)	(19,180)	(66,089)
31 December 2021	102,739	36,957	139,696
Additions	92,392	8,582	100,974
Reclassification	-	(577)	(577)
Depreciation for the year	(51,161)	(17,336)	(68,497)
31 December 2022	143,970	27,626	171,596

(Unit: Thousand Baht)

Separate financial statements			
	Buildings and construction improvement	Vehicles	Total
1 January 2021	8,295	50,139	58,434
Additions	35,925	2,433	38,358
Depreciation for the year	(26,956)	(18,072)	(45,028)
31 December 2021	17,264	34,500	51,764
Additions	61,581	8,582	70,163
Reclassification	-	(577)	(577)
Depreciation for the year	(26,955)	(16,228)	(43,183)
31 December 2022	51,890	26,277	78,167

b) Lease liabilities

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Lease payments	177,487	142,299	81,557	53,064
Less: Deferred interest expenses	(6,347)	(4,890)	(2,513)	(2,061)
Total	171,140	137,409	79,044	51,003
Less: Portion due within one year	(67,764)	(44,749)	(44,010)	(25,374)
Lease liabilities - net of current portion	103,376	92,660	35,034	25,629

Movements of the lease liability account during the years ended 31 December 2022 and 2021 are summarised below:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Balance at beginning of year	137,409	86,425	51,003	58,512
Additions	100,974	119,266	70,163	38,352
Accretion of interest	3,471	2,764	2,224	2,074
Repayments	(70,714)	(67,284)	(44,346)	(47,489)
Effect of reduction in rental expenses	-	(3,762)	-	(446)
Balance at end of year	171,140	137,409	79,044	51,003

A maturity analysis of lease payments is disclosed in Note 40 to the consolidated financial statements under the liquidity risk.

c) Expenses relating to leases that are recognised in profit or loss

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Depreciation expense of right-of-use assets	68,497	66,089	43,183	45,028
Interest expense on lease liabilities	3,471	2,764	2,224	2,074
Expense relating to short-term leases and leases of low-value assets	17,375	20,369	16,295	19,333

d) Others

The Group had total cash outflows for leases for the year ended 31 December 2022 of Baht 88 million (2021: Baht 88 million) (the Company only: Baht 61 million, 2021: Baht 67 million), including the cash outflow related to short-term lease and leases of low-value assets.

24. Provision for long-term employee benefits

Provision for long-term employee benefits, which represents compensation payable to employees after they retire, are as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Provision for long-term employee benefits				
at beginning of the year	770,896	932,331	744,830	904,696
Included in profit or loss:				
Current service cost	80,321	78,889	75,812	75,075
Interest cost	15,528	14,250	15,001	13,603
Included in other comprehensive income:				
Actuarial (gain) loss arising from				
- Demographic assumptions changes	-	(26,526)	-	(26,167)
- Financial assumptions changes	-	(144,168)	-	(145,518)
- Experience adjustments	-	(52,337)	-	(45,316)
Benefits paid during the year	(28,697)	(31,543)	(28,697)	(31,543)
Provision for long-term employee benefits				
at end of the year	<u>838,048</u>	<u>770,896</u>	<u>806,946</u>	<u>744,830</u>

The Group expects to pay Baht 12 million of long-term employee benefits during the next year (Separate financial statements: Baht 11 million) (2021: Baht 18 million, Separate financial statements: Baht 18 million).

As at 31 December 2022 and 2021, the weighted average duration of the liabilities for long-term employee benefit is 10.91 - 16.42 years (Separate financial statements: 10.91 - 16.42 years).

Significant actuarial assumptions are summarised below.

	(Unit: Percent per annum)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Discount rate	1.7 - 2.2	1.7 - 2.2	1.7, 2.2	1.7, 2.2
Future salary increase rate	1.0 - 5.0	1.0 - 5.0	1.0, 1.5, 4.0	1.0, 1.5, 4.0
Staff turnover rate (depending on age)	2.0 - 14.0	2.0 - 14.0	2.0 - 6.0	2.0 - 6.0

The result of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligation as at 31 December 2022 and 2021 are summarised below.

	(Unit: Million Baht)			
	2022			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(72)	85	(69)	81
Future salary increase rate	92	(80)	88	(76)
Staff turnover rate	(76)	54	(72)	53

	(Unit: Million Baht)			
	2021			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(68)	80	(65)	76
Future salary increase rate	77	(67)	74	(64)
Staff turnover rate	(71)	50	(68)	49

25. Statutory reserve

Pursuant to Section 116 of the Public Company Limited Act B.E. 2535, the Company is required to set aside to a statutory reserve at least 5 percent of its net profit, after deducting accumulated deficit brought forward (if any), until the reserve reaches 10 percent of the registered capital. The statutory reserve is not available for dividend distribution. At present, the statutory reserve has fully been set aside.

26. Toll revenues

26.1 Under the Construction and Management Contract of the Si Rat Expressway Project (the Second Stage Expressway System) and the Bang Pa-In - Pak Kret Expressway Project and the Concession agreements (Amendment) that granted concession extensions, as described in Note 1 A. to the consolidated financial statements. The Group and the EXAT agreed to share toll revenues receive as follows:

	The Group	The EXAT
	(Percent)	(Percent)
Urban Network (FES and SES Sector A and Sector B)	40	60
Suburban Network (SES Sector C)	100	Nil
Suburban Network (SES Sector D)	100	Nil
Bang Pa-In - Pak Kret Expressway	100	Nil

26.2 Under a concession agreement of the Si Rat - Outer Ring Road Expressway Project, the Company and the EXAT agreed to share toll revenues receive as follows:

	The Company	The EXAT
	(Percent)	(Percent)
<u>The Prachin Ratthaya Expressway Project</u>		
From the construction completion date of relevant Sections		
until end of contract period (14 December 2042)	100	Nil

27. Revenue from commercial development business

Revenue from commercial development business in the separate financial statements for the year ended 31 December 2022 amounted to Baht 811 million (2021: Baht 745 million). This included revenue from commercial development under the MRT Blue Line Concession Agreement amounting to Baht 769 million (2021: Baht 693 million).

28. Revenue from telecommunications network services and income from provision of space and facilities for the installation of telecommunications equipment

The Company's revenue from telecommunications network services and income from provision of space and facilities for the installation of telecommunications equipment for the years ended 31 December 2022 and 2021 was as follows:

	(Unit: Thousand Baht)	
	2022	2021
Telecommunications Business License Type 2		
with its own telecommunication network	271,854	243,768
Income from provision of space and facilities for the		
installation of telecommunications equipment	12,840	14,100
	<u>284,694</u>	<u>257,868</u>

29. Remuneration from fare box revenue and commercial development revenue

29.1 The Concession agreement of the MRTA Initial System Project - Chaloem Ratchamongkhon Line

The Company agrees to apportion revenues derived under the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement to the MRTA. These consist of remuneration from fares, remuneration from commercial development, apportionment of profit in excess of stipulated Return on Equity (ROE) and any benefit derived from the interest rate on a loan being lower the rate specified in the Concession Agreement.

As described in Note 1 B.1 to the consolidated financial statements, the Company signed the MRT Blue Line Project Concession Agreement on 31 March 2017. Under the MRT Blue Line Concession Agreement, the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement is deemed to be part of the MRT Blue Line Concession Agreement, and only the clauses relating the rights, duties and provisions with respect to fares, fare rates and payment of remuneration to the MRTA will remain in effect until the end of the concession agreement with the MRTA for the MRTA Initial System Project - Chaloem Ratchamongkhon Line.

Remuneration paid to the MRTA under the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement is summarised in Part I of Note 29.2 to the consolidated financial statements.

29.2 The MRT Blue Line Concession agreement

Under the MRT Blue Line Project concession agreement dated 31 March 2017, the Company agrees to apportion revenue under the concession agreement to the MRTA, which can be divided into two parts, as follows:

Part I: Remuneration from fares and commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line earned under the related concession agreement until 1 July 2029, with detail as follow:

a) Remuneration from fare revenue

Annual remuneration

The Company has agreed to apportion fare revenue to the MRTA on an annual basis for the period from 2 July 2014 to 1 July 2029. The total amount payable is Baht 43,567 million (inclusive of VAT) divided into annual payments in amounts stipulated in the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement.

As at 31 December 2022, the Company paid accumulated annual remuneration totaling Baht 14,424 million (2021: Baht 11,704 million).

Percentage remuneration

The Company has agreed to apportion to the MRTA 1 percent to 15 percent of the fare revenue of the MRTA Initial System Project - Chaloem Ratchamongkhon Line (inclusive of VAT) from 2 July 2004 to 1 July 2029, in the form of monthly payments.

For the year ended 31 December 2022, the Company paid the percentage remuneration from fare revenue totaling Baht 236 million (2021: Baht 58 million).

b) Remuneration from commercial development revenues

Annual remuneration

The Company has agreed to apportion commercial development revenues to the MRTA on an annual basis for the period from 2 July 2004 to 1 July 2029. The total amount payable is Baht 930 million (inclusive of VAT) divided into annual payments in amounts stipulated in the MRTA Initial System Project - Chaloem Ratchamongkhon Line concession agreement.

As at 31 December 2022, the Company paid accumulated annual remuneration totaling Baht 605 million (2021: Baht 555 million).

Percentage remuneration

The Company has agreed to apportion to the MRTA 7 percent of commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line (inclusive of VAT) from 2 July 2004 to 1 July 2029, in the form of monthly payments.

For the year ended 31 December 2022, the Company paid the percentage remuneration from commercial development revenues totaling Baht 46 million (2021: Baht 40 million).

Part II: Remuneration from fares and commercial development revenues of the MRT Blue Line Extension Project from 31 March 2017 until end of the MRT Blue Line concession period and remuneration from fares and commercial development revenues of the MRTA Initial System Project - Chaloem Ratchamongkhon Line from 2 July 2029 until end of the MRT Blue Line concession period.

The Company is to pay remuneration to MRTA when the Company earns a return on investment over the rate stipulated in the concession agreement, from its operation of the MRT Blue Line Extension Project, as from 31 March 2017, and from its operation of the MRTA Initial System Project - Chaloem Ratchamongkhon Line, as from 2 July 2029, until the end of the MRT Blue Line concession period. The compensation rates are as stipulated in the MRT Blue Line concession agreement.

30. Finance cost

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Interest expense on loans and debentures	2,173,180	1,938,158	2,090,549	1,854,363
Interest expense on lease liabilities	3,471	2,764	2,224	2,074
Interest paid from interest rate swaps	150,480	222,972	150,480	222,972
Others financial cost	33,549	23,150	33,342	22,439
Total	<u>2,360,680</u>	<u>2,187,044</u>	<u>2,276,595</u>	<u>2,101,848</u>

31. Expenses by nature

Significant expenses classified by nature are as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Amortisation and depreciation	1,589,262	1,128,606	1,279,490	864,001
Salaries, wages and other benefits for the Group's employees	2,380,027	2,291,569	2,253,683	2,176,786
Salaries, wages and other benefits for the EXAT's employees	1,026,358	723,744	832,102	590,348
Repair and maintenance expenses	2,535,739	2,017,741	2,512,965	1,978,223
Utilities expenses	898,022	765,942	877,313	745,985
Project remuneration under the concession expenses	421,102	220,635	421,102	220,635
Expenses with respect to facilitation and safety on expressway and stations	537,263	582,538	514,028	547,048
Insurance expenses	154,692	146,504	147,615	139,508

32. Income tax

Income tax expenses for the years ended 31 December 2022 and 2021 are made up as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Current income tax:				
Current income tax for the year	34,946	63,607	-	-
Adjustment in respect of current income tax of previous year	11,249	(33)	11,359	-
Deferred tax:				
Relating to origination and reversal of temporary differences	351,464	70,338	355,148	74,203
Income tax expenses reported in the income statement	<u>397,659</u>	<u>133,912</u>	<u>366,507</u>	<u>74,203</u>

The amounts of income tax relating to each component of other comprehensive income for the years ended 31 December 2022 and 2021 are as follows:

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Deferred tax related to				
- Unrealised gain from cash flow hedges	42,610	17,983	42,610	17,983
- Gain (loss) from the change in value of financial assets measured at FVOCI	(491,234)	13,837	(491,234)	13,837
- Actuarial gain	-	44,606	-	43,400
Total	<u>(448,624)</u>	<u>76,426</u>	<u>(448,624)</u>	<u>75,220</u>

The reconciliation between accounting profit and income tax expense is shown below.

	(Unit: Thousand Baht)			
	Consolidated		Separate	
	financial statements		financial statements	
	2022	2021	2022	2021
Accounting profit before tax	2,833,915	1,144,963	2,679,946	846,066
Applicable tax rate	20%	20%	20%	20%
Accounting profit before tax multiplied by				
applicable tax rate	566,783	228,993	535,989	169,213
Adjustment in respect of income tax				
of previous year	11,249	(33)	11,359	-
Effects of elimination entry on the consolidated				
financial statements	-	(377)	-	-
Adjustment in respect of deferred tax liabilities	(11,137)	-	(11,137)	-
Previously unrecognised deductible temporary				
differences that is used to reduce deferred				
tax expense	(57,357)	-	(57,357)	-
Effects of:				
Tax-exempt revenues	(110,307)	(98,437)	(110,307)	(98,437)
Non-deductible expenses	1,506	3,442	1,139	3,442
Additional expense deductions allowed	(3,367)	(1,947)	(2,920)	(1,071)
Others	289	2,271	(259)	1,056
Total	(111,879)	(94,671)	(112,347)	(95,010)
Income tax expenses reported in				
the income statement	397,659	133,912	366,507	74,203

The components of deferred tax assets and deferred tax liabilities as at 31 December 2022 and 2021 are as follows:

(Unit: Thousand Baht)				
	Consolidated		Separate	
	financial statements		financial statements	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Deferred tax assets				
Provision for bonus	40,887	43,616	32,760	35,132
Provision for others accrued expenses	2,603	3,195	2,176	2,780
Allowance for expected credit losses	381	640	350	539
Provision for long-term employee benefits	167,610	154,179	161,389	148,966
Leases	399	265	345	233
Deferred interest expenses	92,809	39,155	87,674	37,089
Unused tax loss	278,854	666,171	278,854	666,171
Derivative financial liabilities	179	19,176	179	19,176
Amortisation on the project cost of the MRT				
Chalong Ratchadham Line	57,357	-	57,357	-
Total	<u>641,079</u>	<u>926,397</u>	<u>621,084</u>	<u>910,086</u>
Deferred tax liabilities				
Accumulated amortisation - Rights to operate				
expressway sectors	745,041	642,408	745,041	642,408
Prepaid project remuneration	1,789,649	1,766,752	1,789,649	1,766,752
Financial derivative assets	23,433	-	23,433	-
Gain from financial assets designated to FVTPL	14,002	17,766	14,002	17,766
Gain from financial assets designated to FVOCI	1,100,881	1,592,115	1,100,881	1,592,115
Total	<u>3,673,006</u>	<u>4,019,041</u>	<u>3,673,006</u>	<u>4,019,041</u>
Presentation in the financial statements				
Deferred tax assets	19,995	16,311	-	-
Deferred tax liabilities	(3,051,922)	(3,108,955)	(3,051,922)	(3,108,955)
	<u>(3,031,927)</u>	<u>(3,092,644)</u>	<u>(3,051,922)</u>	<u>(3,108,955)</u>

33. Earnings per share

Basic earnings per share is calculated by dividing profit for the year attributable to equity holders of the Company (excluding other comprehensive income) by the weighted average number of ordinary shares in issue during the year.

34. Dividends

Dividends declared for the years ended 31 December 2022 and 2021 in the consolidated and separate financial statements consisted of the following:

Dividends	Approved by	Total dividends (Million Baht)	Dividend per share (Baht)	Paid on
<u>For the year ended 31 December 2022</u>				
Dividend for the year 2021	Annual General Meeting of the shareholders on 4 April 2022	1,223	0.08	27 April 2022
<u>For the year ended 31 December 2021</u>				
Dividend for the year 2020	Annual General Meeting of the shareholders on 28 April 2021	1,529	0.10	25 May 2021

35. Promotional privileges

The Company has received promotional privileges from the Board of Investment for the investment of the MRT Blue Line Project, pursuant to the investment promotion certificate No. 60-1074-1-00-1-0 issued on 27 July 2017. Subject to certain imposed conditions, the privileges include an exemption from corporate income tax for a period of 8 years from the date the promoted operations begin generating revenues (11 August 2017).

The Company's operating revenues for the years ended 31 December 2022 and 2021, divided between promoted and non-promoted operations, are summarised below.

	(Unit: Thousand Baht)					
	Promoted operations		Non-promoted operations		Total	
	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>	<u>2022</u>	<u>2021</u>
Revenue from expressway business	-	-	7,008,021	5,490,300	7,008,021	5,490,300
Revenue from rail business	2,704,260	1,491,633	2,212,720	1,962,775	4,916,980	3,454,408
Revenue from commercial development business	-	-	811,397	745,500	811,397	745,500
Other income	-	744	1,536,428	967,849	1,536,428	968,593
Total revenues	<u>2,704,260</u>	<u>1,492,377</u>	<u>11,568,566</u>	<u>9,166,424</u>	<u>14,272,826</u>	<u>10,658,801</u>

36. Segment information

Operating segment information is reported in a manner consistent with the internal reports that are regularly reviewed by the chief operating decision maker in order to make decisions about the allocation of resources to the segment and assess its performance.

For management purposes, the Group is organised into business units based on its products and services and have four reportable segments as follows:

- 1) The expressway business segment related to the construction and operation of the expressway.
- 2) The rail business segment related to the operation of the rapid transit system.
- 3) The commercial development business segment related to the rental of retail space, and the provision of advertising media services and telecommunication services inside and outside underground train stations and on expressway.
- 4) Other segments are segments where the Company is employed to operate Bang Pa-In - Pak Kret expressway project of the subsidiary.

The chief operating decision maker monitors the operating results of the business units separately for the purpose of making decisions about resource allocation and assessing performance. Segment performance is measured based on operating profit or loss and total assets and on a basis consistent with that used to measure operating profit or loss and total assets in the financial statements.

The basis of accounting for any transactions between reportable segments is consistent with that for third party transactions.

The following table presents revenue and profit or loss and total assets information regarding the Group's operating segments for the years ended 31 December 2022 and 2021.

(Unit: Million Baht)

	Expressway business segment		Rail business segment		Commercial development business segment		Other segments		Total segments		Elimination of inter-segment revenues		Consolidation	
	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021
Revenue from external customers	8,192	6,450	4,917	3,454	921	822	-	-	14,030	10,726	-	-	14,030	10,726
Inter-segment revenues	-	-	-	-	246	243	773	228	1,019	471	(1,019)	(471)	-	-
Total revenues	8,192	6,450	4,917	3,454	1,167	1,065	773	228	15,049	11,197	(1,019)	(471)	14,030	10,726
Segment profit (loss)	5,365	4,265	(361)	(1,066)	578	538	-	-	5,582	3,737	-	-	5,582	3,737
Unallocated income and expenses:														
Interest income													187	227
Other income													585	528
Selling expenses													(127)	(92)
Administrative expenses													(1,033)	(1,068)
Finance cost													(2,360)	(2,187)
Income tax expenses													(398)	(134)
Non-controlling interests of the subsidiaries													-	(1)
Profit for the year to equity holders of the Company													2,436	1,010
Rights to operate expressway sectors	31,860	31,921	-	-	-	-	-	-	31,860	31,921	-	-	31,860	31,921
Asset the under the concession agreement														
- The MRT Blue Line Project	-	-	43,620	43,984	1,626	1,385	-	-	45,246	45,369	-	-	45,246	45,369
- The MRT Chalong Ratchadham Line	-	-	657	677	-	-	-	-	657	677	-	-	657	677
Receivable under the concession agreement	-	-	5,911	7,561	-	-	-	-	5,911	7,561	-	-	5,911	7,561
Prepaid project remuneration	-	-	12,023	9,460	378	316	-	-	12,401	9,776	-	-	12,401	9,776
Unallocated assets	-	-	-	-	-	-	19,344	20,599	19,344	20,599	(1,291)	(815)	18,053	19,784
Total assets													114,128	115,088

Transfer prices between business segments are as set out in Note 6 to the consolidated financial statements.

Geographic information

The Group operates in Thailand only. As a result, all the revenues and assets as reflected in these financial statements pertain exclusively to this geographical reportable segment.

Major customers

For the years 2022 and 2021, the Group has no major customer with revenue of 10 percent or more of an entity's revenues.

37. Provident fund

The Group and its employees have participated in TISCO Ruamtun 2 Registered Provident Fund as approved by Ministry of Finance in accordance with the Provident Fund Act B.E. 2530. Employees, the Group contributed to the fund monthly at the rates of 3 to 10 percent of basic salary. The fund, which is managed by TISCO Asset Management Company Limited, will be paid to employees upon termination in accordance with the fund rules. During the year 2022, the Group recognised the contribution of Baht 108 million in the consolidated financial statements (2021: Baht 113 million) as expenses and recognised the contribution of Baht 105 million in the separate financial statements (2021: Baht 110 million).

38. Commitments and contingent liabilities

38.1 Capital commitments

The Group has capital commitments as follows:

	As at 31 December	
	2022	2021
a) Performance improvement for farebox collection systems	Baht 51 million and USD 4 million	Baht 66 million and USD 6 million
b) Acquisition of equipment	Baht 120 million	Baht 16 million
c) Installation of the M&E Systems of the MRT Project	Baht 116 million	Baht 242 million
d) Improvement for civil infrastructure of expressway	Baht 305 million	Baht 172 million
e) Telecommunication equipment system	-	Baht 120 million
f) Other capital commitments	Baht 9 million	Baht 10 million

38.2 Long-term service commitments

The Group has commitments in respect of the Procurement of M&E equipment contract, and the Maintenance of M&E equipment and trackwork and infrastructure and civil works contracts of the M&E Project. These contracts will expire between 2023 and 2029.

Future minimum service fees payable under these contracts, excluding escalation in accordance with the general consumer price index are as follows:

(Unit: Million)

	As at 31 December									
	2022					2021				
	<u>Baht</u>	<u>USD</u>	<u>EUR</u>	<u>SGD</u>	<u>YEN</u>	<u>Baht</u>	<u>USD</u>	<u>EUR</u>	<u>SGD</u>	<u>YEN</u>
Payable:										
In up to 1 year	1,709	-	4	-	379	1,600	-	4	-	379
In over 1 year and up to 5 years	4,328	2	15	1	980	5,059	2	17	1	1,360
In over 5 years	1,284	1	7	-	-	2,061	2	11	-	-

38.3 Commitments under various service agreements

The Group has commitments under various service agreements as follows:

(Unit: Million Baht)

	As at 31 December	
	2022	2021
Payable:		
In up 1 year	486	381
In over 1 year and up to 5 years	338	244

38.4 Operating lease commitments

The Group entered into several lease agreements in respect of the lease of office building space and equipment that are short-term leases and leases of low-value assets. The terms of these agreements are between 2 and 4 years.

Future minimum lease payments required under these operating lease agreements were as follows:

(Unit: Million Baht)

	As at 31 December	
	2022	2021
Payable:		
In up 1 year	12	8
In over 1 year and up to 4 years	14	3

38.5 Guarantees

There were the following outstanding performance bonds and bank guarantees issued by banks on behalf of the Company.

(Unit: Million Baht)		
As at 31 December		
	2022	2021
a) Issued to the MRTA as guarantee for a bid for the operation of the MRT Orange Line Project - Bang Khun Non - Min Buri (Suwinthawong)	2,000	-
b) Issued to the MRTA in accordance with the operation of		
- The MRT Blue Line Concession agreement	210	210
- The MRT Chalong Ratchadham Project agreement	200	200
c) Issued to the Metropolitan Electricity Authority to guarantee electricity under rail projects	118	118
d) Other guarantees	3	3

38.6 Other commitments

As at 31 December 2022 and 2021, the Company has the commitment in respect of the uncalled portion of investment in Northern Bangkok Expressway Company Limited of Baht 750 million.

39. Fair value hierarchy

As at 31 December 2022 and 2021, the Group had the assets and liabilities that were measured or disclosed at fair value using different levels of inputs as follows:

(Unit: Million Baht)				
As at 31 December 2022				
Consolidated and Separate financial statements				
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVTPL				
- Unit trusts	-	597	-	597
Financial assets measured at FVOCI				
- Listed equity	12,868	-	-	12,868
- Non-listed equity	-	-	434	434
Derivatives				
- Interest rate swap contracts	-	117	-	117

(Unit: Million Baht)

As at 31 December 2022

Consolidated and Separate financial statements				
	Level 1	Level 2	Level 3	Total
Liabilities measured at fair value				
Financial liabilities measured at FVTPL				
Derivative				
- Cross currency and Interest rate swap contracts	-	1	-	1
Assets for which fair value are disclosed				
Investment properties	-	-	346	346
Liabilities for which fair value are disclosed				
Loans	-	-	4,021	4,021
Debentures	-	41,802	-	41,802

(Unit: Million Baht)

As at 31 December 2021

Consolidated and Separate financial statements				
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVTPL				
- Unit trusts	-	766	-	766
Financial assets measured at FVOCI				
- Listed equity	15,476	-	-	15,476
- Non-listed equity	-	-	434	434
Liabilities measured at fair value				
Derivative				
- Interest rate swap contracts	-	96	-	96
Assets for which fair value are disclosed				
Investment properties	-	-	321	321
Liabilities for which fair value are disclosed				
Loans	-	-	5,208	5,208
Debentures	-	41,092	-	41,092

40. Financial instruments

40.1 Derivatives and hedge accounting

Derivatives designated as hedging instruments

Cash flow hedges

The Company designated interest rate swap contracts as a hedging instrument used to hedge cash flows on a variable rate loan. This risk hedging is defined as an interest hedge.

There is an economic relationship between the hedged item and the hedging instrument as the terms of the interest rate swap match the terms of the variable rate loan (i.e., notional amount, maturity, payment and reset dates). The Company has established a hedge ratio of 1:1 as the underlying risk of the interest rate swap is identical to the hedged risk component. To test the hedge effectiveness, the Company uses the hypothetical derivative method and compares the changes in the fair value of the hedging instruments against the changes in fair value of the hedged items attributable to the hedged risks.

Fair value hedge

The Company designated a cross currency and interest rate swap contract as a hedging instrument in fair value hedges of a fixed-interest rate long-term loan denominated in USD whereby the Company exchanges the USD 91 million long-term loan into a Baht 3,000 million long-term loan and receives a fixed rate of interest of 2.875 and 3.346 percent per annum and pays interest at a variable rate equal to THOR plus stipulated margins percent per annum on the notional amount.

There is an economic relationship between the hedged item and the hedging instrument as the terms of the cross currency and interest rate swap contracts match the terms of the fixed rate loan (i.e., notional amount, and the maturity, payment and reset dates). The company has established a hedge ratio of 1.1 as the underlying risk of the cross currency and interest rate swap contract is identical to the hedged risk component.

Hedge ineffectiveness can arise from:

- Differences in the interest rate curves applied to discount the hedged item and hedging instrument
- Differences in how the counterparties's credit risk impacts the fair value movements of the hedging instrument and hedged item

The ineffectiveness recognised in profit or loss was immaterial.

40.2 Financial risk management objectives and policies

The Group's financial instruments principally comprise cash and cash equivalents, bank deposit for unearned fare box revenue, trade and other receivables, receivable under the concession agreement, short-term loans from financial institution, trade and other payables, lease liabilities, long-term loans from financial institution and debentures. The financial risks associated with these financial instruments and how they are managed is described below.

Credit risk

The Group is exposed to credit risk primarily with respect to trade and other receivables, receivable under the concession agreement, deposits with banks and financial institutions and other financial instruments. The maximum exposure to credit risk is limited to the carrying amounts as stated in the statement of financial position. The Group's maximum exposure relating to derivatives is noted in the liquidity risk topic.

Trade receivables and receivable under the concession agreement

The Group manages the risk by adopting appropriate credit control policies and procedures and therefore does not expect to incur material financial losses. Outstanding trade receivables and receivable under the concession agreement are regularly monitored.

An impairment analysis is performed at each reporting date to measure expected credit losses. The provision rates are based on days past due for groupings of various customer segments with similar credit risks. The Group classifies customer segments by customer type. The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions.

Financial instruments and cash deposits

The Group manages the credit risk from balances with banks and financial institutions by making investments only with approved counterparties and within credit limits assigned to each counterparty. Counterparty credit may be updated throughout the year. The limits are set to minimise the concentration of risks and therefore mitigate financial loss through a counterparty's potential failure to make payments.

The credit risk on debt instruments and derivatives is limited because the counterparties are banks with high credit-ratings assigned by international credit-rating agencies.

Market risk

There are two types of market risk comprising foreign currency risk and interest rate risk.

Foreign currency risk

The Company has a significant foreign currency risk in respect of construction payable and loan. As at 31 December 2022, the Company has outstanding financial liabilities denominated in foreign currency amounting to JPY 107 million, USD 0.1 million and SGD 0.1 million (2021: JPY 99 million, USD 0.1 million and SGD 0.1 million) which have not yet been hedged against foreign exchange risk (the majority of these liabilities are repayable within 1 year). For the loan denominated in foreign currency, the Company seeks to mitigate this risk by entering into foreign exchange rate contracts to convert a long-term loan in denominated USD to a long-term loan denominated in Thai Baht (Note 20).

Interest rate risk

The Group's exposure to interest rate risk relates primarily to its short-term loans, long-term loans and debentures. Most of the Group's financial assets and liabilities bear floating interest rates or fixed interest rates which are close to the market rate.

The Group manages its interest rate risk by entering to interest rate swaps for some of long-term loans, in which it agrees to exchange, at specified intervals, between fixed and variable rate interest amounts calculated by reference to an agreed-upon notional principal amount as described in Note 20 to the consolidated financial statements.

As at 31 December 2022 and 2021, significant financial assets and liabilities classified by type of interest rate are summarised in the table below, with those financial assets and liabilities that carry fixed interest rates further classified based on the maturity date, or the repricing date if this occurs before the maturity date.

(Unit: Million Baht)

	Consolidated financial statements						
	2022						
	Fixed interest rates			Floating	Non-interest		Effective
	Within 1 year	1 - 5 years	Over 5 years	interest rate	bearing	Total	interest rate
							(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	1,725	63	1,788	0.05 - 1.00
Bank deposit for unearned fare box revenue	-	-	-	230	-	230	0.05 - 2.00
Trade and other receivables	-	-	-	-	648	648	-
Receivable under the concession agreement	-	-	-	5,911	-	5,911	Note 10
Other financial assets	-	-	-	-	14,366	14,366	-
	-	-	-	7,866	15,077	22,943	

(Unit: Million Baht)

Consolidated financial statements

	2022						Effective interest rate (% p.a.)
	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	
	Within 1 year	1 - 5 years	Over 5 years				
Financial liabilities							
Trade and other payables	-	-	-	-	1,763	1,763	-
Long-term loans from financial institutions	1,008	2,479	-	25,396	-	28,883	Note 20
Lease liabilities	68	103	-	-	-	171	Note 23
Debentures	5,493	25,815	10,250	-	-	41,558	Note 21
Derivative financial liabilities	-	-	-	-	1	1	-
Other financial liabilities	-	-	-	-	105	105	-
	6,569	28,397	10,250	25,396	1,869	72,481	

(Unit: Million Baht)

Consolidated financial statements

	2021						
	Fixed interest rates			Floating	Non-interest		Effective
	Within 1 year	1 - 5 years	Over 5 years	interest rate	bearing	Total	interest rate
							(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	1,056	75	1,131	0.10 - 0.50
Bank deposit for unearned fare box revenue	-	-	-	225	-	225	0.05 - 1.45
Trade and other receivables	-	-	-	-	473	473	-
Receivable under the concession agreement	-	-	-	7,561	-	7,561	Note 10
Other financial assets	-	-	-	-	16,676	16,676	-
	-	-	-	8,842	17,224	26,066	
Financial liabilities							
Short-term loans from financial institutions	2,000	-	-	-	-	2,000	0.01
Trade and other payables	-	-	-	-	1,492	1,492	-
Long-term loans from financial institutions	1,120	3,871	-	24,163	-	29,154	Note 20
Lease liabilities	44	80	13	-	-	137	Note 23
Debentures	3,000	25,835	11,222	-	-	40,057	Note 21
Derivative financial liabilities	-	-	-	-	96	96	-
Other financial liabilities	-	-	-	-	103	103	-
	6,164	29,786	11,235	24,163	1,691	73,039	

(Unit: Million Baht)

	Separate financial statements						
	2022						
	Fixed interest rates			Floating	Non-interest		Effective
	Within 1 year	1 - 5 years	Over 5 years	interest rate	bearing	Total	interest rate
							(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	1,351	60	1,411	0.05 - 1.00
Bank deposit for unearned fare box revenue	-	-	-	230	-	230	0.05 - 2.00
Trade and other receivables	-	-	-	-	800	800	-
Long term-loan to related party	-	-	-	300	-	300	2.30
Receivable under the concession agreement	-	-	-	5,911	-	5,911	Note 10
Other financial assets	-	-	-	-	14,366	14,366	-
	-	-	-	7,792	15,226	23,018	
Financial liabilities							
Trade and other payables	-	-	-	-	1,703	1,703	-
Long-term loans from financial institutions	1,008	2,479	-	23,047	-	26,534	Note 20
Lease liabilities	44	35	-	-	-	79	Note 23
Debentures	5,493	25,815	10,250	-	-	41,558	Note 21
Derivative financial liabilities	-	-	-	-	1	1	-
Other financial liabilities	-	-	-	-	102	102	-
	6,545	28,329	10,250	23,047	1,806	69,977	

(Unit: Million Baht)

Separate financial statements							
2021							
	Fixed interest rates			Floating	Non-interest		Effective
	Within 1 year	1 - 5 years	Over 5 years	interest rate	bearing	Total	interest rate
							(% p.a.)
Financial assets							
Cash and cash equivalents	-	-	-	528	68	596	0.10 - 0.50
Bank deposit for unearned fare box revenue	-	-	-	225	-	225	0.05 - 1.45
Trade and other receivables	-	-	-	-	475	475	-
Receivable under the concession agreement	-	-	-	7,561	-	7,561	Note 10
Other financial assets	-	-	-	-	16,676	16,676	-
	-	-	-	8,314	17,219	25,533	
Financial liabilities							
Short-term loans from financial institutions	2,000	-	-	-	-	2,000	0.01
Trade and other payables	-	-	-	-	1,423	1,423	-
Long-term loans from financial institutions	1,120	3,871	-	21,147	-	26,138	Note 20
Lease liabilities	25	26	-	-	-	51	Note 23
Debentures	3,000	25,835	11,222	-	-	40,057	Note 21
Derivative financial liabilities	-	-	-	-	96	96	-
Other financial liabilities	-	-	-	-	96	96	-
	6,145	29,732	11,222	21,147	1,615	69,861	

Interest rate sensitivity

The following table demonstrates the sensitivity of the Group's profit before tax and equity to a reasonably possible change in interest rates on that portion of the floating rate loans affected as at 31 December 2022 and 2021 as follows:

	2022			2021		
		Effect on			Effect on	
			Other components of			Other components of
	Increase/		shareholder's	Increase/		shareholder's
Currency	decrease	profit before tax	equity	decrease	profit before tax	equity
	(%)	(Thousand Baht)			(Thousand Baht)	
Baht	+0.25	(47,239)	(28,083)	+ 0.25	(39,045)	(47,279)
	- 0.25	47,273	28,083	- 0.25	39,141	47,560

The above analysis has been prepared assuming that the amounts of the floating rate loans and all other variables remain constant over one year. Moreover, the floating legs of these loans are assumed to not yet have set interest rates. As a result, a change in interest rates affects interest payable for the full 12-month period of the sensitivity calculation.

Liquidity risk

As at 31 December 2022, approximately 16.0 percent of the Group's debt will mature in less than one year (2021: 13.9 percent) (the Company only: 15.4 percent, 2021: 13.4 percent) based on the carrying value of borrowings reflected in the financial statements. The Group has assessed the concentration of risk with respect to refinancing its debt and concluded it to be low. The Group has access to a sufficient variety of sources of funding.

The table below summarises the maturity profile of the Group's non-derivative financial liabilities and derivative financial instruments as at 31 December 2022 and 2021 based on contractual undiscounted cash flows:

(Unit: Million Baht)

Consolidated financial statements

As at 31 December 2022

	On demand	Less than 1 year	1 to 5 years	Over 5 years	Total
Non-derivatives					
Trade and other payables	-	1,763	-	-	1,763
Lease liabilities	-	71	106	-	177
Long-term loans from financial institutions	-	4,173	11,554	12,750	28,477
Debentures	-	5,500	25,835	10,250	41,585
Total non-derivatives	-	11,507	37,495	23,000	72,002
Derivatives					
Derivative liabilities: net settled	-	-	1	-	1
Total	-	-	1	-	1

(Unit: Million Baht)

Separate financial statements

As at 31 December 2022

	On demand	Less than 1 year	1 to 5 years	Over 5 years	Total
Non-derivatives					
Trade and other payables	-	1,703	-	-	1,703
Lease liabilities	-	46	36	-	82
Long-term loans from financial institutions	-	3,462	9,942	12,750	26,154
Debentures	-	5,500	25,835	10,250	41,585
Total non-derivatives	-	10,711	35,813	23,000	69,524
Derivatives					
Derivative liabilities: net settled	-	-	1	-	1
Total	-	-	1	-	1

(Unit: Million Baht)

Consolidated financial statements

As at 31 December 2021

	On demand	Less than 1 year	1 to 5 years	Over 5 years	Total
Non-derivatives					
Short-term loans from financial institutions	-	2,000	-	-	2,000
Trade and other payables	-	1,492	-	-	1,492
Lease liabilities	-	47	82	13	142
Long-term loans from financial institutions	-	3,544	12,529	12,949	29,022
Debentures	-	3,000	25,835	11,250	40,085
Total non-derivatives	-	10,083	38,446	24,212	72,741
Derivatives					
Derivative liabilities: net settled	-	-	96	-	96
Total	-	-	96	-	96

(Unit: Million Baht)

Separate financial statements

As at 31 December 2021

	On demand	Less than 1 year	1 to 5 years	Over 5 years	Total
Non-derivatives					
Short-term loans from financial institutions	-	2,000	-	-	2,000
Trade and other payables	-	1,423	-	-	1,423
Lease liabilities	-	27	26	-	53
Long-term loans from financial institutions	-	2,862	10,205	12,949	26,016
Debentures	-	3,000	25,835	11,250	40,085
Total non-derivatives	-	9,312	36,066	24,199	69,577
Derivatives					
Derivative liabilities: net settled	-	-	96	-	96
Total	-	-	96	-	96

40.3 Fair values of financial instruments

Since the majority of the Group's financial instruments of the Group are short-term in nature or carrying interest at rates close to the market interest rates, their fair value is not expected to be materially different from the amounts presented in the statements of financial position. However, as at 31 December 2022, the Company has financial liabilities with carrying value that differs from the fair value comprising the debentures with a book value of Baht 41,585 million and a fair value of Baht 41,802 million (2021: book value of Baht 40,085 million and fair value of Baht 41,092 million) and the fixed-rate long-term loan with a book value of Baht 4,051 million and a fair value of Baht 4,021 million (2021: book value of Baht 5,214 million and fair value of Baht 5,208 million).

The methods and assumptions used by the Group estimating the fair value of financial instruments are as follows:

- a) For financial assets and liabilities which have short-term maturities, including cash and cash equivalents, bank deposit for unearned fare box revenue, trade and other receivables, receivable under the concession agreement, short-term loans from financial institutions and trade and other payables the carrying amounts in the statement of financial position approximate their fair value.
- b) The fair value of debt securities is generally derived from quoted market prices or by using the yield curve announced by the Thai Bond Market Association. The fair value of unit trusts is determined from their net asset value.
- c) The fair value of equity securities is generally derived from quoted market prices, or based on generally accepted pricing models when no market price is available.
- d) The fair value of fixed rate debentures and long-term loans is estimated by discounting expected future cash flow by the current market interest rate of loans with similar terms and conditions.
- e) The carrying amounts of long-term loans carrying interest at rates approximating the market rate, in the statement of financial position approximates their fair value.
- f) The fair value of derivatives has been determined using a discounted future cash flow model and a valuation model technique. Most of the inputs used for the valuation are observable in the relevant market, such as interest rate yield curves. The Group considers counterparty credit risk when determining the fair value of derivatives.

During the current year, there were no transfers within the fair value hierarchy.

40.4 Reconciliation of recurring fair value measurements of assets, categorised within Level 3 of the fair value hierarchy

There are no movements in the financial assets categorised within Level 3 of the fair value hierarchy during the year ended 31 December 2022.

41. Capital management

The primary objective of the Group's capital management is to ensure that it has appropriate capital structure in order to support its business and maximise shareholder value and it meets financial covenants attached to the loan agreements. The Group has complied with these covenants throughout the reporting periods.

As at 31 December 2022, the Group's debt-to-equity ratio was 1.91:1 (2021: 1.87:1) and the Company's was 1.94:1 (2021: 1.86:1).

42. Events after the reporting period

On 22 February 2023, a meeting of the Board of Directors passed a resolution to the Annual General Meeting of the shareholders for approval to propose a dividend payment for the year 2022 to the Company's shareholders at a rate of Baht 0.12 per share or a total of Baht 1,834 million. This dividend payment is subject to the approval of the Annual General Meeting of the shareholders.

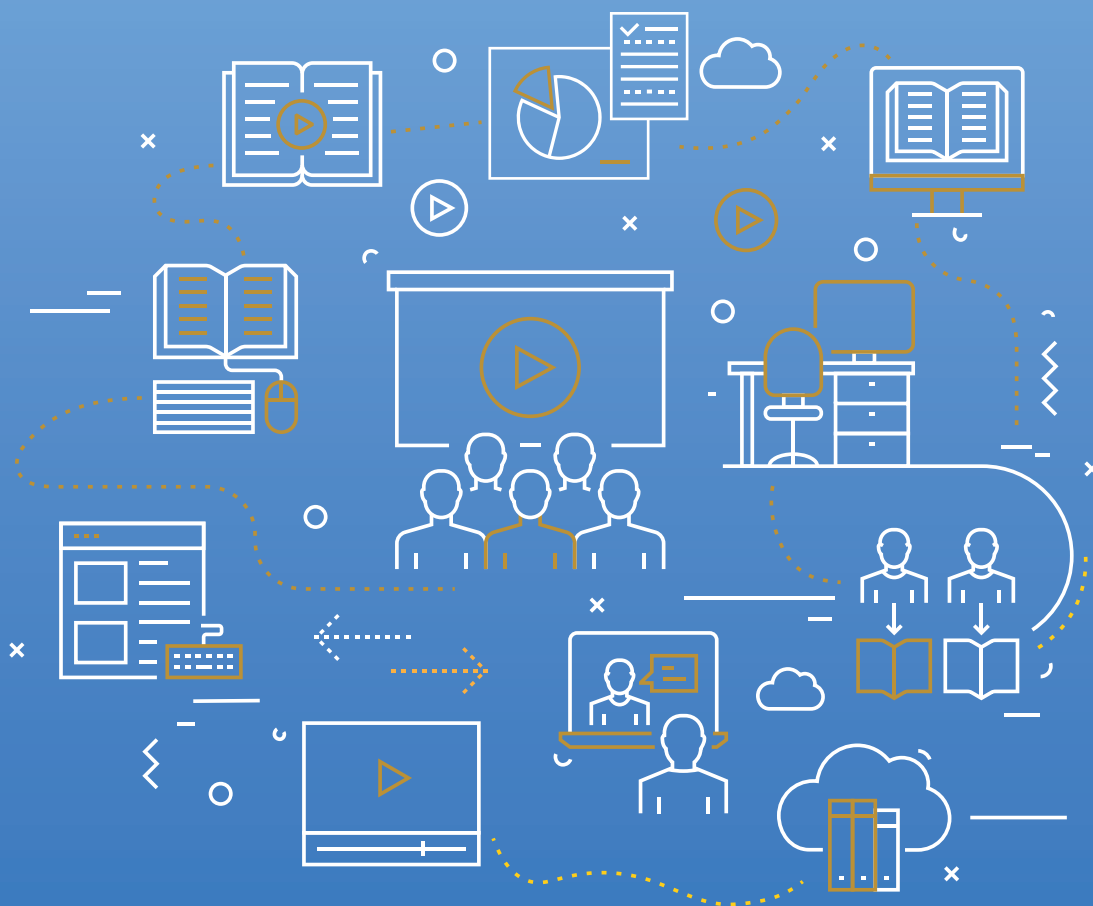
43. Approval of financial statements

These financial statements were authorised for issue by the Company's Board of Directors on 22 February 2023.

Attachment 1

Form 56-1 One Report 2022

Information of Directors, Top Management Accounting and Finance Executives Chief Accountant and Company Secretary





BOARD OF DIRECTORS



Mr. Plew Trivisvavet

○ Age : 77 years old

○ Position

- Chairman of the Board of Directors (appointed on April 4, 2022)
- Director (appointed on December 30, 2015)
- Chairman of the Executive Board (appointed on December 30, 2015)
- Nomination and Remuneration Committee Member (appointed on December 30, 2015)
- Authorized Signatory Director

○ Director Type : Executive Director

○ Shareholding in the Company : 0.1472% (22,497,472 shares)
(0.1315% held by himself, 0.0157% held by his spouse)

○ Family Relationship between Directors and Executives :
Dr. Supamass Trivisvavet's father

○ Education

- Honorary Doctorate of Civil Engineering, Kasetsart University
- Honorary Doctorate of Civil Engineering, Nakhon Phanom University
- Honorary Doctorate of Science (Industrial Management Technology), Southeast Bangkok College
- Honorary Doctorate of Civil Engineering, Rajamangala University of Technology Isan
- Honorary Doctorate of Science (Engineering), Thai-Nichi Institute of Technology
- M.Sc. (Electrical Engineering), Osaka University, Japan
- B.Sc. (Electrical Engineering), Osaka University, Japan

○ Training

- National Defence College
 - National Defence Course for the Joint State Private Sector (NDC), Class 366
- Thai Institute of Directors Association
 - Director Certification Program (DCP 50/2004)
 - Director Accreditation Program (DAP 18/2004)
 - Finance for Non-Finance Directors (FND 13/2004)
- Capital Market Academy
 - Capital Market Academy Leader Program (CMA Program), Class 4/2007

○ Holding Positions in Other SET Listed Companies

- 2011 - Present • Director, CK Power Public Company Limited
- 2012 - Present • Chairman of the Executive Board, CK Power Public Company Limited

- 2006 - Present • Director, TTW Public Company Limited
- 2008 - Present • Vice Chairman of the Board of Directors, TTW Public Company Limited
- 2007 - Present • Corporate Governance and Risk Management Committee Member, CH. Karnchang Public Company Limited
- 2003 - Present • Nomination and Remuneration Committee Member, CH. Karnchang Public Company Limited
- 1994 - Present • Chairman of the Executive Board, CH. Karnchang Public Company Limited

○ Holding Positions in Other Companies/Entities

- 2020 - Present • Director and Chairman of the Executive Board, Luang Prabang Power Company Limited
- 2010 - Present • Director and Chairman of the Executive Board, Xayaburi Power Company Limited
- 2006 - Present • Director and Chairman of the Executive Board, Nam Ngum 2 Power Company Limited
- 2004 - Present • Director and Chairman of the Executive Board, SouthEast Asia Energy Limited
- 1996 - Present • Chairman of the Board of Directors and Chairman of the Executive Board, Northern Bangkok Expressway Company Limited
- 1994 - Present • Director, CH. Karnchang Holding Co., Ltd.
- 1992 - Present • Director, CK. Office Tower Co., Ltd.
- 1991 - Present • Director and Chairman of the Board of Directors, CH. Karnchang Real Estate Co., Ltd.
- 1990 - Present • Director, Expert Transport Co., Ltd.
- 1988 - Present • Director, Bangpa-in Land Development Co., Ltd.
- 1983 - Present • Director, Mahasiri Siam Co., Ltd.
- 1981 - Present • Director and Chairman of the Executive Board, CH. Karnchang-Tokyu Construction Company Limited

○ Work Experience during the Past 5 Years and/or Important Positions

- 1994 - 2015 • Chief Executive Officer, CH. Karnchang Public Company Limited
- 1994 - 2015 • Director, Chairman of the Executive Board, Nomination and Remuneration Committee Member, Bangkok Expressway Public Company Limited
- 1998 - 2015 • Chairman of the Board of Directors, Chairman of the Executive Board, Nomination and Remuneration Committee Member, Bangkok Metro Public Company Limited



Mr. Vitoon Tejatussanasoontorn

○ Age : 82 years old

○ Position

- Director (appointed on December 30, 2015)
- Chairman of the Audit Committee (appointed on February 25, 2016)
- Nomination and Remuneration Committee Member (appointed on December 30, 2015)

○ Director Type : Independent Director

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives : None

○ Education

- B.A. in Commerce and Accountancy, Thammasat University

○ Training

- Thai Institute of Directors Association
 - Director Certification Program (DCP 2/2000)
 - IOD Chartered Directors (IOD CDC 1/2007)
 - Audit Committee Program (ACP 27/2009)
 - Advanced Audit Committee Program (AACP 3/2010)
 - Role of the Compensation Committee (RCC 12/2011)
- Federation of Accounting Professions / Office of the Securities and Exchange Commission
 - Value of Audit 2022

○ Holding Positions in Other SET Listed Companies

- | | |
|--------------------|---|
| Jun 2022 - Present | • Corporate Governance and Risk Management Committee Member, CH. Karnchang Public Company Limited |
| 2014 - Present | • Chairman of the Nomination and Remuneration Committee, CH. Karnchang Public Company Limited |
| 1999 - Present | • Director, Chairman of the Audit Committee, CH. Karnchang Public Company Limited |

○ Holding Positions in Other Companies/Entities

- | | |
|----------------|--|
| 2021 - Present | • Senior Executive Advisor, AGC Flat Glass (Thailand) Public Company Limited |
| 2004 - Present | • Director, Asahi Glass Foundation of Thailand |
| 1988 - Present | • Director and Executive Director, Kiarti Thane Country Club Co., Ltd. |
| 1988 - Present | • Director and Executive Director, Pattaya Estate Co., Ltd. |
| 1987 - Present | • Director, Diachrome Chemicals Limited |

○ Work Experience during the Past 5 Years and/or Important Positions

- | | |
|-----------------|--|
| 2007 - May 2022 | • Chairman of the Corporate Governance and Risk Management Committee, CH. Karnchang Public Company Limited |
| 2007 - 2014 | • Nomination and Remuneration Committee Member, CH. Karnchang Public Company Limited |
| 2005 - 2015 | • Independent Director, Audit Committee Member, and Nomination and Remuneration Committee Member, Bangkok Metro Public Company Limited |
| 2004 - 2020 | • Deputy Senior Managing Director, AGC Flat Glass (Thailand) Public Company Limited |
| 1988 - 2019 | • Director and Executive Director, Kiarti Land Co., Ltd. |
| 2015 - 2018 | • Director and Chairman of the Audit Committee, Thaisri Insurance Public Company Limited |
| 1991 - 2018 | • Director, Glass Way Co., Ltd. |
| 1988 - 2017 | • Director and Executive Director, Sriracha Resort Co., Ltd. |
| 1986 - 2017 | • Director and Executive Director, Sakata-Thai Corporation Ltd. |



Gen. Chetta Thanajaro

- Age : 84 years old
- Position
 - Director (appointed on December 30, 2015)
 - Chairman of the Nomination and Remuneration Committee (appointed on December 30, 2015)
 - Audit Committee Member (appointed on December 30, 2015)
- Director Type : Independent Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Arts (Political Science), Ramkhamhaeng University
 - Bachelor of Science, Class 9, Chulachomklao Royal Military Academy
- Training
 - United States Army Infantry School
 - Infantry Basic Officer Leadership Course
 - Command and General Staff College
 - The Royal Thai Army Command and General Staff Course
 - National Defence College
 - National Defence Course for The Joint State Private Sector (NDC), Class 6
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 33/2003)
 - Finance for Non-Finance Directors (FND 7/2003)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities

2005 - Present	<ul style="list-style-type: none"> • Director, Double A (1991) Public Company Limited
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- Work Experience during the Past 5 Years and/or Important Positions

2005 - 2015	<ul style="list-style-type: none"> • Independent Director, Chairman of the Audit Committee, Chairman of the Nomination and Remuneration Committee, Bangkok Metro Public Company Limited
1999 - 2003	<ul style="list-style-type: none"> • Audit Committee Member, Bangkok Expressway Public Company Limited
2004	<ul style="list-style-type: none"> • Minister, Ministry of Defence
2003 - 2004	<ul style="list-style-type: none"> • Minister, Ministry of Science and Technology



Prof. (adjunct) Athapol Yaisawang

- Age : 72 years old
- Position
 - Director (appointed on October 27, 2021)
 - Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee (appointed on December 15, 2021)
 - Nomination and Remuneration Committee Member (appointed on December 15, 2021)
- Director Type : Independent Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Doctor of Laws (Honorary), Kasem Bundit University
 - Doctor of Laws (Honorary), Ramkhamhaeng University
 - Master of Laws, Thammasat University
 - Bachelor of Laws (Honors), Thammasat University
 - Barrister-at-Law, Institute of Legal Education of Thai Bar Association
- Training
 - Office of the Civil Service Commission (OCSC)
 - Senior Executive Forum 1 (SEF), Class 24
 - National Defense College
 - National Defence Course for the Joint State Private Sector (NDC), Class 17
 - College of Politics and Governance, King Prajadhipok's Institute
 - Course in Politics and Governance in Democratic Systems for Executives (PGD), Class 13
 - Capital Market Academy
 - Capital Market Academy Leader Program (CMA), Class 13
 - Constitution College, Institute for Constitutional Studies, Office of the Constitutional Court
 - Rule of Law for Democracy Course (RLD), Class 1
 - College of Business and Industry
 - Senior Executive Course in Industrial Business Development and Investment (CBI), Class 1
 - Chulalongkorn University
 - Bhumipalung Phandin Course for Senior Executives, Class 5
 - Thai Institute of Directors Association
 - Director Accreditation Program (DAP 191/2022)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities

Present	<ul style="list-style-type: none"> • President of the Attorney Foundation and President of the Chachoengsao People's Association
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- Work Experience during the Past 5 Years and/or Important Positions

2019 - 2021	<ul style="list-style-type: none"> • President of the State Attorney Commission
2015 - 2019	<ul style="list-style-type: none"> • Senior Attorney, Academic Office
2014 - 2015	<ul style="list-style-type: none"> • Advisor to the Attorney General's Office
2013 - 2014	<ul style="list-style-type: none"> • Attorney General



Dr. Annop Tanlamai

○ Age : 72 years old

○ Position

- Director (appointed on February 25, 2016)
- Audit Committee Member (appointed on February 25, 2016)

○ Director Type : Independent Director

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives : None

○ Education

- Ph. D. Engineering Management, University of Missouri, USA
- M.B.A. (Quantitative Business Analysis), Indiana University, Bloomington, USA
- M.S. in Engineering Management, University of Missouri, USA
- Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University

○ Training

- Thai Institute of Directors Association
 - Director Certification Program (DCP 154/2011)
 - The Audit Committee's Role in Compliance and Ethical Culture Oversight

○ Holding Positions in Other SET Listed Companies

- | | |
|----------------|---|
| 2012 - Present | • Director and Chairman of the Audit Committee, MK Restaurants Group Public Company Limited |
|----------------|---|

○ Holding Positions in Other Companies/Entities

- | | |
|----------------|---|
| 2016 - Present | • Dean of Faculty of Business Administration, Chitralada Technology College |
|----------------|---|

○ Work Experience during the Past 5 Years and/or Important Positions

- | | |
|-------------|---|
| 2001 - 2015 | • Director, Bangkok Expressway Public Company Limited |
| 2001 - 2015 | • Audit Committee Member, Bangkok Expressway Public Company Limited |
| 2011 - 2015 | • Nomination and Remuneration Committee Member, Bangkok Expressway Public Company Limited |
| 2011 - 2015 | • Corporate Governance and Risk Management Committee Member, Bangkok Expressway Public Company Limited |
| 2012 - 2016 | • Dean of College of Management, Mahidol University |
| 2007 - 2011 | • Dean of Faculty of Commerce and Accountancy, Chulalongkorn University |
| 1999 - 2007 | • Director of the Committee of Master of Business Administration Program (MBA), Faculty of Commerce and Accountancy, Chulalongkorn University |



Mrs. Vallapa Assakul

○ Age : 72 years old

○ Position

- Director (appointed on December 30, 2015)
- Corporate Governance, Risk Management and Sustainable Development Committee Member (appointed on December 30, 2015)

○ Director Type : Independent Director

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives : None

○ Education

- Master of Economics, University of Detroit, USA
- Bachelor of Economics (Second Class Honors), Chulalongkorn University

○ Training

- Thai Institute of Directors Association
 - Audit Committee Program (ACP 21/2008)
 - Director Certification Program (DCP 86/2007)
 - Director Accreditation Program (DAP 37/2005)
 - Role of the Compensation Committee (RCC 5/2008)

○ Holding Positions in Other SET Listed Companies : None

○ Holding Positions in Other Companies/Entities

- | | |
|----------------|---|
| 2013 - Present | • Director, Ocean Property Co., Ltd. |
| 2013 - Present | • Director, Ocean Development Co., Ltd. |
| 2008 - Present | • Director, Amphan Co., Ltd. |
| 2006 - Present | • Director, Ocean Life Insurance Public Company Limited |
| | • Audit and Supervisory Committee Member, Ocean Life Insurance Public Company Limited |

○ Work Experience during the Past 5 Years and/or Important Positions

- | | |
|------------------|---|
| 2019 - 2021 | • Chairman of the Corporate Governance and Risk Management Committee, Bangkok Expressway and Metro Public Company Limited |
| 2012 - 2015 | • Chairman of the Risk Committee, Bangkok Metro Public Company Limited |
| 2010 - 2015 | • Director and Executive Director, Bangkok Expressway Public Company Limited |
| 2010 - 2016 | • Director and Executive Director, Northern Bangkok Expressway Company Limited |
| 2009 - 2015 | • Independent Director, Bangkok Metro Public Company Limited |
| 2005 - 2007 | • Director, Bangkok Metro Public Company Limited |
| 2012 - 2016 | • Director, Vinythai Public Company Limited |
| 2010 - Apr. 2021 | • Director, Siam Estate Co., Ltd. |
| 2006 - 2016 | • Chairman of the Nomination and Remuneration Committee, Ocean Life Insurance Public Company Limited |
| 2004 - 2007 | • Senior Executive Vice President, Corporate and Investment Banking Group, TMB Bank Public Company Limited |



M.L. Prasobchai Kasemsant

- Age : 67 years old
- Position
 - Director (appointed on December 30, 2015)
- Director Type : Independent Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - M.S. (Civil Engineering) and M.S. (Operations Research), Stanford University, USA, 1979
 - B.S. (Civil Engineering, Mathematics), Virginia Military Institute, Virginia, USA, 1976
- Training
 - Thailand Energy Academy
 - Thailand Energy Academy Course for Management (TEA), Class 3/2013
 - National Defence College
 - National Defence Course (NDC), Class 50
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 33/2003)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - Oct 2015 - Present • Retired Military Officer, Ministry of Defence
- Work Experience during the Past 5 Years and/or Important Positions

1994 - 2015	• Director and Executive Director, Bangkok Expressway Public Company Limited
2013 - Sep 2015	• Chairman of the Defence Advisory Board, Ministry of Defence
2012 - 2013	• Deputy Permanent Secretary for Defence (Energy and Defence Industry), Ministry of Defence
2009 - 2010	• Director-General, Office of Defence Logistics, Office of Permanent Secretary for Defence, Ministry of Defence



Mr. Supong Chayutsahakij

- Age : 81 years old
- Position
 - Director (appointed on December 30, 2015)
 - Executive Director (appointed on December 30, 2015)
 - Authorized Signatory Director
- Director Type : Executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Honorary Ph.D. (Management Science), Phranakhon Rajabhat University
 - Master of Political Science (Politics and Government), Sukhothai Thammathirat Open University
 - Executive Master of Business Administration, Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Master of Engineering (Electrical), University of Tokyo, Japan
 - Bachelor of Engineering (Electrical), University of Tokyo, Japan
- Training
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 8/2001)
 - Audit Committee Program (ACP 17/2007)
- Holding Positions in Other SET Listed Companies

2006 - Present	• Director and Audit Committee Member, Siam Steel International Public Company Limited
----------------	--
- Holding Positions in Other Companies/Entities

2008 - Present	• Director, SouthEast Asia Energy Limited
2008 - Present	• Director, Nam Ngum 2 Power Company Limited
- Work Experience during the Past 5 Years and/or Important Positions

2015 - 2021	• Nomination and Remuneration Committee Member, Bangkok Expressway and Metro Public Company Limited
2013 - 2016	• Director, CK Power Public Company Limited
1994 - 2015	• Director, Bangkok Expressway Public Company Limited
1994 - 2003	• Managing Director, Bangkok Expressway Public Company Limited
2007 - 2015	• Nomination and Remuneration Committee Member, Bangkok Expressway Public Company Limited
2002 - 2015	• Corporate Governance and Risk Management Committee Member, Bangkok Expressway Public Company Limited
1996 - Jun 2021	• Director and Executive Director, Northern Bangkok Expressway Company Limited
2014 - Feb 2020	• Director, Xayaburi Power Company Limited
2009 - 2017	• Chairman of the Board of Directors, Bangkok Metro Networks Limited
2011 - 2013	• Director, CK Power Public Company Limited
2006 - May 2022	• Chairman of the Institute Council, Thai-Nichi Institute of Technology



Mr. Phongsarit Tantisuvanitchkul



Mrs. Payao Marittanaporn

Age : 50 years old

Position

- Director (appointed on December 30, 2015)
- Corporate Governance, Risk Management and Sustainable Development Committee Member (appointed on December 30, 2015)
- Executive Director (appointed on December 30, 2015)
- Authorized Signatory Director

Director Type : Executive Director

Shareholding in the Company : 0.0229% (3,500,000 shares)

Family Relationship between Directors and Executives : None

Education

- Master of Engineering (Construction and Management), University of Michigan - Ann Arbor, USA.
- Bachelor of Engineering (Mechanical Engineering), Kasetsart University

Training

- Thai Institute of Directors Association
 - Director Certification Program (DCP 155/2012)
 - Finance for Non-Finance Directors (FND 35/2007)
 - Understanding the Fundamental of Financial Statement (UFS 9/2007)

Holding Positions in Other SET Listed Companies

- | | |
|------------------------|---|
| Aug 2022 - Present | • Executive Director and Deputy Chairman of the Executive Board, CH. Karnchang Public Company Limited |
| 2006 - Present | • Director and Chairman of the Executive Committee, TTW Public Company Limited |
| Jul 30, 2020 - Present | • Nomination and Remuneration Committee Member, TTW Public Company Limited |
| Oct 2020 - Present | • Director, CH. Karnchang Public Company Limited |
| 2016 - Present | • Senior Executive Vice President: Operation Group, CH. Karnchang Public Company Limited |

Holding Positions in Other Companies/Entities

- | | |
|--------------------|--|
| 2020 - Present | • Chairman of the Board of Directors, Pathum Thani Water Company Limited |
| 2016 - Present | • Director and Executive Director, Northern Bangkok Expressway Company Limited |
| 2019 - Present | • Director, Asia Era One Co., Ltd |
| Oct 2017 - Present | • Chairman of the Board of Directors, Bangkok Metro Networks Limited |

Work Experience during the Past 5 Years and/or Important Positions

- | | |
|-----------------|--|
| 2011 - 2015 | • Executive Vice President: Business Development, CH. Karnchang Public Company Limited |
| 2014 - 2015 | • Director and Executive Director, Bangkok Metro Public Company Limited |
| 2009 - Oct 2017 | • Director, Bangkok Metro Networks Limited |
| 2012 - 2015 | • Director, Transit Expert Co., Ltd. |

Age : 65 years old

Position

- Director (appointed on December 30, 2015)
- Executive Director (appointed on December 30, 2015)
- Authorized Signatory Director

Director Type : Executive Director

Shareholding in the Company : None

Family Relationship between Directors and Executives : None

Education

- M.B.A., Chulalongkorn University
- Higher Diploma in Auditing, Thammasat University
- Bachelor of Accountancy, Chulalongkorn University

Training

- Thai Institute of Directors Association
 - Director Certification Program (DCP 48/2004)
 - Role of the Compensation Committee (RCC 9/2009)
- Capital Market Academy
 - Capital Market Academy Leader Program (CMA Program), Class 11/2010

Holding Positions in Other SET Listed Companies

- | | |
|----------------|---|
| 2015 - Present | • Director, TTW Public Company Limited |
| | • Risk Management and Corporate Governance Committee Member, TTW Public Company Limited |

Holding Positions in Other Companies/Entities : None

Work Experience during the Past 5 Years and/or Important Positions

- | | |
|-----------------|--|
| 2015 - 2021 | • Corporate Governance and Risk Management Committee Member, Bangkok Expressway and Metro Public Company Limited |
| 2015 - 2020 | • Managing Director, Bangkok Expressway and Metro Public Company Limited |
| 2019 - Jul 2020 | • Chairman of the Risk Management Committee, TTW Public Company Limited |
| 2015 - Jul 2020 | • Nomination and Remuneration Committee Member, TTW Public Company Limited |
| 2013 - 2014 | • Director, Nomination and Remuneration Committee Member, and Risk Management Committee Member, TTW Public Company Limited |
| 2007 - 2015 | • Director and Executive Director, Bangkok Expressway Public Company Limited |
| | • Managing Director, Bangkok Expressway Public Company Limited |
| 2004 - Jun 2021 | • Director and Executive Director, Northern Bangkok Expressway Company Limited |
| 2007 - 2020 | • Acting Managing Director, Northern Bangkok Expressway Company Limited |
| 2011 - 2014 | • Director, Xayaburi Power Company Limited |



Miss Supamas Trivisvavet

○ Age : 48 years old

○ Position

- Director (appointed on July 8, 2022)
- Executive Director (appointed on July 8, 2022)
- Authorized Signatory Director

○ Director Type : Executive Director

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives :

Mr. Plew Trivisvavet's daughter

○ Education

- Doctor of Philosophy in Public Administration, University of Southern California, U.S.A., Dean's Merit Scholarship
- Master of Public Policy, Duke University, U.S.A.
- Bachelor of Arts, Chulalongkorn University

○ Training

- Thai Institute of Directors Association
 - Developing Corporate Governance Policy 2008
 - Director Certification Program (DCP 106/2008)
 - Current Issue Seminar (R-CIS 2/2010)
 - Company Secretary Program (CSP 37/2010)
 - Special Seminar (RSS 1/2011)
 - Board Reporting Program (BRP 33/2010)
 - Effective Minute (EMT 16/2010)
 - Company Secretary Forum (R-CSF 1/2013)
- Thailand Institute of Justice (Public Organization)
 - Executive Program on the Rule of Law and Development (RoLD 1/2017)
 - Workshop for Emerging Leaders on the Rule of Law & Policy Program, in association with the Institute for Global Law and Policy, Harvard Law School 2017
 - Design Thinking Workshop Program
- Capital Market Academy
 - Capital Market Academy Leader Program (CMA Program), Class 22/2016)
- Thaipat Institute (Public-Interest Organization)
 - Sustainability Report Program

○ Holding Positions in Other SET Listed Companies

- | | |
|--------------------|---|
| Aug 2022 - Present | • Deputy Chairman of the Executive Board, CH. Karnchang Public Company Limited |
| Apr 2022 - Present | • Corporate Social Responsibility and Sustainability Committee Member, CH. Karnchang Public Company Limited |
| 2018 - Present | • Corporate Governance and Risk Management Committee Member, CH. Karnchang Public Company Limited |
| 2015 - Present | • Director and Executive Director, CH. Karnchang Public Company Limited |

2012 - Present

- Director and Executive Committee, CK Power Public Company Limited

○ Holding Positions in Other Companies/Entities

2017 - Present

- Director, Kamala Senior Living Co., Ltd.

2017 - Present

- Director, CH. Karnchang Real Estate Co., Ltd.

2016 - Present

- Director, CH. Karnchang-Tokyu Construction Co., Ltd.

2016 - Present

- Director, Mahasiri Siam Co., Ltd.

2016 - Present

- Director, CH. Karnchang Holding Co., Ltd.

2016 - Present

- Director, CK. Office Tower Co., Ltd.

2008 - Present

- Director, Bang Pa-in Land Development Co., Ltd.

2008 - Present

- Director, Cholavet Civil Co., Ltd.

○ Work Experience during the Past 5 Years and/or Important Positions

2015 - Jul 2022

- President, CH. Karnchang Public Company Limited

2009 - 2012

- Executive Vice President: Office of President, CH. Karnchang Public Company Limited



Miss Arisara Dharamadhaj

- Age : 65 years old
- Position
 - Director (appointed on April 26, 2019)
- Director Type : Non-executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - M.B.A. Roosevelt University, USA
 - Bachelor of Economics Program (Second-Class Honors), University of the Thai Chamber of Commerce
- Training
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 75/2006)
 - National Defence Studies Institute
 - National Defence Course for the Joint State Private Sector (NDC), Class 24
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - 2021 - Present • Audit Committee Member, KTB General Services and Security Co., Ltd.
 - Jan 2016 - Present • Director, KTB General Services and Security Co., Ltd.
- Work Experience during the Past 5 Years and/or Important Positions
 - 2014 - Sep 2018 • Senior Executive Vice President - Managing Director, Government & State Enterprise Relations Group, Krung Thai Bank Public Company Limited
 - 2012 - 2014 • First Executive Vice President - Managing Director, Government & State Enterprise Relations Group, Krung Thai Bank Public Company Limited
 - 2005 - 2012 • Executive Vice President - Wholesale Banking 2 Head, Corporate Banking Group 1, Krung Thai Bank Public Company Limited



Mr. Panit Dunnvatanachit

- Age : 66 years old
- Position
 - Director (appointed on December 30, 2015)
- Director Type : Non-executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - M.B.A. (Finance), Washington University, St.Louis, USA
 - Bachelor of Arts & Science, Washington University, St.Louis, USA
- Training
 - Thai Institute of Directors Association
 - Board and CFO Assessment Program,
 - Director Certification Program (DCP 10/2001)
 - Capital Market Academy
 - Capital Market Academy Leader Program (CMA), Class 14/2012
 - Office of the National Broadcasting and Telecommunications Commission
 - Broadcasting Executive Forum, Class 1/2013
 - Thailand Energy Academy
 - Thailand Energy Academy Course for Management (TEA), Class 4/2014,
 - Institute of Research and Development for Public Enterprises
 - Public-Private Partnerships for Executive Program (PEP 1/2016)
- Holding Positions in Other SET Listed Companies
 - 2000 - Present • Executive Vice President, Bangkok Bank Public Company Limited
- Holding Positions in Other Companies/Entities
 - 2006 - Present • Director, Thai Yamaha Motor Co., Ltd.
- Work Experience during the Past 5 Years and/or Important Positions
 - 1994 - 2022 • Director, Krungthep Engineering Consultants Co., Ltd.
 - 2003 - 2015 • Director, Bangkok Expressway Public Company Limited
 - 2003 - 2012 • Executive Director, Bangkok Expressway Public Company Limited
 - 2003 - 2016 • Director and Executive Director, Northern Bangkok Expressway Company Limited
 - 2000 - 2010 • Director and Member of the Executive Committee, CBNP (Thailand) Limited



Miss Jiranan Vorachak

- Age : 56 years old
- Position
 - Director (appointed on December 21, 2022)
- Director Type : Non-executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Business Administration (Finance & Banking), Saint John's University
 - Bachelor of Laws, Chulalongkorn University
 - Bachelor of Business Administration (Finance & Banking), Ramkhamhaeng University
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - 2022 - Present • Assistant Governor
Mass Rapid Transit Authority of Thailand
- Work Experience during the Past 5 Years and/or Important Positions
 - 2015 - 2022 • Director of Accounting and Finance Department,
Mass Rapid Transit Authority of Thailand
 - 2014 - 2015 • Director of Finance and Tax Division,
Accounting and Finance Department
Mass Rapid Transit Authority of Thailand



Mr. Piyakorn Apibalsri

- Year : 52 years old
- Position
 - Director (appointed on October 27, 2021)
- Director Type : Non-executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Business Administration, Drexel University, USA.
 - Bachelor of Economics, Thammasat University
- Training
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 315/2022)
 - Commerce Academy, Ministry of Commerce
 - Top Executive Program in Commerce and Trade (TEPCoT), Class 13
 - Thailand Energy Academy
 - Thailand Energy Academy Course for Management (TEA), Class 14/2019
 - College of the Constitutional Court
 - The Rule of Law for Democracy (RLD), Class 6
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - Present • Inspector General, the Ministry of Finance
 - Oct 2022 - Present • Representative Director of the Ministry Finance in the Board of Directors of the Government Pharmaceutical Organization
 - Oct 2021 - Present • Representative Director of the Ministry of Finance in the Board of Directors of the Mass Rapid Transit Authority of Thailand
- Work Experience during the Past 5 Years and/or Important Positions
 - 2019 - 2021 • Principal Advisor on Excise Tax Strategy
 - 2017 - 2019 • Deputy Director General, the Excise Department
 - 2016 - 2017 • Director of Bureau of Investigation, Prevention and Suppression, the Excise Department
 - 2015 - 2016 • Director of Regional Excise Office 8
 - 2014 - 2015 • Chief of Bangkok 3 Area Excise Office
 - 2011 - 2014 • Chief of Bangkok 5 Area Excise Office



Mrs. Tassanuch Thammachot

- Age : 58 years old
- Position
 - Director (appointed on June 23, 2021)
- Director Type : Non-executive Director
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Political Science Program in Politics and Government for Executive (Political Science), Thammasat University
 - Bachelors of Arts Program in Linguistics and English (Liberal Arts), Thammasat University
- Training
 - Chulalongkorn University
 - Mini MBA Program
 - Thai Institute of Directors Association
 - Director Accreditation Program (DAP 186/2021)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities

Oct 2019 - Present	<ul style="list-style-type: none"> • Deputy Governor for Administration, Expressway Authority of Thailand
--------------------	--
- Work Experience during the Past 5 Years and/or Important Positions

Nov 2018 - Sep 2019	<ul style="list-style-type: none"> • Director of General Administration, Expressway Authority of Thailand
Apr 2018 - Nov 2018	<ul style="list-style-type: none"> • Director of Organizational Development Division, General Administration, Expressway Authority of Thailand
Jun 2012 - Apr 2018	<ul style="list-style-type: none"> • Director of Corporate Governance and Value Development Division, Finance and Accounting Department, Expressway Authority of Thailand



Dr. Sombat Kitjalaksana

- Age : 65 years old
- Position
 - Director (appointed on December 30, 2015)
 - Corporate Governance, Risk Management and Sustainable Development Committee Member (appointed on December 30, 2015)
 - Executive Director (appointed on December 30, 2015)
 - Managing Director (appointed on December 30, 2015)
 - Authorized Signatory Director
- Director Type : Executive Director
- Shareholding in the Company : 0.0196% (2,999,141 shares)
- Family Relationship between Directors and Executives : None
- Education
 - Dr.Techn. (Soil Mechanic), University of Innsbruck, Austria
 - Bachelor and Master of Engineering (Civil), Chulalongkorn University
- Training
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 81/2006)
 - Finance for Non-Finance Directors (FND 19/2005)
 - Director Accreditation Program (DAP 36/2005)
- Holding Positions in Other SET Listed Companies

2000 - Present	<ul style="list-style-type: none"> • Director and Executive Director, TTW Public Company Limited
----------------	---
- Holding Positions in Other Companies/Entities

2020 - Present	<ul style="list-style-type: none"> • Director, Pathum Thani Water Company Limited
2021 - Present	<ul style="list-style-type: none"> • Acting Managing Director, Northern Bangkok Expressway Company Limited
2016 - Present	<ul style="list-style-type: none"> • Director and Executive Director, Northern Bangkok Expressway Company Limited
2009 - Present	<ul style="list-style-type: none"> • Director, Bangkok Metro Networks Limited
- Work Experience during the Past 5 Years and/or Important Positions

2006 - 2015	<ul style="list-style-type: none"> • Director, CH. Karnchang Public Company Limited
2014 - 2015	<ul style="list-style-type: none"> • Managing Director and Executive Director, Bangkok Metro Public Company Limited
2011 - 2014	<ul style="list-style-type: none"> • Vice Chairman of the Executive Committee, Bangkok Metro Public Company Limited
2004 - 2015	<ul style="list-style-type: none"> • Director, Bangkok Metro Public Company Limited
2004 - 2011	<ul style="list-style-type: none"> • Executive Committee Member, Bangkok Metro Public Company Limited
2001 - 2010	<ul style="list-style-type: none"> • Executive Vice President: Business Development, CH. Karnchang Public Company Limited
2000 - 2011	<ul style="list-style-type: none"> • Managing Director, Bangkok Metro Public Company Limited



MANAGEMENT



Mr. Witoon Hatairatana

- Age : 65 years old
- Position
 - Deputy Managing Director: Operations & Engineering (Rail) (appointed on December 30, 2015)
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Science (Business Administration), California University of Pennsylvania, USA
 - Bachelor of Engineering (Civil), Chulalongkorn University
- Training
 - Thai Institute of Directors Association
 - Anti - Corruption for Executive Program (ACEP 13)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - Nov 2017 - Present • Director, Bangkok Metro Networks Limited
- Work Experience during the Past 5 Years and/or Important Positions
 - 2014 - 2015
 - Deputy Managing Director, Bangkok Metro Public Company Limited
 - Acting Assistant Managing Director: Train Operation Group, Bangkok Metro Public Company Limited
 - 2012 - 2014
 - Assistant Managing Director: Operations, Bangkok Metro Public Company Limited
 - 2007 - 2012
 - Acting Marketing & Commercial Development Director, Bangkok Metro Public Company Limited
 - 2005 - 2015
 - Risk Committee Member, Bangkok Metro Public Company Limited
 - 2004 - 2012
 - Operations Director, Bangkok Metro Public Company Limited
 - 2002 - 2004
 - Traffic Manager, Bangkok Metro Public Company Limited



Mr. Anawash Suwanarit

- Age : 48 years old
- Position
 - Deputy Managing Director: Business Development & Expressway Operations (appointed on January 1, 2018)
- Shareholding in the Company : None
- Family Relationship between Directors and Executives : None
- Education
 - Master of Telecommunications, Northwestern University, Illinois, USA
 - Bachelor of Engineering (Electrical Engineering), Chulalongkorn University
- Training
 - Thai Institute of Directors Association
 - Director Certification Program (DCP 307/2021)
- Holding Positions in Other SET Listed Companies : None
- Holding Positions in Other Companies/Entities
 - Jun 23, 2021 - Present • Director, Northern Bangkok Expressway Company Limited
 - 2019 - Present • Director, Bangkok Metro Networks Limited
- Work Experience during the Past 5 Years and/or Important Positions
 - 2018 - 2021
 - Deputy Managing Director: Business Development, Bangkok Expressway and Metro Public Company Limited
 - 2017 - Dec 2017
 - Assistant Managing Director: Project Development, Bangkok Expressway and Metro Public Company Limited
 - Acting Deputy Managing Director: Business Development, Bangkok Expressway and Metro Public Company Limited
 - 2015 - 2017
 - Assistant Managing Director: Project Development, Bangkok Expressway and Metro Public Company Limited
 - 2012 - 2015
 - Director of Special Project Management Division, Bangkok Metro Public Company Limited
 - 2009 - 2012
 - Deputy Managing Director, Bangkok Metro Networks Limited
 - 2007 - 2009
 - Operations Director, Metro Mall Development Limited



ACCOUNTING AND FINANCE EXECUTIVES



Mr. Alvin Gee

Age : 51 years old

Position

- Deputy Managing Director: Administration
(appointed on December 30, 2015)

Shareholding in the Company : None

Family Relationship between Directors and Executives : None

Education

- Bachelor of Science in Finance, Boston College, USA

Training

- Thai Institute of Directors Association
- Director Certification Program (DCP 165/2012)

Holding Positions in Other SET Listed Companies : None

Holding Positions in Other Companies/Entities : None

Work Experience during the Past 5 Years and/or Important Positions

- | | |
|-----------------|--|
| 2015 - 2021 | Deputy Managing Director:
Operation Support,
Bangkok Expressway and Metro Public
Company Limited |
| 2013 - Feb 2016 | Director, CK Power Public Company Limited |
| 2013 - Feb 2016 | Director, Executive Director,
and Managing Director,
SouthEast Asia Energy Limited |
| 2011 - 2013 | Deputy Managing Director:
Accounting and Finance Department,
SouthEast Asia Energy Limited |
| 2008 - 2011 | Investor Relations Officer,
Bangkok Metro Public Company Limited |
| 2013 - Feb 2016 | Director,
Nam Ngum 2 Power Company Limited
Executive Director and Managing Director,
Nam Ngum 2 Power Company Limited |
| 2011 - 2013 | Deputy Managing Director,
Nam Ngum 2 Power Company Limited |
| 2007 - 2008 | Business Analyst, Corporate Finance,
TMB Macquarie Securities (Thailand)
Limited |

Miss Panan Tosuwanthaworn

Age : 55 years old

Position

- Deputy Managing Director: Accounting and Finance
(appointed on December 30, 2015)

Shareholding in the Company : None

Family Relationship between Directors and Executives : None

Education

- Master of Accountancy, Thammasat University
- Bachelor of Accountancy, Thammasat University

Training

- Thai Institute of Directors Association
- Director Certification Program (DCP 158/2012)
- The Institute of Certified Accountants and Auditors of Thailand
- CFO Certification Program, Class 1/2004
- Faculty of Commerce and Accountancy, Chulalongkorn University
- Corporate Secretary Development Program, Class 13
- Federation of Accounting Professions Under The Royal
Patronage of His Majesty the King
- Discounted Cash Flow Projection to Consider the Impairment
under TAS 36 after the End of the Relief Measures Program
- Thai Listed Companies Association
- TLCA CFO Professional Development Program
(TLCA CFO CPD)
 - No. 4/2021 "How finance leaders are adapting within
the new normal"
 - No. 6/2021 "ESG Integration in Sustainable Investing"
 - No. 9/2021 "ESG related Financial Innovation"
 - No. 1/2022 "Enhanced Quality of Financial Reports of
Thai Listed Companies"
 - No. 2/2022 "Economic Update for CFO"
 - No. 3/2022 "PDPA for Accounting and Finance"
 - No. 8/2022 "ESG Bonds in Corporate Financing"
- The modern CFO : Driving Digital Transformation of the
Finance and Accounting
- ESG related Financial Innovation
- Enhanced Quality of Financial Reports of Thai Listed
Companies Program

Holding Positions in Other SET Listed Companies : None

Holding Positions in Other Companies/Entities

- | | |
|------------------------|--|
| Jun 23, 2021 - Present | Director, Northern Bangkok Expressway
Company Limited |
| Nov 2017 - Present | Director, Bangkok Metro Networks Limited |



CHIEF ACCOUNTANT



Miss Panan Tosuwanthaworn (continue)

Miss Saranya Lertjiraprasert

Work Experience during the Past 5 Years and/or Important Positions

- 2015 - 2021 • Deputy Managing Director: Finance, Bangkok Expressway and Metro Public Company Limited
- 2014 - 2015 • Deputy Managing Director: Finance, Bangkok Expressway Public Company Limited
- 2012 - 2014 • Assistant Managing Director: Finance, Bangkok Expressway Public Company Limited
- 2008 - 2011 • Senior General Manager of Finance Division, Bangkok Expressway Public Company Limited

○ Age : 52 years old

○ Position

- Director of General Accounting Division (appointed on December 30, 2015)

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives : None

○ Education

- Master of Business Administration, Ramkhamhaeng University
- Higher Diploma in Auditing, Chulalongkorn University
- Bachelor of Business Administration, Rajamangala University of Technology Thanyaburi

○ Training

- Federation of Accounting Professions Under The Royal Patronage of His Majesty the King
 - Summary of TFRS Changes and Main Points (Revised 2021)
- Faculty of Commerce and Accountancy Alumni Association of Chulalongkorn University
 - Highlights of TFRS for NPAEs
 - Update TFRS 2022
- Sanpakornsarn
 - Keeping Up With Transfer Pricing Law
- Thai Listed Companies Association
 - Enhanced Quality of Financial Reports of Thai Listed Companies

○ Holding Positions in Other SET Listed Companies : None

○ Holding Positions in Other Companies/Entities : None

○ Work Experience during the Past 5 Years and/or Important Positions

- 2015 - Nov 30, 2020 • General Manager of Accounting Division, Bangkok Expressway and Metro Public Company Limited

Remark : Satisfying the experience and tenure required by the Notification of the Office of the SEC.

Remark : Satisfying all the qualifications and requirements under the Announcement of the Department of Business Development.



COMPANY SECRETARY AND HEAD OF COMPLIANCE UNIT



Mrs. Manatsavee Subchavaroj

○ Age : 56 years old

○ Position

- Company Secretary (appointed on November 1, 2021)
- Assistant Managing Director: Legal and Compliance Group (appointed on December 30, 2015)

○ Shareholding in the Company : None

○ Family Relationship between Directors and Executives : None

○ Education

- Master of Law (LL.M. in International Business Legal Studies), University of Exeter, UK
- Bachelor of Laws, Chulalongkorn University

○ Training

- Thai Institute of Directors Association
 - Director Certification Program (DCP 238/2016)
 - Company Secretary Program (CSP 5/2004)
 - Effective Minutes Taking (EMT 4/2006)
 - Anti-Corruption : The Practical Guide (ACPG 33/2016)
- King Prajadhipok's Institute
 - Advanced Certificate Course in Public Administration and Law for Executives (CPALE), Class 15
- Kasetsart University
 - Kaset Mini MBA Program

○ Holding Positions in Other SET Listed Companies : None

○ Holding Positions in Other Companies/Entities : None

○ Work Experience during the Past 5 Years and/or Important Positions

2015 - 2021

- Assistant Managing Director:
Compliance Group,
Bangkok Expressway and Metro Public
Company Limited

Attachment 2

Form 56-1 One Report 2022

Information of Directors in the Subsidiaries and Related Companies



INFORMATION OF DIRECTORS IN THE SUBSIDIARIES AND RELATED COMPANIES

Names of Directors and Executives	The Company	Subsidiaries		Related Companies										
		1	2	1	2	3	4	5	6	7	8	9	10	11
1. Mr. Plew Trivisvavet	2,4		2,4	1,4,5	1	1,4	1	2	1	3	2,4	1,4	1,4	2
2. Mr. Vitoon Tejatussanasoontorn	1			1										
3. Gen. Chetta Thanajaro	1													
4. Prof. (adjunct) Athapol Yaisawang	1													
5. Dr. Annop Tanlamai	1													
6. Mrs. Vallapa Assakul	1													
7. M.L. Prasobchai Kasemsant	1													
8. Mr. Supong Chayutsahakij	1,4										1		1	
9. Mr. Phongsarit Tantisuvanitchkul	1,4	2	1,4	1,5				1		1,4				
10. Mrs. Payao Marittanaporn	1,4									1				
11. Dr. Supamas Trivisvavet	1,4			1,4	1	1,4	1	1	1					1
12. Miss Arisara Dharamadhaj	1													
13. Mr. Panit Dunnvatanachit	1													
14. Miss Jiranan Vorachak	1													
15. Mr. Piyakorn Apibalsri	1													
16. Mrs. Tasanuch Thammachot	1													
17. Dr. Sombat Kitjalaksana	1,4,5	1	1,4							1,4				
18. Mr. Witoon Hatairatana	5	1												
19. Mr. Anawash Suwanarit	5	1	1,4											
20. Mr. Alvin Gee	5													
21. Miss Panan Tosuwanthaworn	5	1	1,4											

Remarks: 1. Definition: 1 = Director; 2 = Chairman of the Board of Directors; 3 = Vice Chairman of the Board of Directors; 4 = Executive Directors; 5 = Executive

2. List of the Subsidiaries

- 1 = Bangkok Metro Networks Company Limited
- 2 = Northern Bangkok Expressway Company Limited

3. List of the related companies

- 1 = CH. Karnchang Public Company Limited
- 2 = Mahasiri Siam Co., Ltd.
- 3 = CK Power Public Company Limited
- 4 = CH. Karnchang Holding Co., Ltd.
- 5 = CH. Karnchang-Tokyu Construction Company Limited
- 6 = CK. Office Tower Co., Ltd.
- 7 = TTW Public Company Limited
- 8 = SouthEast Asia Energy Limited
- 9 = Xayaburi Power Company Limited
- 10 = Nam Ngum 2 Power Company Limited
- 11 = CH. Karnchang Real Estate Company Limited

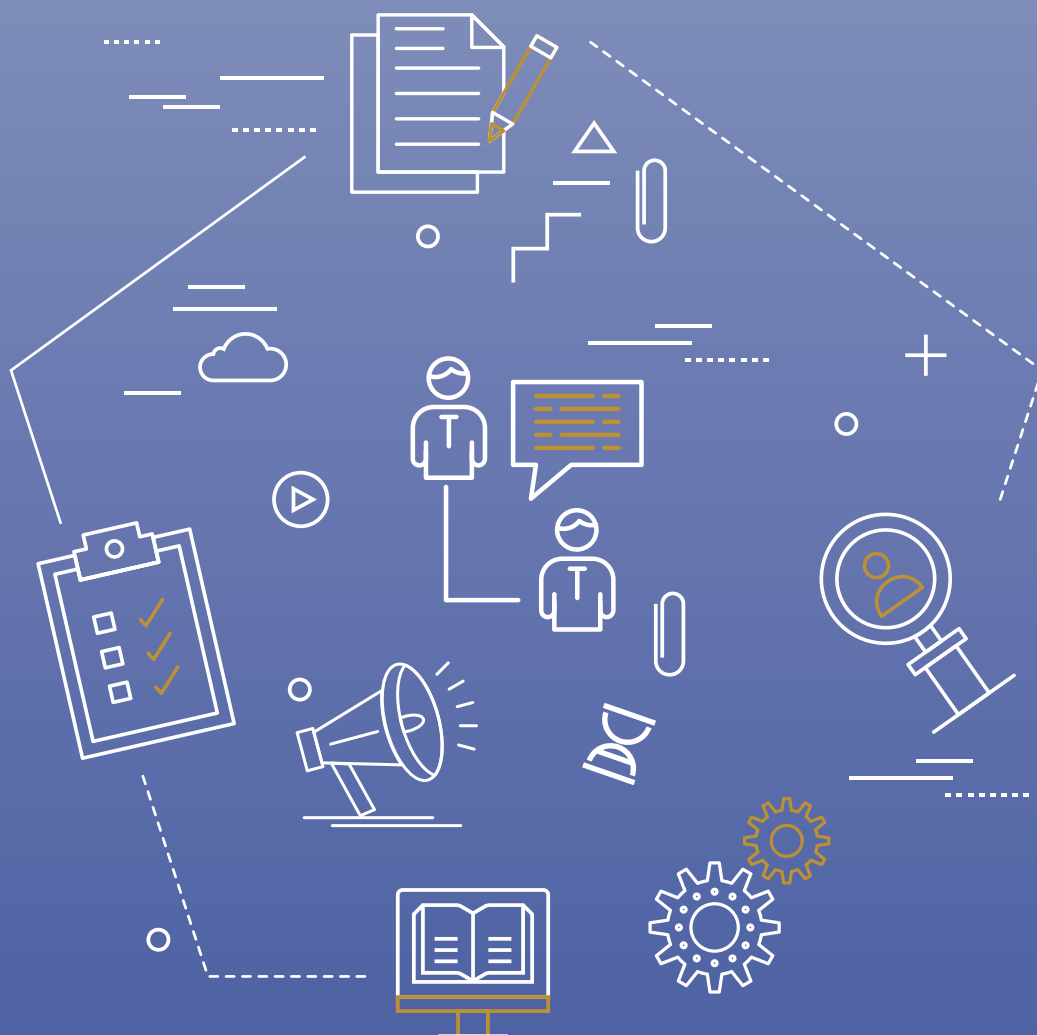
INFORMATION OF DIRECTORS IN THE SUBSIDIARIES

Names of Directors	Northern Bangkok Expressway Company Limited	Bangkok Metro Networks Company Limited
1. Mr. Plew Trivisvavet	Chairman of the Board of Directors and Chairman of the Executive Board	-
2. Mr. Phongsarit Tantisuvanitchkul	Director and Executive Director	Chairman of the Board of Directors
3. Mr. Chatri Tansiri	Director	-
4. Mr. Anawash Suwanarit	Director and Executive Director	Director
5. Miss Panan Tosuwanthaworn	Director and Executive Director	Director
6. Dr. Sombat Kitjalaksana	Director and Executive Director	Director
7. Mr. Witoon Hatairatana	-	Director
8. Mr. Nattavut Trivisvavet	-	Director

Attachment 3

Form 56-1 One Report 2022

Information of Head of Internal Audit Unit and Head of Compliance Unit of the Company



1. HEAD OF INTERNAL AUDIT UNIT

Name-Surname : Miss Orathai Ruangamporn

Position : Director of the Internal Audit Office

Age : 43 years old

Education/Training Background

- Bachelor of Accounting Program Thammasat University

Work Experience

- | | |
|-------------------------------|--|
| January 2022 - Present | - Director of the Internal Audit Office
Bangkok Expressway and Metro Public Company Limited |
| December 2020 - December 2021 | - General Manager of Executive Accounting Division
Bangkok Expressway and Metro Public Company Limited |
| 2017 - November 2020 | - Senior Manager of Expressway Accounting Department
Bangkok Expressway and Metro Public Company Limited |
| 2015 - 2016 | - Manager of Expressway Accounting Department
Bangkok Expressway and Metro Public Company Limited |
| 2009 - 2014 | - Head of Financial Statement and Taxation Unit, Accounting Department,
Bangkok Expressway Public Company Limited |
| 2003 - 2007 | - Senior Auditor Assistant
KPMG Phoomchai Audit Company Limited |

Related Training

- Digital Risk Management
- Audit Manager Tools and Techniques
- Accounting Tips for AC
- Risk Based Annual Plan for Internal Auditor From Principle to Practical

Duties and Responsibilities

1. Internal audit work

- Prepare the annual internal audit action plan.
- Supervise the review of the performance, adequacy and appropriateness of the internal control systems of various work systems within the Company according to the action plan.
- Summarize the review results, with observations and suggestions for improving work performance for the audited persons to acknowledge and follow up on improvements based on the suggestions.
- Report the audit results to the management and the Audit Committee.

2. Supporting work for performance of the Audit Committee

- Review the annual and quarterly financial statements.
- Prepare information in support of the selection and propose the appointment of the Company's annual auditor.
- Review the disclosure of information in accordance with the rules, regulations and principles of good corporate governance.
- Assess the adequacy of the Company's internal control system on a yearly basis.
- Coordinating and convening meetings of the Audit Committee.

3. Other tasks as assigned by the Audit Committee.

Remark : An appointment, removal, and transfer of Head of the Internal Audit Unit shall be subject to the Audit Committee's approval.

2. HEAD OF COMPLIANCE UNIT

Name-Surname : Mrs. Manatsavee Subchavaroj

Position : Assistant Managing Director : Legal and Compliance Group,
Company Secretary

(The profile appear in the attachment 1, and the responsibilities appear on pages 184 to 185)

Attachment 4

Form 56-1 One Report 2022

Details of the Company's Operating Assets



DETAILS OF THE COMPANY'S OPERATING ASSETS

(1) THE MAIN ASSETS OF THE COMPANY AND ITS SUBSIDIARIES

1.1 Building and Equipment

As of December 31, 2022, the book value of the Building and Equipment classified under class of assets was as follows:

Class of Assets	Net Book Value (Million Baht)	Ownership	Encumbrance
Building and construction improvement	82	Owner *	None
Furniture, fixture and office equipment	39	Owner	None
Vehicles	211	Owner	None
Assets during installation	6	Owner	None
Total Net Book Value	338		

Remarks * The Company and the subsidiaries take a lease on building spaces for use as their Head Offices. For the operation buildings, the Company and NECL have been granted the right to use the operation buildings by the Concessionaire under the conditions of the respective Agreements.

1.2 Rights to Operate Expressway Sectors

As of December 31, 2022, the book value of the rights to operate expressway sectors of the Company and its subsidiary classified under class of assets was as follows:

Class of Assets	Net Book Value (Million Baht)	Ownership	Encumbrance
Si Rat Expressway (Sectors AB, C and D)	4,231	Rights to operate under Concession Agreement	None
Prachin Ratthaya Expressway	22,519	Rights to operate under Concession Agreement	None
Udon Ratthaya Expressway	4,562	Rights to operate under Concession Agreement	None
Project costs during construction	548	Rights to operate under Concession Agreement	None
Total Net Book Value	31,860		

Given that the aforesaid Expressway Agreements are implemented on a BTO (Build, Transfer and Operate) basis, the title to all expressways, including various permanent constructions in relation to or used in connection with the expressway systems, shall be vested in EXAT immediately upon completion of construction by the Company and NECL. Upon opening for service, the Company and NECL are entitled to utilize such assets and shall have the duty to maintain such assets throughout the term of the respective Agreements.

1.3 Intangible Assets under the Concession Agreement for the MRT Blue Line Project

As of December 31, 2022, the book value of the intangible assets under the Concession Agreement for the MRT Blue Line Project of the Company and its subsidiary classified under class of assets was as follows:

Class of Assets	Net Book Value (Million Baht)	Ownership	Encumbrance
M&E Equipment	43,606	Rights to operate under Concession Agreement	None
M&E Equipment and leasehold improvements, telecommunications system equipment, and advertising system equipment in metro stations	1,610	Rights to operate under Concession Agreement	None
Project costs during construction	30	Rights to operate under Concession Agreement	None
Total Net Book Value	45,246		

Given that the aforesaid MRT Blue Line Project Agreement is implemented on a BTO (Build, Transfer and Operate) basis, the title to all equipment assembled as the M&E Equipment related to or utilized in relation with the MRT Blue Line Project, shall be vested in MRTA immediately upon completion of the procurement and installation by the Company. Upon opening for service, the Company is entitled to utilize such assets and shall have the duty to maintain such assets throughout the term of the Agreement.

(2) INVESTMENTS IN SUBSIDIARIES

As of December 31, 2022, the book value of investments in subsidiaries and other companies as per the separate financial statements was as follows:

Company	Book Value under Cost Method (Million Baht)	Portion of Investment in each Company (percent)	Paid-up Capital	Type of Investments	Nature of Business Operations
1. Northern Bangkok Expressway Company Limited <u>Less:</u> Provision for impairment of investments Net investments	2,604 (2,450) 154	99.99%	5,250	Subsidiary	- Construction and operation of the Udon Rattaya Expressway Project
2. Bangkok Metro Networks Company Limited <u>Less:</u> Provision for impairment of investments Net investments	630 (16) 614	99.67%	254	Subsidiary	- Representative for management of commercial development in the MRT Blue Line Project and expressways - Commercial area development, other than the above-mentioned

Northern Bangkok Expressway Company Limited ("NECL")

NECL, established on September 25, 1996, was granted the Concession by the Expressway Authority of Thailand (EXAT) to construct and manage the Udon Rattaya Expressway, for the concession period of 30 years, which is implemented on a BTO (Build, Transfer and Operate) basis. Subsequently, the Concession Agreement (revised version) was signed on February 20, 2020, extending the Concession term to end on October 31, 2035 (formerly ending on September 26, 2026). The expected return on investment is dividend.

As of December 31, 2022, NECL's registered and paid-up capital was Baht 5,250 Million. The Company's shareholding proportion in NECL was 99.99 percent of its registered capital.

Bangkok Metro Networks Limited ("BMN")

BMN, established on February 25, 2009, operates commercial development business. Presently, BMN is a representative of the Company to manage all commercial developments in the MRT Blue Line Project, the Si Rat Expressway Project and the Udon Rattaya Expressway Project. Its business consists of production of advertising media, leases of retail spaces and provides telecommunication system services within the MRT stations. The expected return on investment is dividend.

As of December 31, 2022, BMN's registered and paid-up capital was Baht 254 Million. The Company's shareholding proportion in BMN was 99.67 percent of all BMN's shares sold.

Attachment 5

Form 56-1 One Report 2022

Corporate Governance Principles (The Company Policy, Guidelines on Corporate Governance and the Company Code of Conduct)

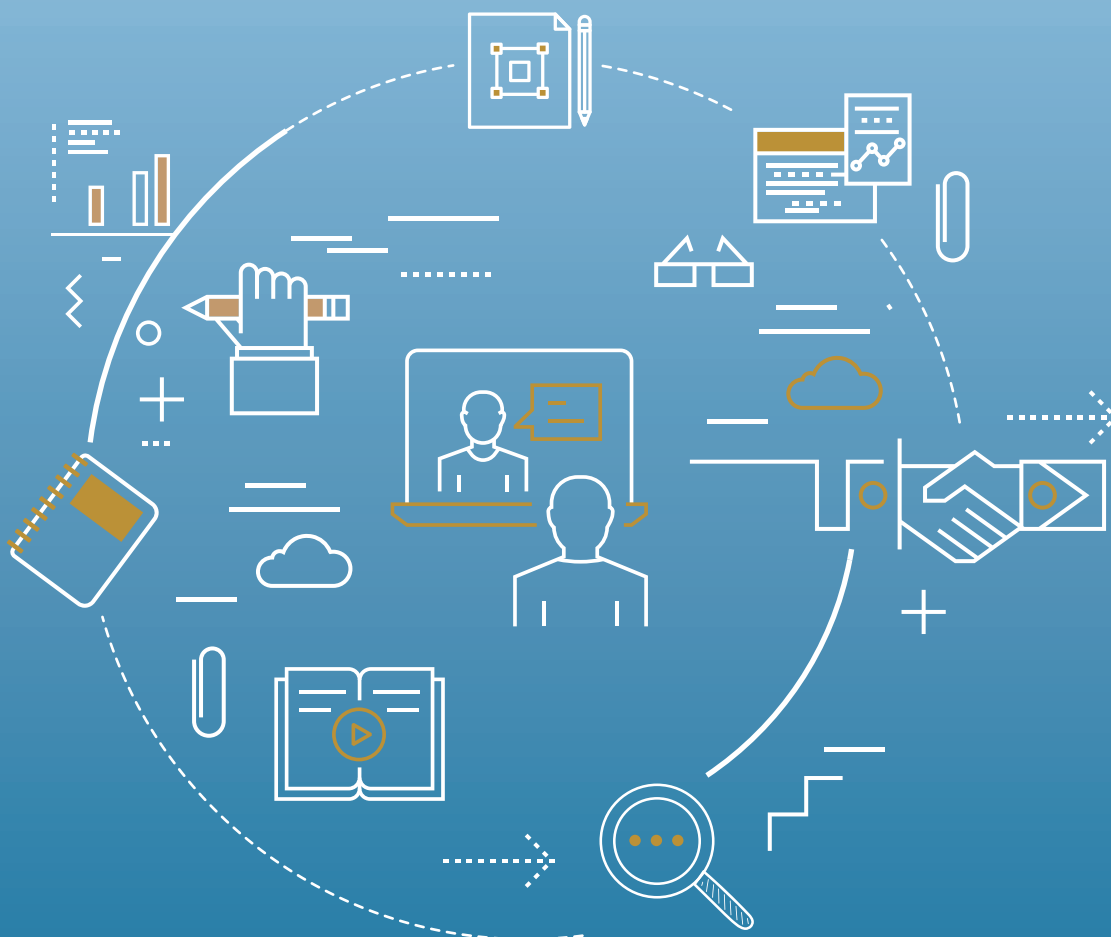
Details related to the Company Policy, Guidelines on Corporate Governance and the Company Code of Conduct can be found on the website of Bangkok Expressway and Metro Public Company Limited at <https://www.bemplc.co.th>



Attachment 6

Form 56-1 One Report 2022

Report of the Audit Committee and Reports of Sub-Committees





Report of the Audit Committee and Reports of Sub-Committees

Report of the Audit Committee

The Audit Committee of Bangkok Expressway and Metro Public Company Limited, as appointed by the Board of Directors, comprises three independent directors, namely, Mr. Vitoon Tejatussanasoontorn, as Chairman of the Audit Committee, General Chetta Thanajaro, and Dr. Annop Tanlamai, as Audit Committee Members. The Chairman of the Audit Committee and Dr. Annop Tanlamai specialize in accounting and finance, and the Director of Internal Audit Office serves as secretary to the Audit Committee.

The Audit Committee has performed its duties within the scope, duties and responsibilities as assigned by the Board of Directors in line with the requirements of the Stock Exchange of Thailand, together with provision of suggestions on various related matters, with the active cooperation from the Company's management, internal auditor, and auditors. In 2022, the Audit Committee held six meetings, all of which were attended by the Audit Committee, to discuss and share their opinions with the management and internal auditor, and two meetings with the auditor without the management's presence, for discussion on the essence of the audit plan, significant accounting matters, and accounting standards to be applicable, along with independence in performance of duties and expression of opinions of the auditor.

The key performance of duties of the Audit Committee can be summarized as follows:

- 1 Review of Financial Report:** The Audit Committee reviewed the quarterly financial statements and the financial statements for 2022 of the Company and its subsidiaries, including changes in the accounting policy, significant accounting adjustments, and correct and complete disclosure of information, by receiving clarifications from the auditor, management, and internal auditor, in which the auditor was asked about the accuracy and completeness of the financial statements, adjustment of accounting entries which had a material impact on the Company's financial statements, audit scope, financial reporting standards to be applicable in 2022 to rest assured that the financial statements were prepared in accordance with the legal requirements, the generally accepted accounting standards and the financial reporting standards, with correct and sufficient disclosure of information in the financial statements in a timely manner for the benefit of users of the financial statements, and therefore approved the financial statements as audited and reviewed by the auditor, representing a report on an unqualified opinion.
- 2 Review of Internal Control System:** The Audit Committee attached great importance to the internal control system in accordance with the practical framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO), with the Internal Audit Office having the duties to review and independently evaluate the adequacy of the internal control system and report directly to the Audit Committee, as well as quarterly considering the results of the review in terms of operations, resource utilization, property care, prevention or minimization of mistakes, damage and fraud, compliance with relevant laws, rules and regulations, and prevention of information risk, with the results that no significant defects were found. On the other hand, the Company has taken proper care of its assets; its internal control system was adequate; all work units' performance was efficient and effective; the specified objectives and targets were met; various relevant laws and requirements were observed; and fraud or corruption could be contained and prevented.
- 3 Supervision of Internal Audit:** The Audit Committee supported the Internal Audit Office in its independent performance and assigned its duty to report directly to the Audit Committee, by considering and approving the annual internal audit plan and reviewing the results of operations as per the approved work plan, and considered the results of the audit, suggestions, and regular follow-up report on performance under the suggestions, and provided useful suggestions to the Internal Audit Office,

and supported and promoted development of knowledge and abilities of workers in the Internal Audit Office, as well as approving the consideration for appointment, transfer, termination of employment of the Head of the Internal Audit Unit. In this regard, the Audit Committee was of the opinion that the Company's internal audit system was adequate, appropriate and efficient in accordance with international standards.

- 4 Review of Good Corporate Governance:** The Audit Committee reviewed the Company's operations to ensure due compliance with the law on securities and exchange, rules and regulations of the Office of the Securities and Exchange Commission, requirements of the Stock Exchange of Thailand, and other laws relating to the business operations, including obligations which might arise from agreements executed with third parties. The Company was found to have duly and properly complied with the relevant laws and requirements in a timely manner; moreover, it took into account compliance with the principles of the Corporate Governance Code, with a commitment to promoting the prevention of fraud or corruption. To this end, the Company provided both internal and external whistleblower channels.
- 5 Review and Provision of Opinions on Connected Transactions or Transactions which might give rise to conflicts of interest, including Disclosure of Information on such Transactions:** The Audit Committee reviewed and provided opinions on execution of connected transactions or transactions which might give rise to conflicts of interest in compliance with the applicable laws and requirements of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand, with the results of the review indicating that the Company executed such transactions with transparency, justification, and benefit to the Company's business operations and shareholders as a whole, together with adequate, correct and complete disclosure of information according to schedule.
- 6 Consideration for Selection, Nomination of the Auditor and Annual Remuneration for the Auditor:** The Audit Committee had the duties to consider selecting, nominating, re-electing, or terminating the engagement of the auditor, and consider the remuneration for the auditor, by taking into account the auditor's independence, knowledge, capability, experience, previous audit performance, reasonableness of the auditing fee, and was of the view that the auditor from EY Office Limited was independent, knowledgeable, capable and experienced regarding the audit, provision of advice on the accounting standards, certification of the financial statements in a timely manner, and that its auditing fee was reasonable. Therefore, it resolved to propose the matter to the Board of Directors to consider and seek approval from the Shareholders' Meeting for appointment of the auditor from EY Office Limited as the Company's auditor for 2023, with the remuneration in an amount not exceeding Baht 4,744,000 per year.

In summary, the Audit Committee has fulfilled its duties and responsibilities in accordance with the Audit Committee's Charter, as approved by the Board of Directors, in a way that it has provided various opinions and suggestions for the fair benefit of all interested parties, with its adequate knowledge, abilities, due care, prudence, and independence; and it was of the view that the Company's reports on financial information and operations were correct, reliable, in line with the generally accepted accounting standards and the financial reporting standards; that the Company's risk management and internal control system were proper, sufficient, together with the effective internal audit and operations in line with the principles of the Corporate Governance Code, as well as compliance with applicable laws, rules and requirements relating to the business operations in all respects.

On behalf of the Audit Committee

Mr. Vitoon Tejatussanasoontorn
Chairman of the Audit Committee



Report of the Nomination and Remuneration Committee

The Nomination and Remuneration Committee, as appointed by the Board of Directors, consists of four qualified directors, namely General Chetta Thanajaro, who is an independent director, as Chairman of the Nomination and Remuneration Committee, Mr. Vitoon Tejatussanasoontorn, Mr. Plew Trivisvavet, and Prof. (adjunct) Athapol Yaisawang as Nomination and Remuneration Committee Members, with the duty to nominate the qualified candidates for the positions of director and Managing Director and consider determining their remuneration to ensure transparency and fairness.

The Nomination and Remuneration Committee has performed its duties with caution and prudence. In 2022, it held its three meetings to consider a variety of matters. The essence of the performance of its duties can be summarized as follows:

1 Considering and selecting the qualified persons to hold the position of the Company's directors in accordance with the Company's criteria and procedures for director nomination, as shown below:

- The Board of Directors considered the retiring six directors' qualifications and roles in the previous year's performance and then proposed that the 2022 Annual Ordinary General Meeting of Shareholders re-appoint them for another term;
- The Board of Directors considered the qualifications of the Mass Rapid Transit Authority of Thailand (MRTA)'s representative under the Concession Agreement, who shall have experience in the management of electric trains, as the Company's main business, thereby bringing benefits to the Company;
- The Board of Directors considered the qualifications of each candidate to be nominated as directors to ensure that the Board of Directors shall have a wide range of required skills in various professional fields which shall be beneficial and suitable for the Company's business operations, while also conforming to the good corporate governance guidelines.

2 Reviewing criteria on consideration and determination of remuneration for directors for 2022

The Board of Directors considered reviewing the criteria on consideration of remuneration for directors and was of the opinion that such determined remuneration was appropriate and commensurate with the scope of assigned duties and responsibilities of each director; stayed at the same rate as that offered by other companies in the same industry to attract and retain knowledgeable, competent and qualified directors to perform duties for the Company, with components of remuneration remaining clear, transparent, and easy-to-understand, by proposing the remuneration for directors for 2022 to the Shareholders' Meeting for consideration and approval.

3 Considering nomination and appointment of Managing Director and determining remuneration for Managing Director

The Board of Directors considered the qualifications of the candidate as nominated for the position of Managing Director, who shall be responsible for managing any significant matters under the Company's action plan 2023, and determining remuneration for the Managing Director to ensure that such remuneration remains at the long-term motivated rate; commensurate with the scope of assigned duties and responsibilities of the Managing Director, whereby such consideration was based on the Managing Director's performance, together with the Company's operational results, and then proposed that the Board of Directors' Meeting consider approving such matter.

In conclusion, the Nomination and Remuneration Committee has fulfilled its duties in accordance in the Nomination and Remuneration Committee's Charter as approved by the Board of Directors, in a way that it has employed its knowledge and abilities with due care and with sufficient independence to provide the opinions and suggestions for the Company's overall benefits.

On behalf of the Nomination and Remuneration Committee

General Chetta Thanajaro

Chairman of the Nomination and Remuneration Committee



Report of the Corporate Governance, Risk Management and Sustainable Development Committee

The Corporate Governance, Risk Management and Sustainable Development Committee is comprised of four qualified directors, in which Prof. (adjunct) Athapol Yaisawang, who is an independent director, serves as Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee, Mrs. Vallapa Assakul, Mr. Phongsarit Tantisuvanitchkul and Dr. Sombat Kitjalaksana serve as Corporate Governance, Risk Management and Sustainable Development Committee Members, in order to perform its duty to develop and recommend the Company's corporate governance policies, monitor and assess the results of compliance with the corporate governance guidelines, consider a risk management plan, risk management process, including the duty to ensure that the Company's overall risks be monitored, inspected, and reviewed to stay at an acceptable level. In addition, due to the fact that the Board of Directors values the sustainable development, it has assigned this Subcommittee an additional responsibility to cover work on the organization's overall sustainability development to support the business operations which must ensure resilience and self-development for the sustainable and steady growth; as well as having the efficient corporate governance and risk management systems in place while simultaneously having social and environmental responsibility.

In 2022, it had its two meetings with the high-ranking Management Team, the essence of which can be summarized as follows:

1 Supervising to ensure the Company's compliance with the principles of the Corporate Governance Code and Sustainable Development

The Board of Directors monitored and reviewed the good corporate governance practices and proposed it to the Board of Directors' Meeting to consider reviewing and improving the corporate governance policy in order to strengthen the governance to cover the sustainability issues and to prepare for international acceptance and competition. In 2022, the Board of Directors has approved the additional practices in the following matters:

- Reviewing and improving the social responsibility and sustainable development policies to ensure compliance with the Company's commitment to conducting its business based on the principles of sustainability which strikes a balance between economic, social and environmental aspects, taking into account good corporate governance, efficient risk management, as well as taking social and environmental responsibility, including the great emphasis on bringing benefits to all stakeholders in all dimensions as appropriate.
- Reviewing the Board of Directors' Charter by adding its provision for the Board of Directors' meeting in regard to voting that the minimum number of quorum in the course of voting by the Board of Directors in the meeting must be at least two-thirds of the total number of directors.

In the previous year, the Company continued to receive an excellent rating in the corporate governance survey results; its Annual Ordinary General Meeting of Shareholders' assessment results was still exceptionable, deserving to be an exemplary company (for the 3rd consecutive year); and the Company was selected as one of 170 listed companies on the Thailand Sustainability Investment (for the 6th consecutive year). Moreover, the Company was assessed for good corporate governance of listed companies in ASEAN (ASEAN CG Scorecard) in the category of ASEAN Asset Class PLCs Award, as a listed company with sustainable business, taking into account Environmental, Social and Governance (ESG).

2 Risk Management

The Corporate Governance, Risk Management and Sustainable Development Committee followed up on the implementation of the 2022 annual risk management plan and found that the Company was able to carry out risk management as planned, except for the impact caused by the COVID-19 outbreak which significantly reduced the number of expressway and electric train users; as a result, the Company's revenue did not meet the projection; and also agreed with the risk management plan for 2023 whereby assessment of the level of impact on the Company's business and the likelihood of risks based on the current situation and emerging risks shall be conducted, and measures to manage risks to stay at an appropriate level shall be established.

In conclusion, the Corporate Governance, Risk Management and Sustainable Development Committee has already considered the matter and is of the opinion that the 2023 annual risk management risk plan is adequate and consistent with the current business condition; and that risk management plans and methods are also suitable.

On behalf of the Corporate Governance, Risk Management and Sustainable Development Committee

Prof. (adjunct) Athapol Yaisawang

Chairman of the Corporate Governance, Risk Management and Sustainable Development Committee



BANGKOK EXPRESSWAY AND METRO PUBLIC COMPANY LIMITED

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BRANCH OFFICE 1
(Expressway Business)



BRANCH OFFICE 2
(Rail Business)