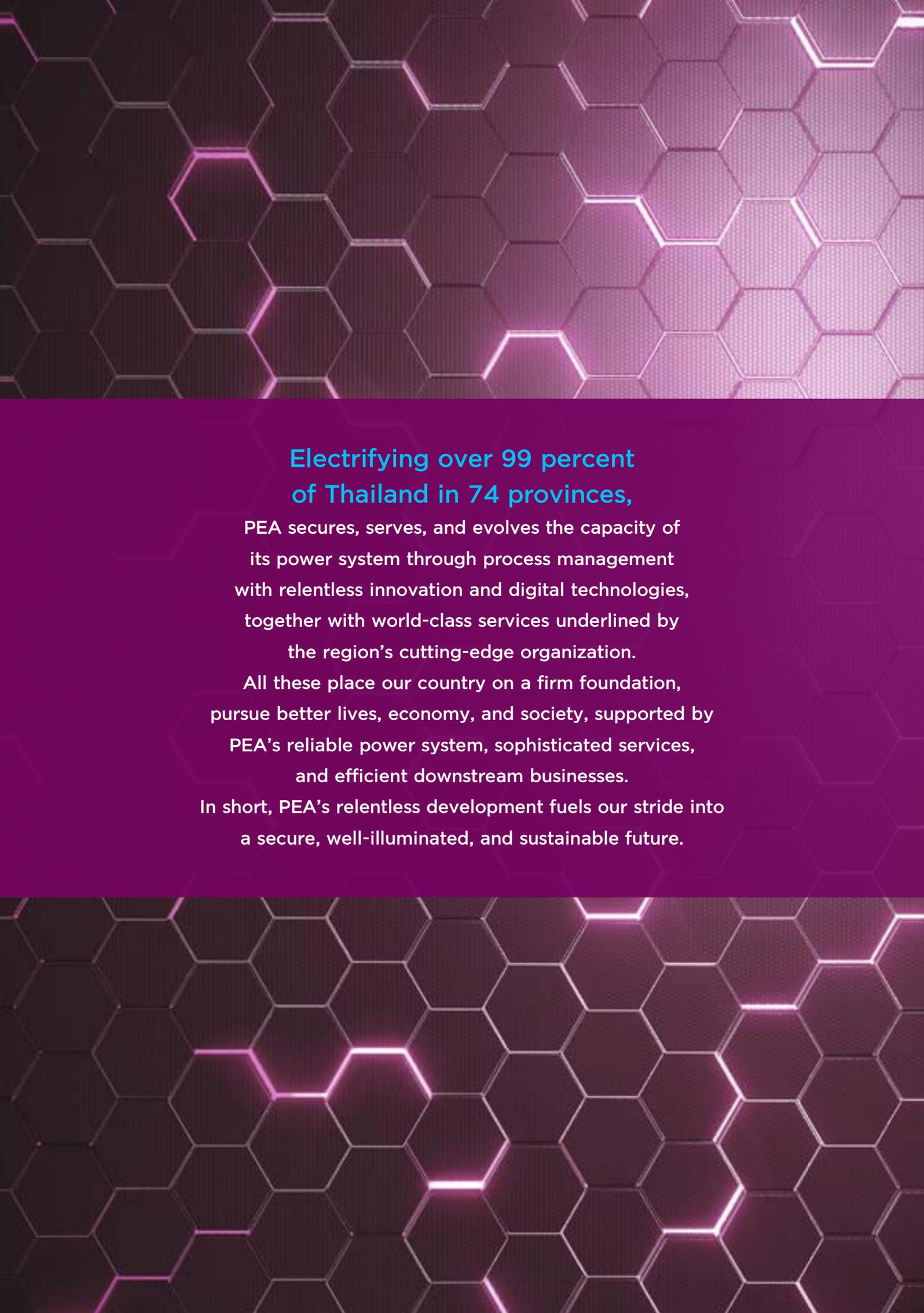




PEA
PROVINCIAL ELECTRICITY AUTHORITY

PEA
DIGITAL
UTILITY

Annual Report 2021
Provincial Electricity Authority



Electrifying over 99 percent of Thailand in 74 provinces,

PEA secures, serves, and evolves the capacity of its power system through process management with relentless innovation and digital technologies, together with world-class services underlined by the region's cutting-edge organization.

All these place our country on a firm foundation, pursue better lives, economy, and society, supported by PEA's reliable power system, sophisticated services, and efficient downstream businesses.

In short, PEA's relentless development fuels our stride into a secure, well-illuminated, and sustainable future.

Mission

PEA is responsible for the provision of standardized electricity services and related business to attain the customer's satisfaction on products and services through PEA's continual corporate development plan with the recognition of social and environmental responsibility.

Vision

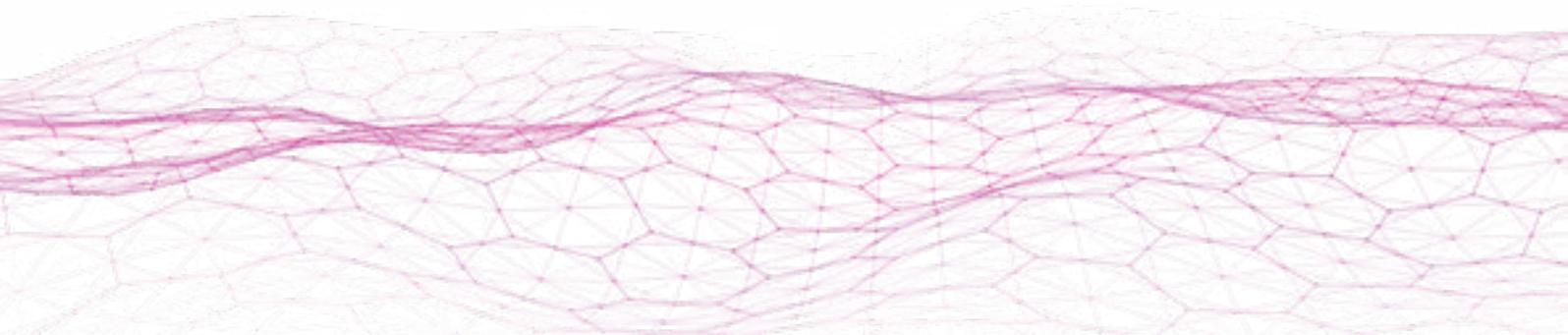
Provincial Electricity Authority (PEA) is a leading organization in region, which focused on providing efficient, reliable electricity services, related business for developing quality of life, sustainability of economics and society.

Core Value

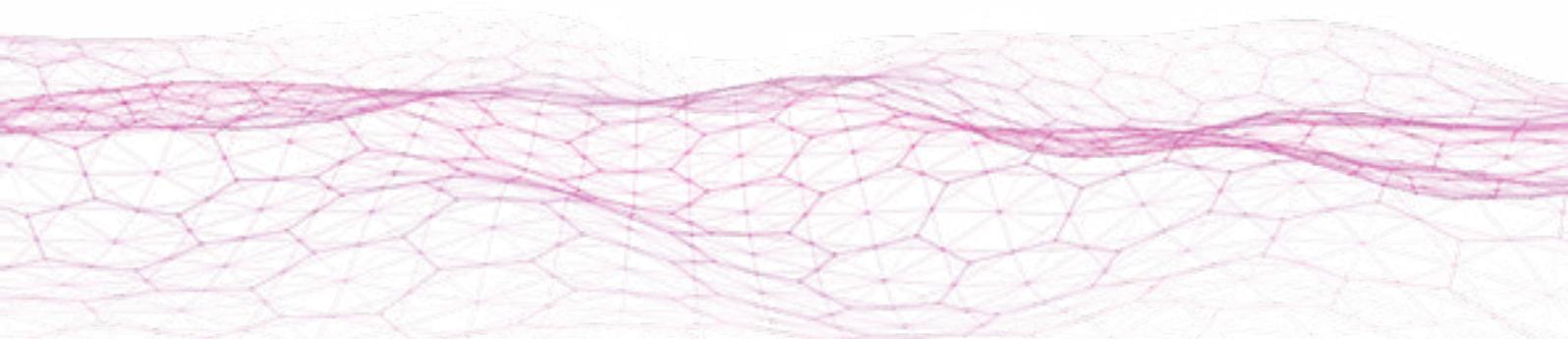
Modernization Excellent Service Good Governance

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Message from the Chairman

Various crises of this past year (2021)-Covid-19-related, social, and economic-posed multiple challenges and transformation to our world. As the core agency managing Thailand's electricity services, the Provincial Electricity Authority (PEA) forged ahead with work process redesign into a full-fledged Digital Utility, with priority given to the application of technology and innovation under our code of good governance and risk management, steered by national and organizational interests. We restructured PEA while upgrading customer services to maintain efficiency amid prevailing circumstances and the direction of energy mobilization focused on robust energy driving the domestic economy. All these moves were enabled by the excellent collaboration and cooperation of all PEA management team members and employees in refining their work procedures apart from strict control of operating expenditure.

Due to our efforts this year, we secured the ultimate AAA credit rating from TRIS Rating with a "Stable" outlook. Such prestigious ranking echoed remarkable returns on investment under a prudent power tariff structure and a prudent financial policy, through our instrumental role of giving the public access to electricity, our response to demands of the business and industrial sectors together with our support of the government's various measures to aid the public besieged by Covid-19. We also earned six Outstanding State-Owned Enterprise Awards under the "Sustainable Stride into the New Normal with the Force of Thai State Enterprises" theme. Finally, we garnered 98.34 percent (AA-rated) out of the Integrity and Transparency Assessment (ITA) of public agencies-our eight-year high, topping all other agencies attached to the Ministry of Interior and energy state enterprises. In other words, this success illustrated our determination and value given to good governance, moral and ethical practices, and work transparency.

On behalf of the Board of Directors, I pledge to oversee the Provincial Electricity Authority's business, firmly underlined by the mission of applying electricity to develop our country with good governance while creating shared value along with all our stakeholders and with full social and environmental responsibility. May I express our heartfelt appreciation for the sacrifice and diligence of all PEA management team members and workforce. Equally important, may I also express our gratitude for the cooperation and support of all our stakeholders to our undertaking, enabling us to overcome our challenges while remaining poised to serve as Thailand's strength.



(Unsit Sampuntharat)

Chairman of the Board of Directors
Provincial Electricity Authority





Summary of Key Financial Information

Financial Information

(Unit: Million Baht)

Item	2021	2020	2019
Total Revenues	509,487	490,110	519,819
Total Expenses	495,466	480,165	506,502
Net Profit	14,021	9,945	13,317
Total Assets	484,478	455,639	426,960
Total Liabilities	299,242	282,248	256,007
Equity	185,236	173,391	170,953

Financial Ratios

Item	2021	2020	2019
Current Ratio (Times)	1.46	1.31	1.40
Liquidity Ratio (Times)	1.43	1.28	1.36
Debt-to-Equity Ratio (D/E Ratio) (Times)	0.70	0.63	0.45
Return on Assets (ROA) (Percent)	2.98	2.26	3.17
Debt Service Coverage Ratio (Times)	1.84	2.98	2.38



Organizational Structure

The background features a dark blue gradient with bokeh light effects in shades of purple and blue. In the lower right, there is a complex geometric pattern of interconnected lines and dots, resembling a network or data visualization, with some points highlighted in bright pink and yellow.



Provincial Electricity Authority

PEA Organizational Structure (1 October 2020)

— Command
 - - - - Management

Board of Directors

Governor

Audit Committee

Digital Office

Internal Audit Bureau

Digital Strategy and Enterprise Data Management Department

- Digital Strategy Division
- Enterprise Data Management Division

Digital Product Development Department

- Digital Product Development Planning and Management Division
- Digital Product Design and Development Division

Governor Affairs Department

- Policy and Special Affairs Division
- Executives Affairs Division
- Processing and Relations Affairs Committee Division

Audit Planning and Support Department

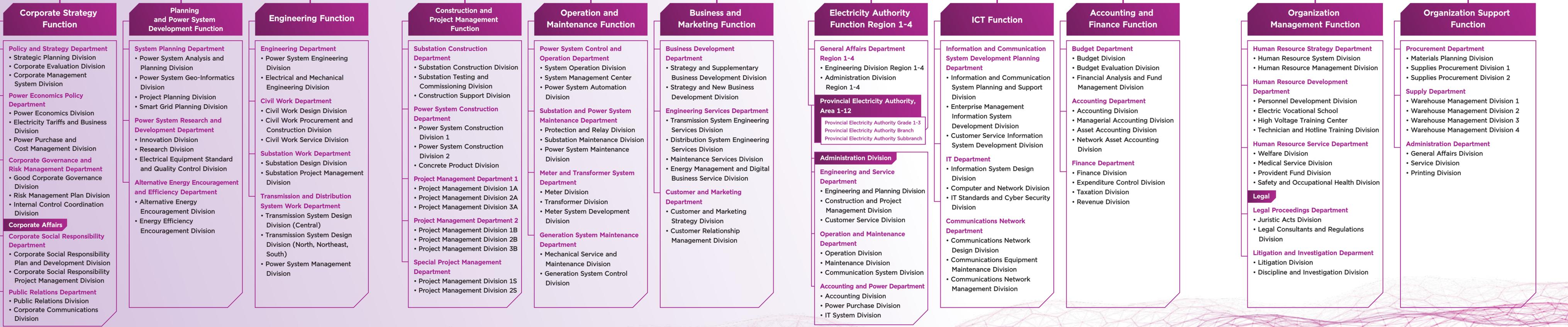
- Audit Committee Coordination Division
- Audit Planning and Development Division
- ICT Audit Support Division

Primary Process Audit Operation Department

- Production and Operation Audit Division
- Maintenance Audit Division
- Project Management and Construction Audit Division
- Customer Service Audit Division

Support Process Audit Department

- Financial and Accounting Audit Division
- Corporate Management Audit Division
- Human Resource Management Audit Division
- Procurement and Materials Audit Division



According to PEA Board of Directors' resolution (No. 3/2020) on 18 March 2020.

Corporate Management System Division, Policy and Strategy Department, Corporate Strategy Function

PEA Executives 2020





Mr. Sompong Preeprem
Governor



PEA Executives 2021





Mr. Supachai Ek-un
Governor



Remarks: Mr. Supachai Ek-un became PEA Governor on 17 August 2021.



Business Directions



Overall State Enterprise Strategic Plan

In its strategy development, the Provincial Electricity Authority (PEA) has adopted as framework the Philosophy of Sufficiency Economy, core principles of the 20-Year National Strategy, 12th National Economic and Social Development Plan, Sustainable Development Goals (SDGs), Thailand 4.0, Digital Economy and Society Development Plan (Digital Economy) as well as other circumstances related to PEA's operations.

Energy Strategy

Enhance national energy security, develop infrastructure to cover all customers and support economic growth, promote business competition and fair price structures, and promote energy efficiency as well as green alternative energy.

Vision

The Provincial Electricity Authority (PEA) is a leading organization in the region which focuses on providing efficient, reliable electricity services and fully integrated related business for developing the quality of life as well as sustainability of the economy and society.

Mission

PEA is responsible for the provision of standardized electricity services and related business to attain customers' satisfaction on products and services through PEA's continual corporate development plans with the recognition of social and environmental responsibility.

Core Values

Modernization Excellent Service Good Governance





Strategic Objectives and Operational Strategies

Strategic Positioning

STRATEGIC POSITIONING



Strategic Objective: (SOs)

Strategic Objective	Goal
1. Focus on core business enablers for sustainability	1. Pursuit of sustainability and internationalize management 2. Improved skills aligning with business and technological transformations as well as competition 3. Application of digital technology and innovation to work process improvement 4. Establishment of a standard of good governance and that of IT management
2. Leveraging efficiency of distribution system that fosters confidence among customers and all stakeholders	1. Regional leadership in distribution system quality 2. Success of low-voltage power system management 3. Satisfaction of customers and stakeholders
3. Achieving Digital Utility Capabilities, and aiming to become a Regional Leader of the Future	1. Success of Smart Grid Project 2. Success of a pilot project accommodating electricity business liberalization
4. Enhancing performance of PEA business portfolio	1. Financial security 2. Implementation of affiliates' portfolio selection



Strategies



1

Drive PEA's sustainable growth

Emphasis on analysis and determination of driving factors in pursuit of internal sustainability, and emphasis on communication and application of such driving factors to define plans for internal sustainability. The key goal is achievement in three aspects: economic, social, and environment. To elaborate, the focus is on transforming PEA into an entity of sustainable development, guided by international best practices, including ISO 26001, UN SDGs, and DJSI, together with the oversight criteria of the State Enterprise Policy Office, Ministry of Finance, in the promotion of activities on joint social, community, and environmental responsibility. PEA also advocates efficient energy consumption by actively driving energy saving in all sectors (Driving Position) together with energy saving in industrial works, which represent power-intensive customers in line with economic growth and rising industrial investments. This is PEA's emphasis on exploitation of its core competency for joint development/collaboration in investigating energy-saving technologies and mentoring customers on energy saving. The purposes are to develop and recognize sustainable energy conservation while upgrading development of energy conservation in Thailand and establishing a good image for PEA.



2

Enhance human capital management

Emphasis on more strategic human resource management (HRM) for a more efficient and effective system, leading to PEA's goal achievement. To this end, PEA values development of management systems and manpower administration in line with its future directions, meaning competition, processes where digital technologies find applications, and changes in projects where electricity affairs approach business liberalization. The purpose is to analyze structures and essential manpower administration for each job position and prepare digital technological systems in support of upgraded human capital management and development. In addition, PEA values the accommodation of its own directions/positions as a Digital Utility by focusing on creating innovations while enhancing the caliber of its personnel to cope with change in its environment as well as disruptive technology and to sustain future and related businesses.



3

Develop Digital Technology Competency and Digital Security for Digital Transformation

Emphasis on advancing digital technological competency for enhancing business and service strength to achieve the goal of Digital Utility and create value with innovation, which is PEA's strategic position for 2025. Emphasis is also on pursuing security and confidence in digital technology work for all stakeholders. To this end, embraced are matters of standards, personal data privacy, and cybersecurity, meaning strengthening ICT security to establish confidence in online communication and transactions.





4

Deploy Corporate Innovation System: CIS

Emphasis on producing systematic organizational innovation management through systemization, ranging from definition of innovation management directions/policies, roles of innovation leaders and personnel/agencies, definition of innovation strategies, innovation process (structure and management), management/exploitation of innovations, knowledge management for innovation, organizational and personnel behavior and culture, and advocacy of resources and outcomes of innovation development.

5

Regional-Leading in Distribution System Quality

Emphasis on capacity upgrading of efficient, extensive power distribution systems through development of power systems and substation construction so that PEA may raise its power system standard and improve its distribution system for stability, safety, and availability for all service areas; sustain rising power demands; reduce operating and maintenance problems; lower power losses in distribution systems; and achieve regionally accepted distribution systems. Emphasis is also on developing the quality of low-voltage distribution systems to sustain changes in the power industry through monitoring and troubleshooting outages of low-voltage distribution systems by defining the approach for speedily and efficiently resolving power outages and power restoration.

6

Enhance the satisfaction and engagement of customers and stakeholders

Emphasis on cordial relations with all stakeholders as a platform for sustainable growth by focusing on meeting the needs of external as well as internal stakeholders to enhance their satisfaction and engagement. Equally important, retain key accounts by evolving a digital-based CRM system in support of service for each customer group for greater efficiency and customer satisfaction as targeted by PEA, and by defining marketing strategies to scale up businesses and add value to PEA.

7

Enhance Grid Modernization Roadmap & Implementation

Emphasis on smart grid development, which calls for IT and communication in power generation, transmission, and distribution management to accommodate system connection from distributed energy resources (DERs). Included is the ability to serve customers connected to smart meters in an efficient, secure, safe, reliable, and quality fashion in keeping with international standards. To this end, PEA has defined a PEA Smart Grid Roadmap in line with the Ministry of Energy's master plan on development of Thailand's Smart Grid System, 2015-2036. This roadmap embraces the formulation of an explicit work plan and preparation of resources in line with the investment approach for each period, in particular pilot projects that focus on 2017-2021.



8

Promote PEA's role in driving accommodation of the electricity business liberalization policy

Amid shifting models of electricity generation and distribution, today certain consumer groups are serving as prosumers, and some are engaged in peer-to-peer (P2P) power purchases. The Energy Regulatory Commission (ERC) therefore launched a pilot project for electricity trading liberalization in the EEC area. PEA must therefore command a futuristic view, specifically its role in accommodating national liberalization of electricity trading. As a distribution system operator (DSO), PEA can leverage its own distribution system reliability as well as highly experienced personnel in its distribution system as its DSO operation strength. As for its roles of trader and retailer, PEA can leverage its customer database to set the role of the lead load aggregator. Such roles must be outstanding and ready for scaling up if the EEC pilot project is completed, before rolling out to other areas of the country.

9

Define strategic alignment between PEA and affiliates

Emphasis on investment policy definition and design of potential portfolio strategies in managing overall business investments made by PEA and its affiliates for maximum shareholder value and sustainable business development by maximizing sustainable development.

10

Implement related business plans and manage product portfolio

Emphasis on investment and operation of related businesses under PEA's business portfolio and development of information systems leading up to an accounting structure. Also, with applicable units, define, analyze, and identify work process activities and key work processes while defining resource and activity drivers to look into the relationship between activities and costs, thus leading to redesign of processes that are suitable, flexible, and focused on creating value from the user database. These data are to be put into formats ready for compilation by designed technology or programs and simulation models that can exploit analyzed data.



**11**

Review relevant regulations for streamlining business and increasing competitiveness

Emphasis on revising acts, laws, ordinances, and articles of association conducive to business conduct in downstream businesses and on promoting compliance with laws, regulations, articles of association, policies, and standards (domestic and international) by improving the efficiency and transparency of laws and regulations, rules, and performances. To this end, if PEA sets up affiliates or engages in joint ventures, this strategy would accommodate such company establishment or joint ventures in line with applicable laws, with sound and suitable policies and governance rules involving its affiliates.



Nature of Business

Background

The Provincial Electricity Authority (PEA) was founded as an individual organization under the Royal Decree issued on 6 March 1954, announced in the Royal Thai Government Gazette on 16 March 1954. A Board of Directors was appointed to steer business management under the oversight of the Department of Public and Municipal Works, Ministry of Interior, and the government, with the Minister of Interior holding general governing authority. The then Provincial Electricity Organization boasted an initial capital of 5 million Baht, with 117 electricity authorities within its purview. Subsequently, PEA was established under the Provincial Electricity Authority Act, B.E. 2503 (1960) on 28 September 1960 and inherited ongoing mission from the Provincial Electricity Organization.

Objectives

PEA's objectives were set out by Section 6 of the Provincial Electricity Authority Act, B.E. 2503 (1960) as follows:

- Generate, procure, distribute, and sell electricity
- Operate an electricity business and related businesses or those that supplement PEA.

Products and Services

- **The core business** is supply and distribution of electricity to customers in 74 provinces except Bangkok, Nonthaburi, and Samut Prakan.

- **Related businesses**, either supplementary or new, are carried out in support of the power supply business. These businesses, whether they are under PEA's oversight or independent, enhance its business growth and rates of return. They consist of:

- **Supplementary businesses** are those providing additional services to customers both in and outside Thailand. Developed through optimum use of resources and expertise to raise PEA's competence, these businesses comprise:

- **Electrical Power System Construction and Installation**

Electrical power system construction and installation contributes to better service integration. The business, directly aimed at customer satisfaction, comprises construction, installation of communication tools, and connection of power grids.

- **Electrical Power System Inspection Repair and Maintenance**

PEA provides six types of service on electrical power system inspection repair and maintenance, namely hotline and high-voltage cable connection; transformer inspection and maintenance; transformer installation, removal, and repair; power system installation, inspection, and maintenance; integrated services for power system maintenance; and inspection and maintenance of underground cables.





- **Expertise Service**

With support of its own experts and their extensive experience, PEA applies knowhow, technology, as well as modern tools and equipment to four types of service, namely electrical equipment testing, engineering, training, and concrete product testing services.

- **Electrical Appliance/Equipment Sale and Rental**

PEA offers electrical appliance/equipment sale and rental service in nine areas of work, namely transformer rental; transformer installation, decommissioning, and repair; power generator rental; transformer sale; sale of other electrical equipment; power meter sale; capacitor sale; power pole sale; and product distribution/sale.

- **Energy Management**

PEA provides energy management service to third parties, such as the energy efficiency enhancement project in the public sector and solar rooftop installation service for residences.

- **Asset Management**

PEA provides efficient asset management to increase revenue. The services include power pole rental service, fiber optic rental service, rental or use of other assets, and real-estate rental.

- **New businesses** are those concerning electricity service, scaled up from available assets and knowhow, known as adjacent businesses or New S-Curve businesses, both in Thailand and abroad. These businesses may be developed solely by PEA or in collaboration with partners in both public and private sectors in response to electricity industry restructuring. These businesses should also add value to the portfolios of PEA and affiliates, including those involving electric vehicles (EV network operator and EV data roaming), power sale and purchase on an energy-trading platform, demand response, energy storage, and digital businesses involving data analytics.



Affiliates

Following the Cabinet resolution of 3 June 2009, PEA ENCOM International Company Limited was established as a PEA's wholly owned subsidiary, intended for making energy investments and providing training concerning the power system for public and private sectors both in Thailand and abroad.

Wholly owned by PEA, PEA ENCOM was registered as a juristic person on 14 October 2009 and is situated on the fourth floor of the LED Building, 200 Ngam Wong Wan Road, Latyao, Chatuchak, Bangkok. As of 31 December 2021, it commanded paid-up capital of 3,295,283,750 Baht from 329,528,375 shares, priced at 10 Baht per share.

Vision

An energy management organization with innovation that is recognized in the region.

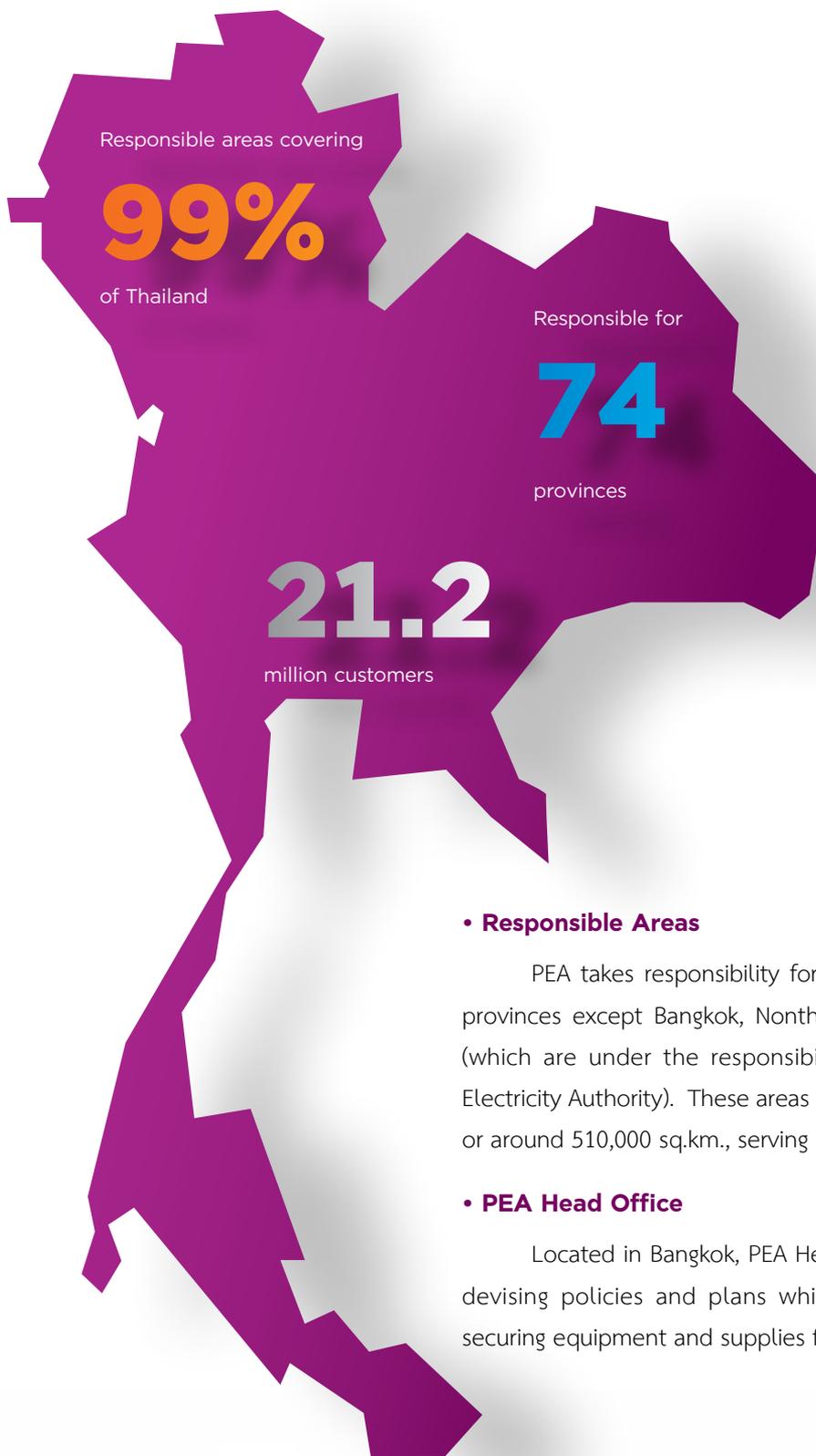
Mission

1. Invest in and develop a fully integrated domestic electric power and energy conservation business
2. It is the government's mechanism for promoting investment and a market reference for renewable energy and energy conservation of the state
3. Expand investment in electric power and related businesses in the region.





PEA's responsible areas and offices



- **Responsible Areas**

PEA takes responsibility for power distribution in 74 provinces except Bangkok, Nonthaburi, and Samut Prakan (which are under the responsibility of the Metropolitan Electricity Authority). These areas cover 99% of the country, or around 510,000 sq.km., serving 21,257,532 customers.

- **PEA Head Office**

Located in Bangkok, PEA Head Office takes charge of devising policies and plans while providing advice and securing equipment and supplies for regional offices.



PEA Regional Offices

Bangkok

- **Provincial Electricity Authority Head Office**
200 Ngam Wong Wan Road, Lat Yao
Subdistrict, Chatuchak District, Bangkok 10900

Northern region

- **Provincial Electricity Authority Area 1 (North), Chiang Mai Province**
208 Chiang Mai - Lamphun Road, Wat Ket
Subdistrict, Mueang Chiang Mai District,
Chiang Mai 50000
Supervises electricity operations in six provinces, namely Chiang Mai, Mae Hong Son, Lamphun, Lampang, Chiang Rai, and Phayao
- **Provincial Electricity Authority Area 2 (North), Phitsanulok Province**
350/9 Moo 7, Mittraphap Road, Samo Khae
Subdistrict, Mueang Phitsanulok District,
Phitsanulok 65000
Supervises electricity operations in eight provinces, namely Phitsanulok, Phichit, Tak, Kamphaeng Phet, Sukhothai, Phrae, Nan, and Uttaradit
- **Provincial Electricity Authority Area 3 (North), Lop Buri Province**
13 Phahon Yothin Road, Thale Chup Son
Subdistrict, Mueang Lop Buri District,
Lop Buri 15000
Supervises electricity operations in six provinces, namely Lop Buri, Sing Buri, Phetchabun, Nakhon Sawan, Uthai Thani and Chainat

Northeastern region

- **Provincial Electricity Authority Area 1 (Northeast), Udon Thani Province**
123 Moo 5, Ban Nong Hua Mu, Na Di
Subdistrict, Mueang Udon Thani District,
Udon Thani 41000
Supervises electricity operations in eight provinces, namely Udon Thani, Nong Khai, Khon Kaen, Loei, Sakon Nakhon, Nakhon Phanom, Nong Bua Lam Phu, and Bueng Kan
- **Provincial Electricity Authority Area 2 (Northeast), Ubon Ratchathani Province**
195 Moo 7, Liang Mueang Road, Chaeramae
Subdistrict, Mueang Ubon Ratchathani District,
Ubon Ratchathani 34000
Supervises electricity operations in eight provinces, namely Ubon Ratchathani, Yasothon, Roi Et, Kalasin, Maha Sarakham, Si Sa Ket, Mukdahan, and Amnat Charoen
- **Provincial Electricity Authority Area 3 (Northeast), Nakhon Ratchasima Province**
3 Moo 2, Mittraphap Road, Ban Mai Subdistrict,
Mueang Nakhon Ratchasima District,
Nakhon Ratchasima 30000
Supervises electricity operations in four provinces, namely Nakhon Ratchasima, Chaiyaphum, Buriram, and Surin





Central region

- **Provincial Electricity Authority Area 1 (Central), Phra Nakhon Si Ayutthaya Province**

46 Moo 6, Asian Highway, Hantra Subdistrict, Mueang Phra Nakhon Si Ayutthaya District, Phra Nakhon Si Ayutthaya 13000

Supervises electricity operations in seven provinces, namely Phra Nakhon Si Ayutthaya, Ang Thong, Pathum Thani, Saraburi, Nakhon Nayok, Prachin Buri, and Sa Kaeo

- **Provincial Electricity Authority Area 2 (Central), Chon Buri Province**

47/1 Moo 3, Samet Subdistrict, Mueang Chon Buri District, Chon Buri Province 20000

Supervises electricity operations in five provinces, namely Chon Buri, Chachoengsao, Rayong, Chanthaburi, and Trat

- **Provincial Electricity Authority Area 3 (Central), Nakhon Pathom Province**

9/1 Moo 1, Thaiyawat Subdistrict, Nakhon Chai Si District, Nakhon Pathom 73120

Supervises electricity operations in four provinces, namely Nakhon Pathom, Samut Sakhon, Suphanburi, Kanchanaburi, and Ratchaburi (covering only Ban Pong District of Ratchaburi Province)

Southern region

- **Provincial Electricity Authority Area 1 (South), Phetchaburi Province**

86 Moo 5, Phetchaburi – Hat Chao Samran Road, Pho Rai Wan Subdistrict, Mueang Phetchaburi District, Phetchaburi 76000

Supervises electricity operations in six provinces, namely Phetchaburi, Prachuap Khiri Khan, Ratchaburi, Samut Songkhram, Chumphon, and Ranong

- **Provincial Electricity Authority Area 2 (South), Nakhon Si Thammarat Province**

167 Moo 3, Asian Highway, Na San Subdistrict, Phra Phrom District, Nakhon Si Thammarat 80000

Supervises electricity operations in six provinces, namely Nakhon Si Thammarat, Trang, Krabi, Surat Thani, Phuket, and Phangnga

- **Provincial Electricity Authority Area 3 (South), Yala Province**

59/27 Yala-Pattani Road, Khao Tum Subdistrict, Yarang District, Pattani Province 94160

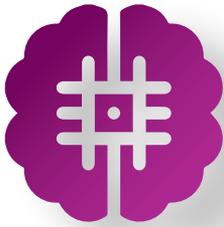
Supervises electricity operations in six provinces, namely Yala, Pattani, Narathiwat, Songkhla, Satun, and Phatthalung.



Business overview

Influencing factors

Megatrends that influence the power industry at the global, regional, and domestic levels consist of the following:



1. Rapid technology development Technology with exponential development, such as automation, IoT, AI, and Blockchain, has reshaped enterprise-wide processes, embracing production processes and processes to optimize digital development to raise operational efficiency. Also, the proper size of manpower is taken into consideration along with the exploitation of databases of customers to better respond to their needs and expand products and services.

2. Demography A continuous increase in world population and a global demographic shift toward urbanization have contributed to economic and social growth while prompting the public sector to develop infrastructure to keep up with urban expansion and city dwellers' needs. Business opportunities can be created from these residents' databases and collaboration with other agencies in building a smart city.

3. Environmental pressures The more severe climate change caused by energy, transport, and agricultural industries has prompted the power industry to cut carbon emissions in its production processes while promoting production of clean energy. Meanwhile, the stability of power supply from generation sites using renewable energy must be assured. Moreover, the rising world population and expanding urbanization have resulted in natural resource scarcity, as well as causing higher power demand. Smart Grid is the answer to such change.





Industry Outlook

Thailand's "Electricity industry restructuring" and "Promotion of competition in the electricity industry" are stated in Issue 5 of Plan 2 under the Energy Reform Plan formulated by the National Reform Committee on Energy. To this end, the Energy Policy and Planning Office (EPPO) was entrusted to conduct a study and materialize competition of electricity sale and purchase. EPPO, in turn, contracted the Foundation of the Petroleum Institute of Thailand to carry out a study on "Promotion of competition in the electricity and natural gas businesses", which is being presented to the National Energy Policy Council (NEPC) for endorsement. The Energy Regulatory Commission (ERC), in the meantime, announced the "Criteria and Guidelines for Allowing Third-Party Access (TPA) to the Power Grid B.E. 2565 (2022)", with the three electricity authorities assigned to come up with a TPA Code.

Public policies and actions taken by these regulatory bodies are clearly ushering in electricity industry liberalization in line with the global market trend. PEA's challenge is then to speed up its development, improvement, and preparedness to cater to such liberalization as a service provider of grid and power distribution systems, including system availability, an information system, and restructuring of the organization and personnel.



Performance Results

2021 Performance

Performance Analysis

Management Discussion and Analysis (MD&A)

PEA is committed to becoming a digital utility agency in pursuit of higher quality, standard, stability, and reliability of its distribution system under customer-centric management. To this end, our focus is on nurturing and managing customer relationship to satisfy expectations. Integrated power service is offered on the digital platform leveraging digital technology not only to excel at present operations but to also embark on new ventures.

Currently the global power industry is constantly transforming itself in both structure and business operations. Numerous new players have emerged amid the liberalized electricity market and higher customers' expectations for supply stability and services, mainly due to disruptive technology, which brings about three key changes:

1. Electrification A shift in energy consumption in the transport sector and heat production from fossil fuels to electricity, such as electric vehicles (EVs) and heat pumps

2. Decentralization Power generation becoming more decentralized, such as distributed generation, microgrids, and prosumers

3. Digitalization More application of digital technology to the power system, such as real-time communication and operation systems, smart meters, smart sensors, and automation systems

In Thailand, PEA is also affected by such transformation, which set off driving forces on operation, for example, a desire for higher system quality and reliability, increase in alternative/renewable energy and its connection to PEA's grid, emergence of community power plants, energy-saving technology, and energy efficiency. Also as a consequence of the transformation is the development of electric vehicles (EVs), which entails demand for charging stations and energy storage devices. The power industry structure is being reshaped, turning purchasers into prosumers (who act as both purchasers and sellers) while energy trading between customers, known as peer-to-peer commerce, is becoming common. In addition, artificial intelligence (AI), machine learning, as well as Big Data and data analytics will take part in service improvement in various aspects. Gearing PEA toward a digital utility agency is therefore vital.

These factors imply both opportunities and challenges for PEA to make organizational changes, management efficiency, business development, and innovative services to grow further in a sustainable manner and intelligently respond to the new face of the power industry as well as customers' demands and expectations which will be totally transformed.

Based on the current investment plans and those for the next three years, PEA has aligned its work plans with the predicted rise in power demand. The plans also correspond with the evolving power industry, which requires management and development in the following key areas:





1. Power System Management

1.1 Transmission and Distribution Development Project-2nd Stage: The project develops the power system and construction of new substations to achieve substation automation systems under IEC 61850 to ensure sufficient and reliable power distribution against rising demands, minimize operation and maintenance problems, and cut loss units in the distribution systems. At the same time, the project will see installation of power transformers and equipment of higher quality and standards so that PEA may improve and connect distribution systems in business and industrial areas, industrial estates, and other key areas for higher system security.

1.2 Major Cities Power System Development Project-2nd Stage: The project constructs and improves power systems along with installation of additional equipment in project areas to enhance system stability and reliability while reducing problems and obstacles to operation, maintenance, and safety to sustain modern technological applications and Smart Cities.

1.3 Agriculture Electrification Project-2nd Stage: The project underlines power supply extension to agricultural areas, integrated farming plots, and agricultural gardens. By supporting farmers' livelihood, the grassroots economy is strengthened.

1.4 New Rural Household Electrification Project-2nd Stage: The project involves expansion of power supply to all households, as stipulated by government policy.

2. Digital Technology Management

2.1 Digitalization in Power Systems (Smart Grid)

- **Microgrid Development Project:** To extend the installation of the smart meter system to retail users and the energy management system, install the smart meter system for retail customers in urban areas-including distributed generation and EV customers-and develop the energy management system to reduce peak consumption. To this end, one will see the launch of the Demand Response – Semi-Auto Project accounting for a minimum of 250 MW under government policy, installation of a Big Data system, and Data Analytics.
- **Grid Modernization Development Project-1st Stage:** To extend and further develop microgrid systems to sustain regional economic growth and a rise in renewable/alternative energy sources. Also, it will engage in microgrid modernization, improve application efficiency to sustain national development and various applications, enhance opportunities for scaling up development, improve the SCADA/EMS/DMS system, extend the Virtual Power Plant (VPP) system to sustain the liberalized energy market, and extend Asset Management Project outcomes to analyze equipment data of the distribution system for planning grid modernization.
- **Microgrid Development Plan-1st Stage:** To extend and develop microgrid power systems in remote areas while integrating energy sources in such areas for energy efficiency.



- **Geographic Information System Development Plan–3rd Stage:** To pursue higher efficiency of the geographic information system (GIS) while expanding the service scope to ably support surging requirements of the various systems. Data will be centralized to facilitate analysis into the nationwide terrestrial power system. A Data Recovery Center (DRC) will ensure data reliability with responsiveness when the main system encounters a problem. While the present software will be updated, mobile application software will be developed to facilitate field work. Up-to-date aerial photos will be sought to enable superior analysis and operations as well as system connectivity to achieve an integrated power system information map supporting field work nationwide. GIS lends support to PEA’s field work in such aspects as:

- Power system plans, design, and construction
- Power interruption fixing
- Power system maintenance
- Analysis into electrical engineering systems
- Customer service.

PEA GIS is one way to increase system stability while raising customer service quality by offering a new service to win customer satisfaction. It also leads to cost reduction for customers and time-saving for workers, resulting in lower investment costs for power system development.

2.2 Customer Connection through Digital Technology

PEA has relentlessly developed a service channel platform to demonstrate its commitment to customer service of the desired standard. It looks into all contact points, using the customer journey to draw up a customer experience design to create service experiences that meet customers’ demand. Omni-channel services ensure customers’ smooth experience, contributing to a sustainable bond between customers and PEA, thus resulting in their higher satisfaction. A number of systems in support of customer service were developed during 2021, including:

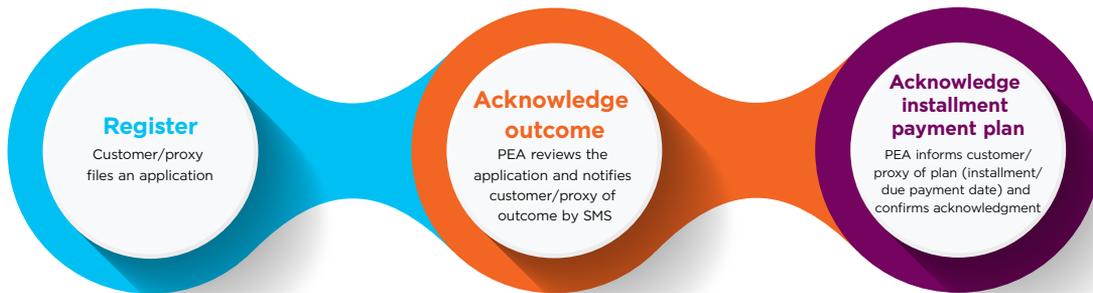
- **PEA Smart Plus Application**

We implemented PEA Smart Plus in 2017 to enable customers’ access to the online “one-touch service”. Customers can access information using their smart phones or tablets. Ongoing development of service functions embraces various services, resembling virtual office applications, such as electricity bill payment, request for electricity connection, request for service area extension, reporting electrical problems, applying/downloading electronic receipts, and request for meter reinstallation. The application has been further improved with additional features for assorted customer satisfaction, including Fingerprint, Face, ID and PIN system access. In addition, this year saw development of a system displaying smart meter power consumption (AMI) accommodating daily and hourly consumption checks, currently serving Pattaya and Chon Buri. Further, PEA has connected the power bill installation payment system with the application to mitigate the hardship of a certain group of Covid-19-affected consumers.





Procedure for application for power bill installment payment

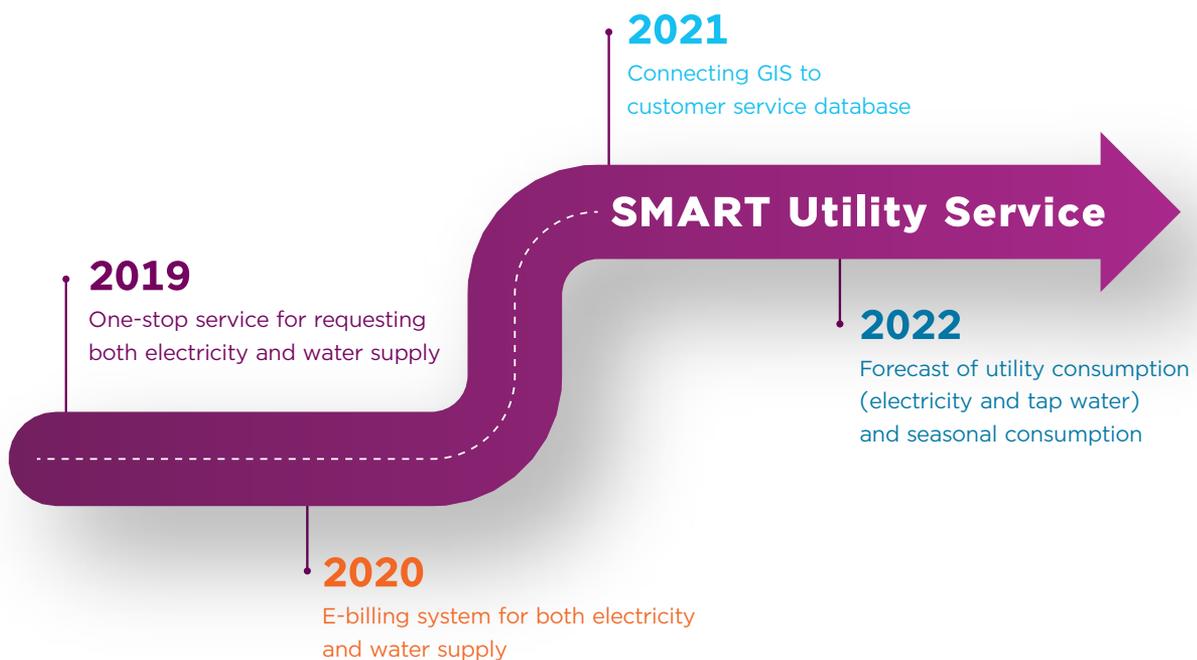


- **Consumer Information Service Center (1129 PEA Contact Center)-4th Stage (2021-2026)**

Operating since 1 April 2021, the project centralizes around-the-clock data and information services concerning PEA, with a service upgrade from “1129 PEA Call Center” to “1129 PEA Contact Center”, featuring digital technology developed for greater omni-channel service efficiency and more automation covering voice and non-voice channels, including phone, facsimile, SMS, E-mail, Live Chat, Leave Voice, Social Media, and the PEA website. The automatic acknowledgment system has been improved to virtual IVR and self-service to meet shifting behaviors of customers. Also, there is the ability to connect notifications through the PEA Smart Plus Application and the ability to provide data inquiry service, notification of power and other problems, provision of tips (whistleblowing), accept applications for power connection, accept other service applications, follow up complaints/suggestions, and other services that are convenient and speedy. In place are moves to maintain service level agreements (SLAs) and assess customers’ satisfaction to continually and efficiently feed back into service process development, enhancing a positive image and cordial relations between PEA and power consumers.

- **Customer service via the Internet (e-Service) supporting requests for electricity and tap water connection**

Both PEA and PWA (Provincial Waterworks Authority) value data and foresee future service in the same direction. While the government is moving toward becoming an e-government to render better citizen service, both agencies have entered into an agreement that results in higher efficiency as well as active cooperation. The move improves customer service and meets the government policy. Customer service data will be integrated to assist in customer behavior analysis, benefiting the public sector’s service in various areas.





• **Customer Relationship Management (CRM)**

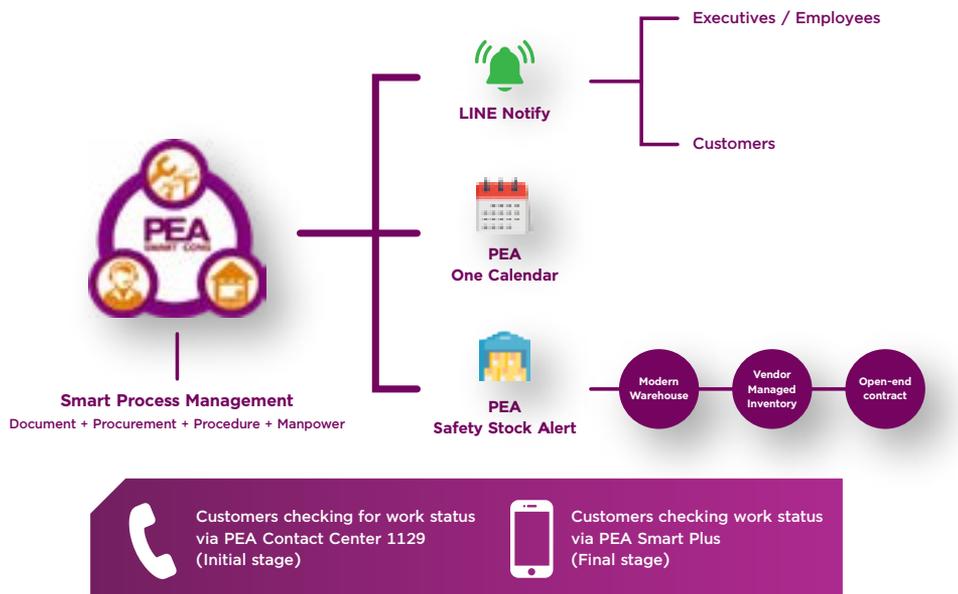
CRM supports the creation of a customer-centric culture to win customers’ satisfaction and customer engagement. Customer data are centralized for analysis, which will benefit PEA’s core and related businesses. PEA is now developing a CRM Mobile Workforce application to support PEA officers in their customer service and the PEA Privilege application that will serve major customers in particular; a website will be developed to manage CRM Mobile Workforce and PEA Privilege matters for engagement with these customer groups. It also plans to design and develop a CRM system to strengthen ties with all customers by 2023.

• **Notification of power outages and reconnection periods through Digital Channel**

PEA has defined its strategies for improving the efficiency and reliability of its distribution system through improving the quality and stability of distribution and minimization of extended power outages. In addition, it focuses on serving customers on resolving such problems with accurate, speedy, and timely data fitting their needs, which is essential for enhancing their good experiences. Today, PEA has developed a process for notifying residential customers about planned outages and reconnection periods through various digital channels, including SMS, PEA LINE Official, 1129 PEA Contact Center, and PEA Smart Plus Application. Finally, PEA plans to refine the process so that it may notify customers of unplanned outages, to be completed by 2022.

• **PEA Smart Construction Service (SmartCONs)**

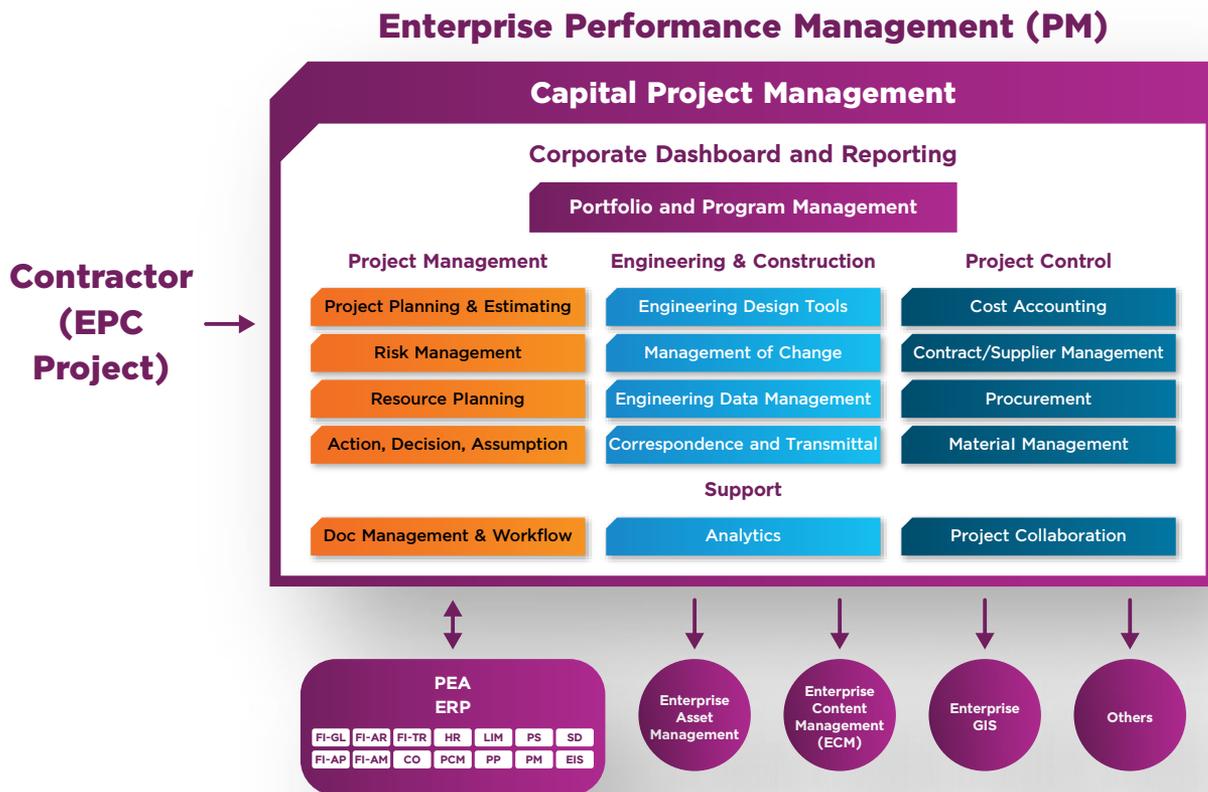
By using SmartCONs, customers can conveniently follow up construction work progress via a website, such as design and cost estimates, construction progress and meter installation, as well as power distribution. Developed to raise service efficiency, it has now been piloted at 10 sites and will be expanded to all areas by 2022.



2.3 Organizational Transformation

- Capital Project Management (CPM) software

PEA has developed its Capital Project Management (CPM) system to grow efficiency and flexibility for its processes of construction surveying, design, cost estimation, project management, and related tasks so that work may be done anytime, anywhere. To this end, employees can conveniently access desired data through digital systems and manage engineering documents concerning construction cost estimation as well as connecting data to other work systems. Today, PEA is testing such applications; full rollout is expected by 2022.



2.4 Digital Infrastructure

- IT Infrastructure Design and Consolidation for PEA (ITiDC)

PEA has developed a Cloud infrastructure to focus on improving the efficiency of equipment performance, capacity planning, IT security, service provisioning, business agility, and investment reduction including maintenance expenses for hardware and software. In April 2021, PEA announced a Go-Live for this Cloud infrastructure rollout. It plans to investigate and develop service guidelines for the platform for developing and delivering secure software (DevSevOps) so that it may comprehensively and more safely serve Cloud infrastructure for application developers.





- **Disaster Recovery Center (DRC)**

So vital is a system for managing and storing IT data for a large business organization that needs to manage multiple branch networks, thus the need for a data center to constantly manage the entire data. To this end, PEA completed construction of its data center in 2018. To ensure security and minimal risk facing its information system if the data center should sustain damage, PEA embarked on construction of a Disaster Recovery Site (DR Site) as backup for the main site. DRC is due for construction completion and internal start-up by the second quarter of 2022.

- **Cybersecurity**

To raise cybersecurity, PEA's current critical infrastructure at 13 offices was assessed for the ISO/IEC 27001:2013 certificate, covering Head Office and the 12 Regions across the country. Certification will proceed for its key systems. PEA has also set up a Security Operation Center (SOC), where cybersecurity staff work around the clock to watch the infrastructure against risks. Policies, regulations, and procedures involving cybersecurity were reviewed, while staff training was continuously provided and PR media were developed to heighten their awareness of cybersecurity.

- **IT Service Upgrade and ISO/IEC 20000 Certification**

PEA aspires to internationalize its IT service management to win customer satisfaction and efficiently cope with demand for IT resources. In 2021 it earned the ISO/IEC 20000 standard for these services:

1. The supporting and provision of computer network equipment service
2. The Smart Customer Service (SCS)
3. The Digital Document (DDOC)
4. The PEA Smart Plus.



- **Improvement of the efficiency and security of PEA's core networks**

This goal is to be achieved by improving the core layer of the IP Network of communication, installing a communication system linking the Data Center (DC) and the Data Recovery Center (DRC), expanding the 100-Gbps bandwidth linking the Head Office, DC, and DRC with six regional offices around the Head Office to accommodate various work systems and extending the capacity of the enlarged IP Access Network, thus increasing network reliability (physical and logical) and raising the efficiency of managing regional networks.

- **Digital Radio System**

Replacing the long-standing analog communication radio, digital radio can support communication in the power system repair process while reducing signal interference. In 2020 it was introduced to PEA offices in the Central Region for issuing orders concerning power systems, contacting, coordinating, and ordering power outage repairs. In the Northern, Northeastern, and Southern Regions, it is currently being installed and tested, with a rollout expected by 2022.

2.5 Digital Business

PEA has shifted its operations toward a digital business with emphasis on employing the digital system to provide services, namely the PEA Care & Service Application Project, Intelligent Home Appliances Power Monitoring (IHAPM) Project, and PEA Volta Project.

PEA Care & Service Application

Project Background

- Under the Governor's initiative to turn the organization into a PEA Digital Utility, the application was developed particularly to cater to customers.
- PEA has acquired over 6,000 electricians under the "One Tambon, One Electrician Project" who are ready to provide standard service.
- PEA is ready and wishes to expand maintenance services to customers in general, known as the "behind-meter service".



What is PEA Care & Service Application?

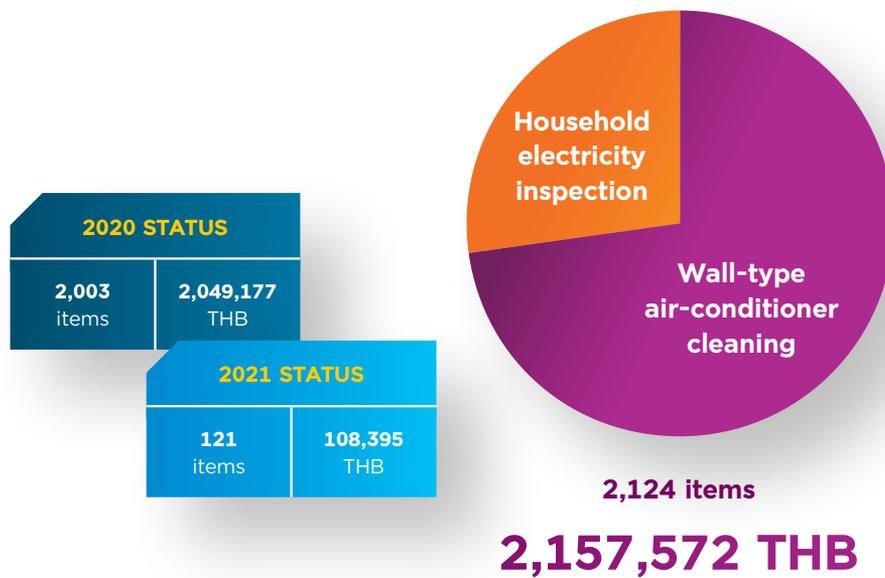
This application supports electricians from the One Tambon, One Electrician Project in their inspection work and in such services as maintenance of the power system and appliances in residences. Customers will receive speedy, convenient, and safe service in the form of one-stop service.





Project Status in 2021

- Three items have been added to the services:
 1. Inspection of household electricity systems with inspection reports provided
 2. Cleaning of all wall-type air-conditioners
 3. Electricity system installation, improvement, and repair for homes and offices before and after meter installation. Service fees depend on electricians' inspection, of which the cost estimates are offered on the application.
- Development of the system for service provision and payment channels
- Project performance for 2020-2021 (as of 31 December 2021): A total of 6,286 persons have registered on the application, 2,124 of whom have tried the service, generating an income of 2,157,572 baht.



PEA Volta Project

PEA has extended the success of the PEA Volta platform from the research undertaken by King Mongkut's Institute of Technology Ladkrabang to ease and speed up servicing at EV charging stations. Customers simply rely on guiding maps to the nearest stations, inspect the status of the chargers needed for the service, verify the progress of electricity charging along with the units of electricity (in kWh) and power (kW). Therefore they can manage time for charging their own EVs and pay for the service through the PEA Volta Application. Today PEA has developed and launched commercial service at 73 stations in 42 provinces, thus enabling quick charges on main highway routes, secondary roads, and major tourist attractions. The plan is for 190 additional charging stations by 2022-2023.





3. Human Resource Management and Development

3.1 Workforce Management

PEA follows the “recruit, replace, reskill, upskill” approach in managing its human resources to ensure suitable manpower for its drive toward a digital business operator. Analysis is made into manpower demand, recruitment, and selection to get the right persons matching business needs. Consideration is made of future business needs of job positions to support most efficient power system management and downstream businesses to grow customer service.

3.2 Organizational Restructuring

Due to internal and external challenges, such as government policies, industry structure, free competition, and disruptive technology, as mentioned in factors affecting PEA, as well as customers’ behavioral change, PEA’s organizational structure needs to evolve accordingly. Evolution in each phase must be able to cope with impacts from various factors and align with PEA’s strategic plans as well as stakeholders’ demands and expectations.

PEA proposed three-phase organizational restructuring (2020-2024), which was endorsed by the Board of Directors on 18 March 2020. In the restructuring, the following principles are stressed:

1. Lean organization
2. Accommodation of energy disruption
3. Operation enhancement.

The first phase (2020-2022) came into effect on 1 October 2020.

3.3 Performance Management

PEA’s staff performance assessment (appraisal) system has been established, under which procedures and key performance indicators (KPIs) were set for fairness and employee engagement. Outcomes of the assessment go into reviewing compensation, appointment, selection of high-caliber staff, and staff development.

3.4 Raising Employee Satisfaction and Engagement

PEA undertakes a survey each year on employee satisfaction and engagement. Survey results shape strategy formulation and improvement so that PEA may become an organization where employees are motivated and determined to leverage their full potential. Work quality will thus be continuously achieved and delivered to customers.

3.5 Personnel Promotion and Development

Recognizing its workforce as a valuable asset and vital to its sustainable growth, PEA laid down policies and approaches for a system for managing and developing human capital to optimize personnel capability. In place are systematic upskilling and reskilling of all personnel in all jobs to close gaps in keeping with digital-age needs, including technical skills, regarded as PEA’s core competency, and competencies for various job aspects, management skills, development of the quality of life, ethics, and morality. An aspired PEA Competency Model for all employees has been defined. PEA commands





various ways of promoting personnel development, focusing on continuous learning and promoting personnel's participation in and responsibility for their own development via individual development plans (IDPs) for all executives and employees. To this end, the 70:20:10 development model is applied. At the same time, PEA focuses on nurturing specialized experts (in engineering and management), including power quality, system reliability, system protection, system maintenance, alternative energy, and hotlines. Skill development is also achieved through online curricula, digital mindset and digital skill development, among others. It is crucial to groom these personnel with competencies and skills to cope with tomorrow's operations. Equally important, PEA promotes innovation research and development (R&D) by staging technical conferences, contests, and seminars, including PEACON & Innovation 2021, an innovation and invention contest, and selection of outstanding PEA offices. PEA also supports life-long learning by providing scholarships for pursuit of postgraduate studies or training courses both in Thailand and abroad. It encourages staff to present their academic articles in international arenas to raise their readiness and potential in support of business growth and transformation.

3.6 Cultivation of Learning Culture

PEA recognizes the value of a mechanism that unlocks staff potential to optimize the organization. Knowledge and experience, the intellectual capital, are to be employed for productivity enhancement while innovation is to be fostered. PEA takes it most seriously to promote learning at both personal and organizational levels by supporting learning and knowledge sharing, which drives knowledge and innovation management processes. The process begins with the definition of key organizational knowledge, taking into consideration the voice of customers, challenges and strategic advantages, management's policies, key work plans, and organization expertise, among others. The compiled knowledge is compiled into electronic documents and hard copies, and passed on through coaching, training, seminars, and an information system for knowledge management, found at www.km-si.pea.co.th. PEA also advocates knowledge management systems (KMSs) based on the existing know-how, which will lead to innovation development and higher operating process efficiency. PEA also promotes staff learning in various forms, including organizing the PEACON & Innovation Seminar 2021, an event for presenting innovation and knowledge management, and outstanding PEA office competition. Learning and knowledge sharing is continuously encouraged between PEA and other agencies as well as the public through the establishment of a PEA Learning Center, visits to customers, seminars among customers, 1129 Contact Center, education of community residents, technical seminars, seminars with other agencies, cooperation among ASEAN electricity agencies, production of a manual to spread the knowledge, and several routine technical cooperation projects. As a result, PEA already has in place the required knowledge ready for application to scale up innovation in a sustainable way.



4. Supply Management

4.1 Supply Management

The Covid-19 pandemic has affected PEA's supply procurement system, ranging from the planning process, supply planning, procurement, contracting, delivery, to inspection. Most of these steps are affected by infection-risky personnel, particularly those in hiring and purchasing contracting. As for delivery and inspection problems, which have proved quite severe, since certain materials and raw materials need to be imported, they need to go through multiple work processes; some countries simply could not export their goods, causing some items to command higher costs. These instances have affected the procurement of power-related materials and supplies, in particular delayed deliveries from dates agreed in contracts. PEA has therefore needed to defer its inspection dates of materials under these contracts; supplies whose costs were higher are to enter the process of additional budgeting.

Concerning the resolution efforts of these problems by public agencies jointly with the private sector, in view of the Covid-19 pandemic, while the Comptroller General's Department commands practices on contract management and supply inspection affected by the pandemic, PEA's turnover rate was clearly worth less than planned. Recognizing this problem, PEA has added guidelines to shorten the inspection process and other processes by applying technology to the inspection process to obtain supplies needed for projects, customer services, and maintenance work, thus meeting the electricity needs of the public and business sectors, as well as the people sector.

4.2 Material Management

According to PEA's Digital Operation Plan for 2018-2022 (rev. 1, 2019), PEA has incorporated a Modern Warehouse Roll-out Plan to be carried out during 2019-2022 to extend the outcomes of the pilot project on modern warehouse management at its Sakon Nakhon provincial office; the efforts will see warehouses in 130 areas across the country move toward Next Generation Enterprises, which will raise the efficiency of storage and material management, while raising supply operation efficiency of PEA and related agencies. Equally important, PEA will be able to manage data supporting the work process of its asset management system, maintenance work, and services catering to electricity demand of the public and private sectors and the people sector, thus accommodating accurate and most efficient decision-making by executives.

The Modern Warehouse Project has become a performance indicator in the PEA Governor's (Mr. Supachai Ek-un) performance agreement for 2021 under the plan/project/task no. E13-2 (development of a digital system for PEA's supply chain management), supply management with digital systems (Modern Warehouse). The performance in 2021 went as planned, as work has been extended to all PEA warehouses across the country. For 2022, PEA's Supply Department came up with a list of problems of previous practices before improving various work processes for organizational efficiency and optimal accommodation of users' needs.





5. Services

5.1 Electricity-Related Services

PEA's core responsibility is to transmit and distribute electricity as well as providing related services to customers. Service zones fall into four regions, namely North, Northeast, Central, and South. Each region consists of three regional offices. There are 946 customer service centers and PEA offices covering 74 provinces except Bangkok, Nonthaburi, and Samut Prakan, all of which are served by MEA.

PEA has developed comprehensive service channels catering to the needs of all customer groups. This year, due to their shifting needs, specifically for more digital services, PEA has developed the PEA Smart Plus Application and the PEA e-Service system, which offer customers identical transaction services as those for personal interaction at PEA's offices. For urban customers desiring such PEA services, we have 57 PEA Shops operating outside our normal office hours; for customers located in remote areas, our 28 PEA Mobile Shops come to them. Finally, the 1129 PEA Contact Center is in place for notification of power interruptions as well as for news and information around the clock.

PEA focuses on speedy and efficient services with a relentlessly improving quality standard. An example is the One Touch Service process, developed on cutting-edge technology to enhance power system inspection, assist in identifying meter installation coordinates using the GIS mapping system, and better fix power interruptions. Improvement was also made to the OMS system, GIS mapping system, and weather forecast for coordination with the SCADA (Supervisory Control and Data Acquisition) system so that the power interruption repairs may be closely monitored, thus resulting in faster work. Moreover, electricity billing was improved with a barcode system developed to enable customers to make payment via ATM as another payment channel. PEA has also developed the e-Tax invoice/e-Receipt system. Using a smart-card reader, customers' complaints can be lodged onto the system connected to the Department of Provincial Administration's database, resulting in a shorter process, cost-saving, and shorter waiting time. Customers' needs can thus be promptly responded. In 2021, PEA operated the "PEA Speedy Meter Installation Project", serving low-voltage (less than 30 ampere) meter installation to upgrade the standard of meter installation in communities, within one day (against two days previously) and meter installation outside communities, within three days (against five days previously). This move has helped customers access power more readily.

PEA also relieved the public's, entrepreneurs', and farmers' expenditure for access to electricity by waiving the expenses for construction of power systems for the first 140 meters and implementing the New Rural Household Electrification Project along with a plan to speed up electrification for agricultural areas as previously defined.

PEA catered to the public policy of promoting electric vehicles (EVs) by launching 73 charging stations in 42 provinces under the PEA VOLTA brand; amended its rules for installing a second meter for EV users to lower their costs for enlarging electrical wiring into homes; and catered to customers' needs for charging stations by allowing them to use the power rates for EV charging stations under the ERC's low-priority management condition. For this matter, customers can monitor news and PEA's announcements through the social media at:

Facebook: <http://www.facebook.com/Provincial.Electricity.Authority>

Twitter: https://twitter.com/pea_thailand



5.2 Downstream Business Services

PEA has set up supplementary and new businesses to support customers and enhance its power services both in and outside Thailand. Scaled up from developed capacity for resource consumption and expertise, these include construction and installation of power systems and repair and maintenance service, expertise service, electrical equipment sale and rental service, energy management, asset management, and new businesses, with more information available at www.pea.co.th. In 2021 PEA posted a total of 7,030.44 million baht in revenue from these.

5.3 Affiliates

1. Supply generation business

To date, PEA ENCOM has jointly invested in this business in 10 projects:

- Solar farm – with Solar Power Co., Ltd., at four sites, namely Surin 1, Surin 2, Loei 2, and Khon Kaen 10, each with an installed capacity of 7.5 MW. Commercial transmission to the grid has already started.
- Bacho Biogas – with Thai Serm Suk Energy Co., Ltd., at Tambon Khok Khian, Amphoe Mueang, Narathiwat, with an installed capacity of 2 MW. Wastewater and organic matters discharged from a palm oil extraction process fuel power generation. Commercial power link-up was done on 16 July 2019.
- A joint investment with Encom Waste-to-Energy (Phra Nakhon Si Ayutthaya) Co., Ltd., in using waste power generation.
- Pracharath (civil-state) power plants for three southernmost provinces under a biomass community power plant plan involving two projects, one in Mae Lan (Pattani) and another in Bannang Sata (Yala).
- A joint venture in the IPS power plant in R E N Korat Energy Co., Ltd., with Ratch Group Plc and Navanakorn Plc to supply electricity and steam to plants in the Navanakorn Industrial Zone in Nakhon Ratchasima.
- Investment in B.Grimm Power (AIE-MPT) (an SPP) with B.Grimm Power Service (Laem Chabang) Co., Ltd., and Asia Industrial Estate Co., Ltd., Rayong, with an installed capacity of 280 MW. The SPP lies in the Rayong industrial estate.

2. Customer solutions businesses

Over the years, PEA ENCOM has jointly invested in five projects with business partners:

- A venture with Siam Elecrail Co., Ltd., for the development of a stable, integrated power system to support rail transport's with uninterrupted power supply
- A venture with Thai Digital Energy Development Co., Ltd., for a digital energy platform business involving alternative/renewable energy and other energy management businesses.
- A venture with Solar Finland Investment Co. and Finnish Fund for Industrial Cooperation (Finnfund) for the manufacturing of solar panels
- A venture in PEA Intelligent Technology Co., Ltd., to run the behind-meter business
- A venture in PEA ENCOM Smart Solutions Co., Ltd., for the solar energy business: installing people-sector and retail businesses solar cells, organizing training on solar-cell systems, and installing solar farms, solar floating panels, and smart-home equipment.





For 2021, PEA ENCOM's performance on the part of customer solutions is listed below.

- Five-year (2017-2021) investment plan for power generation systems from solar rooftops:

The investment goal is 200 MW with a budget of 8 billion baht (2 billion baht from PEA ENCOM and 6 billion baht from loans). The work done from 2017 to 2021 saw completion of construction and power link-up of about 23.61 MW, together with 74 MW of service contracts signed

- Consultation of engineering and efficient power management by securing energy-saving equipment of various systems for industrial works, business buildings, and residences.

In 2021, services were provided for various projects, including projects on power saving in the lighting systems of Central Motor Wheel (Thailand) Co., Ltd., and SAIC Motor-CP Co., Ltd.; the PEA LED Projects for Thai cultural tourist attractions at Wat Lahan Rai in Rayong, Wat Buddhanimitt in Kalasin, and Wat Huai Kaeo in Lop Buri.

- Construction and improvement of power substations and transmission lines: In 2021, PEA ENCOM ran a project on 115-kV transmission line construction to connect substations of B.Grimm Power (AIT-MTP) Co., Ltd. (BPAM), with the GSPP1 substation.

- A project to secure and install 62 EV charging stations: In 2021, PEA ENCOM constructed, procured, and installed 62 EV charging stations on the compounds of Bangchak gasoline service stations and PEA offices.

3. Support PEA businesses

A summary of performance outcomes in 2021 is found below:

- Training services to grow the knowledge of power and energy systems for various agencies (theoretical and practical) by expert teams from PEA and other agencies. A diverse range of curricula included "Work related to communication lines on PEA's external agencies", "Power system operating safety", and "Standards for power system installation and maintenance". In addition, it organized training for power laborers attached to the PEA Head Office on "Health, safety, and work environment 2011" and "Power system operating safety".

Given the prevailing circumstances of Covid-19 over the past year, PEA ENCOM shifted its service mode to the New Normal mode, with due regard for safety and social distancing for government and private agencies, and developed online training courses so that such training might take place.

- Contracting and management of power-system labor management: In 2021, PEA ENCOM secured the entire contractual labor for PEA

- Telecommunication business services: These represented joint ventures with business partners to engage in fiber optic services.



Awards of Pride

It was at both national and international levels that PEA garnered awards and certificates for its operations and achievements this year. PEA also earned AAA rating with a “Stable” outlook, attested by TRIS Rating, for a fourth consecutive year.

National Awards



• **The Outstanding State-Owned Enterprise (SOE) Awards 2021**, organized by the State Enterprise Policy Office (SEPO) under the “Sustainable Moving Towards the Next Normal” theme: PEA won a total of six awards:

- 1) Outstanding Corporate Leadership Award for a visionary leader who led the organization toward sustainable success with concrete achievements in core mission and systematic organization management and toward achieving the vision with efficiency.
- 2) Outstanding Information Disclosure and Transparency Award for commitment to good governance and ethics, morality, integrity, and transparency.
- 3) Digital Transformation Initiative Award in recognition of the promotion and driving toward a Digital State Enterprise, illustrating corporate direction toward Digital Utility.
- 4) Outstanding Corporate Social and Environmental Responsibility Award (for five consecutive years) for a renewable energy project for sustainable development and smooth co-existence with the community in Haitak village, Loei Province. The project also serves as a pilot project on the use of renewable and clean energy for the community and turns the area into an ecovillage, a new ecotourism attraction.
- 5) Outstanding Creativity and Innovation Award: Outstanding Innovation Category (for four consecutive years) for PEA’s “Universal SF6 Load Multipurpose Brake Switch” innovation to control the stability of the power distribution system. The innovation replaced products not available in the market.
- 6) Outstanding Services Award (for two consecutive years) for commitment to service development and product and service efficiency enhancement, catering to the needs of customers and commitment to providing services in an equal and fair manner to ensure convenience as well as prompt and easy access for the public.





• **The Public Sector Excellence Awards (PSEA), Public Service Category (Good Level) 2021**, organized by the Office of the Public Sector Development Commission (OPDC): PEA won two awards:

- 1) Service Development Award for the “One Tambon, One Electrician” Project, which provides opportunities to low-income earners to become local electricians, provide electrical repair service, and generate additional income for households as well as easy public access to these services to ensure safety and lower risks from electricity-related accidents.
- 2) Service Facility Upgrade Award for the “Prompt Power Meter Installation with PEA” Project by upgrading the scope of service and shortening service periods for new customers of low-voltage power meters of up to 30 amperes.



• **National G-Green Awards 2021**, organized by the Department of Environmental Quality Promotion under the Green Office Promotion Project: PEA was certified at the Green Offices with the G-Green logo: Excellent (G Gold) Level: 66 awards and Very Good (G Silver) Level: 2 awards.



• **Integrity and Transparency Award (ITA Award 2021)**, organized by the Office of the National Anti-Corruption Commission (NACC): PEA scored an overall 98.34, AA-rated, the top score of the past eight years, and ranked first among the units of the Ministry of Interior, first of state enterprises (energy sector), and sixth of all state enterprises.





- PEA won **the Sustainability Disclosure Award 2021**, organized by Thaipat Institute.

- **Government Easy Contact Center (GECC) Awards 2021**, organized by the Office of the Public Sector Development Commission (OPDC) and the Prime Minister’s Office: PEA’s 149 offices were certified easy contact centers (37 advanced, 112 basic).



- PEA won **the Online Red Cross Fair Contest Award 2021, State Enterprise and Independent Organization category**, under the “Great Experience, Great Fun in Every Dimension” theme.

- PEA won **the 2021 Excellent Practices Establishment on Occupational Safety and Health, National Level (Gold Level), First Year of Achievement**, organized by the Ministry of Labour.

- Honorary Certificate from the **Corporate Assessment for Fiscal Year 2021** (Sustainability Awards) under the project to promote moral community, organization, district and province of the National Moral Promotion Master Plan No. 1 (2016 – 2021) of the National Moral Promotion Committee.





International Awards



- **The Asia Responsible Enterprise Awards (AREA) 2021**, organized by Enterprise Asia: PEA won the Green Leadership Award for a pilot community project on sustainable renewable energy - Nong Sano Model (Towards the Renewable and Sustainable Energy Project).

- **The 48th International Exhibition of Inventions Geneva 2021 Award**, held in Geneva, Swiss Confederation: PEA received:

1. One Honorary Gold Medal: Tools for Changing High-Voltage Insulators with Curve (TCHIC)
2. Three Gold Medals: Automatic Transfer Voltage (ATV), Multipurpose Gear-Driven Set, and Power Meter and Current Transformer Tester (P-MAC)
3. Two Silver Medals: Single-Phase Tampering Tester, and the Automatic Steel Wire Straightening and Cutting Machine.



- **The 32nd International Inventions, Innovation & Technology Exhibition (ITEX) 2021**: an innovation contest held in Kuala Lumpur, Malaysia: PEA received:

1. Four Gold Medals: Communication Converter - RS232 Serial Communication to Wireless Converter Module based on LoRa Radio (BBLoraX), Portable Density Switch and Pressure Gauge Tester Kit, PEA Communication Network Test Tool (INSPECTOR), and PEA Comealong.
2. One Silver Medal: Power Flow Calculation Program with Online Power System Analysis "OPSA".



Analysis of Financial Position

For the year 2021, the Provincial Electrical Authority (PEA) grossed 509.487 billion baht in revenue, of which 483.747 billion baht was derived from power distribution. It posted 495.466 billion baht in expenditure, the bulk of which (428.283 billion baht) went into electricity purchase, and posted 14.021 billion baht in net profit, about 4.076 billion baht higher than the previous year.

PEA's assets totaled 487.478 billion baht, a surge of 28.839 billion baht (6.3 percent) from the previous year. This consisted of 104.461 billion baht in current assets and 380.017 billion baht in non-current assets, most of which (20.089 billion baht or 6.8 percent) were gains in property, plant, and equipment. Total liabilities amounted to 299.242 billion baht, about 16.993 billion baht (6 percent) up. This total consisted of 71.476 billion baht in current liabilities and 227.766 billion baht in non-current liabilities. Finally, equity this year amounted to 185.236 billion baht, a rise of 11.846 billion baht (6.8 percent).

PEA borrowed from domestic sources for investment in various plans/projects to sustain rising power demand, raise efficiency and security of power systems, cut losses in such systems, and preserve the surroundings and aesthetic scenery under government policy. Its approach was to primarily borrow from domestic sources in baht through bond issuance, which resulted in its foreign loans and domestic loans as of 31 December 2021, of 75 million baht (0.1 percent) and 127.146 billion baht (99.9 percent).





Key Current and Future Investments

Power System Development

Due to the lower cost of power generation from alternative/renewable energy, the higher capacity of digital technology, such as Cloud, Big Data, Blockchain, IoT, Storage, Artificial Intelligence, and disruptive innovation, as well as customers' shifted behavioral changes that prompt speedier access to data and service, electricity demand in the household and transport sectors is on the rise. Simultaneously, the market as well as energy and power generation industrial structure has shifted from "centralized generation" by electricity authorities or major producers to "distributed generation" from alternative/renewable energy. More and more retail customers have emerged. Power consumers, meanwhile, have changed their roles to "prosumers", who act as power producers and consumers alike. Therefore, accurate data and prompt response have become vital for efficient power management.

PEA has therefore mapped out a customer-centric business investment plan. Digital technology and advanced innovation have transformed it into a "Digital Utility" agency with a more intelligent distribution network. PEA must be capable of rapidly receiving and dispatching information, while sources of power distribution and loading must be well managed to rapidly maintain balance of electricity load and supply. The organization must also be able to process Big Data.

To mobilize PEA's development of power systems in line with its own vision and policies as well as those of the government, the Ministry of Interior, the Ministry of Energy, and related power agencies, PEA has defined three aspects of power systems:

- Full coverage of services with stable and reliable power systems
- Upgraded, sophisticated power grids
- Sustainable and environmentally friendly growth.

Power System Investment Planning

In view of the visions and policies of PEA, the government, the Ministry of Interior, the Ministry of Energy, and other agencies involving electrical power, and with due regard for PEA's financial status, an investment plan based on the power system development scope was mapped out. There were a total of 26 projects and six work plans, both already accomplished and in progress during 2021 and those scheduled for the next three years, under a total investment budget of 302,736.01 million baht.



1. Sixteen projects and four work plans, in progress and accomplished, in 2021

Project / Work Plan	Investment Budget (Million Baht)	Status
1. Transmission System and Substation Development Project – 9 th Stage (Phase 1)	7,060	86.01% completed
2. Transmission System and Substation Development Project – 9 th Stage (Phase 2)	4,540	77.89% completed
3. Transmission System and Substation Development Project – 9 th Stage (Phase 3)	15,085	81.46% completed
4. Transmission System and Substation Development Project – 9 th Stage (Phase 4)	4,485	77.90% completed
5. Distribution System Reliability Enhancement Project – 3 rd Stage	15,155	99.56% completed
6. Distribution System Dispatching Center Improvement Project	4,530	55.76% completed
7. Smart Grid in Pattaya City, Chon Buri Province, Project	1,069	100% completed
8. Transmission and Distribution Development Project – 1 st Stage	62,678.71	44.68% completed
9. Power System Development for Special Economic Zone Project – 1 st Stage: Tak, Sa Kaeo, Trat, Mukdahan, Songkhla, and Nong Khai Provinces	3,140	46.52% completed
10. Agriculture Electrification Project – 2 nd Stage	2,030	100% completed
11. Major Cities Power System Development Project – 1 st Stage	11,668.56	57.57% completed
12. Power System Development for Special Economic Zone Project – 2 nd Stage: Chiang Rai, Narathiwat, Nakhon Phanom, and Kanchanaburi Provinces	4,000	55.86% completed





Project / Work Plan	Investment Budget (Million Baht)	Status
13. New Rural Household Electrification Project – 2 nd Stage	6,565	66.56% completed
14. 115-kV Submarine Cable for Ko Samui, Surat Thani Province	2,130	24.41% completed
15. Transmission and Distribution System Development Project – 2 nd Stage	77,334	6.52% completed
16. Microgrid Development Project at Ko Pha-Luai Island, Surat Thani Province	172	Reviewing outcome of project construction contracting
17. Geographic Information System Plan – 3 rd Stage	2,090	99.20% completed
18. A Long-Term Plan for Construction of Underground Cable	1,350	16.29% completed
19. Development Plan for Power Interruption Analysis and Solution Center	22.44 128.30 705.00	1 st Stage (12 centers) accomplished 2 nd Stage (24 centers) accomplished 3 rd Stage (133 out of 134 centers), 99.25% completed
20. One Province, One Road Underground Power Cable System Improvement Plan to Commemorate H.M. the King	4,300	48.97% completed
Total investment budget for projects and plans, both in progress and accomplished, during 2021		230,238.01



2. Ten projects and two work plans scheduled for the next three years

Project / Work Plan	Investment Budget (Million Baht)	Status
1. Major Cities Power System Development Project – 2 nd Stage	4,073	Project presentation in progress, with the Cabinet's endorsement expected in 2023
2. Agriculture Electrification Project – 3 rd Stage	4,500	Project implementation scope being drafted
3. New Rural Household Electrification Project – 3 rd Stage	6,500	Project implementation scope being drafted
4. Power System Security Enhancement Project, 1 st Stage	12,700	Project implementation scope being drafted
5. Construction and Improvement of Low-Voltage Distribution System Project – 1 st Stage	18,900	Project implementation scope being drafted
6. Power System Development Project on Islands Project (12 islands)	6,630	FS and IEE in progress
7. Power System Reinforcement by Submarine Cable to Electrified Island Project (four islands)	2,507	FS and IEE in progress
8. Smart Grid Development Project	7,355	Project implementation scope being drafted
9. Grid Modernization Development Project – 1 st Stage	3,725	Project implementation scope being drafted
10. Electrification for Non-electrified Households with Renewable Energy Project	3,280	Project implementation scope being drafted
11. Microgrid Development Plan – 1 st Stage	278	Project implementation scope being drafted
12. Long-term Plan for Construction of Underground Cable, 2 nd Stage	2,050	Plan under presentation. Cabinet approval is expected by 2023.
Total investment budget for projects/plans for implementation in the next three years	72,498	





Expected outcomes

Below are the expected benefits from these development plans:

1. Complete electrification of all service areas with system stability and reliability

PEA envisions its power supply system expanded across all service areas. Electrification with full coverage would lead to people's higher quality of life, rural people's access to power supply and basic services required for raising their quality of life, access to education, and economic development on a par with other countries. PEA has now expanded its power system to cover 99% of all service areas.

2. Power grid modernization

PEA expects to see efficient power supply service by leveraging modern technology to enhance power system stability and reliability for customer satisfaction. The power industry has continually transformed in structure and operations, prompted by the growing number of power producers, disruptive technology, consumers turning into prosumers, and adoption of digital technology.

3. Sustainable and green growth

With modern technology, PEA expects to keep developing its power system (its core mission) and expand system coverage to all service areas. Moreover, it recognizes the need for service quality improvement as well as standard and sustainable power distribution. In sustainably implementing projects, one needs to give due regard for the environment, society, and economy. These elements must evolve in balance so that the country may achieve "sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987).

Application of modern technology, digital technology, and other supporting technology to the power supply system would affect the life-cycle assessment of various products in the grid. Equipment maintenance plans can be made fast and accurate while operating efficiency can be raised, thus reducing repair work and increasing equipment durability. Various technologies would also support the establishment of a digital platform for devising customers' power consumption plans and making efficient connection between retail power producers using alternative/renewable energy and the grid on a par with connection with major power plants. This would lower the need to construct massive power generation plants.



Key Information Report

Item	2021	2020	Increment/(Decrement)	
			Amount	Percent
Sales and Rendering of services (Million Baht, MB)	497,247	473,168	24,079	5.09
Other income (MB)	12,240	16,942	(4,702)	(27.75)
Operating expenses (MB)	491,565	476,195	15,370	3.23
Other expenses (MB)	3,901	3,970	(69)	(1.74)
Net profit (MB)	14,021	9,945	4,076	40.99
Investment in property (MB)	50,132	48,622	1,510	3.11
Loans (MB)	127,221	107,439	19,782	18.41
Net assets (MB)	484,478	455,639	28,839	6.33
Number of customers	21,257,532	20,734,717	522,815	2.52
Total electricity sales units, incl. free-of-charge electricity (Million units)	139,687	134,868	4,819	3.57
Average distribution unit (Units/customer)	6,571	6,504	67	1.03
Peak demand of electrical power (MW)	21,282	20,001	1,281	6.40
Electricity purchase (Million units)	147,737	142,676	5,061	3.55
- Purchase	147,650	142,586	5,064	3.55
- Self-generation	87	90	(3)	(3.33)
Transmission system (Circuit-km)	14,719	13,527	1,192	8.81
High-voltage distribution system (Circuit-km)	331,889	323,898	7,991	2.47
Low-voltage distribution system (Circuit-km)	507,211	493,105	14,106	2.86
PEA offices	946	946	0	0.00
PEA employees	28,168	28,372	(204)	(0.72)
PEA hired workers	5,669	6,063	(394)	(6.50)
Number of villages nationwide	74,317	74,317	0	0.00
Number of electrified villages	74,295	74,295	0	0.00
Percentage of electrified villages	99.97	99.97	0	0.00





Electricity Customers

(Cases)

Category	2021	2020	2019	2018	2017
Residential (<150 kWh)	9,510,131	9,821,425	9,992,167	10,073,417	9,982,438
Residential (>150 kWh)	9,247,681	8,487,467	7,824,239	7,377,065	7,119,077
Small General Service	1,720,379	1,681,395	1,665,138	1,639,386	1,610,008
Medium General Service	83,111	82,605	80,928	77,285	74,266
Large General Service	7,511	7,351	7,043	6,812	6,625
Specific Business Service	11,941	13,688	14,152	12,896	12,530
Non-Profit Organization	1,000	1,063	1,076	1,131	1,305
Agricultural Pumping	5,627	5,871	5,879	5,484	5,046
Temporary Service	397,788	371,422	352,046	331,913	312,699
Standby Rate	99	98	95	82	64
Interruptible Rate	4	4	4	4	3
Electric Vehicles (EVs)	11	1	0	0	0
Free- of- charge electricity*	272,249	262,327	251,098	243,279	236,718
Total	21,257,532	20,734,717	20,193,865	19,768,754	19,360,779
Customer increment (%)	2.52	2.68	2.15	2.11	2.47
Increment index (2017 = 100%)	109.80%	107.10%	104.30%	102.11%	100.00%

Remarks: *Free-of-charge electricity consists of electricity for 1) PEA's office buildings and power stations, 2) highways and public utilization, 3) veteran affairs' utilization, 4) guesthouses, and 5) others, including sports grounds, security and safety purposes, disaster relief, and royal events.



Distribution units by customer type:

(Million Units)

Category	2021	2020	2019	2018	2017
Residential (<150 kWh)	8,104	8,942	8,088	8,110	8,141
Residential (>150 kWh)	30,415	28,225	26,817	23,969	23,192
Small General Service	13,964	13,911	14,075	13,347	13,035
Medium General Service	21,708	21,554	22,409	21,756	21,157
Large General Service	56,522	53,115	56,151	57,018	56,729
Specific Business Service	2,530	3,094	4,533	4,309	4,183
Non-Profit Organization	71	71	77	71	66
Agricultural Pumping	398	417	468	365	298
Temporary Service	896	925	976	942	977
Standby Rate	153	109	176	112	80
Interruptible Rate	1,635	1,487	1,540	1,936	1,925
Low Priority	0	0	0	0	0
Electric Vehicles (EVs)	0	0	0	0	0
Free- of- charge electricity*	3,291	3,018	2,869	2,739	2,618
Total	139,687	134,868	138,179	134,674	132,401
Customer increment (%)	3.57	(2.40)	2.60	1.72	2.10
Increment index (2017 = 100%)	105.50	101.86	104.36	101.72	100.00

Power Economics Division

As of 23 February 2022





Distribution Units by Type (Excluding Free-of-Charge Electricity)

(Million Units)

Type	2021	2020	2019	2018	2017
Commercial and industrial	96,512	93,270	98,884	98,478	97,109
Residential and other tariff rates	39,884	38,580	36,426	33,457	32,674
Total	136,396	131,850	135,310	131,935	129,783
Increment (%)	3.45	(2.56)	2.56	1.66	2.01
Increment index (2017 = 100%)	105.10%	101.59%	104.26%	101.66%	100.00%

Fiscal Year	Commercial and Industrial		Residential and other tariff rates		Total	
	Million Units	%	Million Units	%	Million Units	%
2017	97,109	74.82	32,674	25.18	129,783	100.00
2018	98,478	74.64	33,457	25.36	131,935	100.00
2019	98,884	73.08	36,426	26.92	135,310	100.00
2020	93,270	70.74	38,580	29.26	131,850	100.00
2021	96,512	70.76	39,884	29.24	136,396	100.00

Remarks: Commercial and industrial customers include small, medium, and large general services, specific business service, standby rate, and interruptible rate.

Residential and other tariff rates include residential (<150 kWh), residential (>150 kWh), government sector and non-profit organizations, electricity for agricultural pumping, and temporary service



Purchase Unit and Self-Generation

Power Generation and Purchase

(Million Units)

Source	2021	2020	2019	2018	2017
PEA-Generated	87	90	85	105	105
Power Purchased from: EGAT	136,255	131,558	134,602	131,861	130,252
Department of Alternative Energy Development and Efficiency (DEDE)	71	47	73	103	112
Very Small Power Producers (VSPPs)	11,232	10,887	11,159	10,131	8,981
Solar PV Rooftops	92	94	98	96	98
Total	147,737	142,676	146,017	142,296	139,548

Employees

Employees by Educational Accomplishment

(Persons)

Degree	2021	2020	2019	2018	2017
Bachelor and higher degrees	9,232	9,219	9,190	9,148	8,949
Diploma - high vocational certificate	16,238	15,939	16,006	15,785	15,409
Vocational certificate - Grade 12	2,286	2,687	3,232	3,933	4,484
Others	412	527	657	793	993
Total	28,168	28,372	29,085	29,659	29,835



A person in a dark suit stands with their back to the camera on a rooftop. They are looking out over a city skyline at night. The city lights are visible, and a digital network of glowing lines and nodes is overlaid on the scene, connecting various points across the city. The sky is dark with some clouds, and the overall color palette is dominated by purples, blues, and oranges from the city lights.

PEA Executives 2021

PEA Executives 2021



Supachai Ek-un

Position Governor

Age 56

Educational Institute

Kasetsart University: Master of Engineering (Safety Engineering)

Khon Kaen University: Master of Business Administration

King Mongkut's Institute of Technology North Bangkok:

Bachelor of Science in Technical Education (Electrical Engineering)

Previous Position

- 17 Aug. 21 - Governor
- 1 Oct. 20 - Deputy Governor (Engineering)
- 1 Oct. 19 - Deputy Governor (Electricity Authority Region 3)
- 12 Nov. 18 - Executive Director, PEA Area 1 (Phra Nakhon Si Ayutthaya Province), Region 3

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Khemmarat Sartpreecha

Position Deputy Governor (Office of the Governor)
Age 59

Educational Institute

National Institute of Development Administration:
 Master of Public Administration (Management for Executives)
 Khon Kaen University: Bachelor of Engineering
 (Electrical Engineering)

Previous Position

1 Oct. 19 - Deputy Governor (Office of the Governor)
 1 Feb. 19 - Deputy Governor (Business Development),
 Acting Chief Executive Officer,
 PEA ENCOM International Co., Ltd.
 1 Oct. 17 - Deputy Governor (Office of the Governor),
 Acting Chief Executive Officer,
 PEA ENCOM International Co., Ltd
 - Executive Director, PEA Area 2
 (Chon Buri Province), Region 3
 1 Oct 16

Directorship of other organizations:

Acting Chief Executive Officer, PEA ENCOM International Co., Ltd.

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Pibulrach Wonglamai

Position Deputy Governor (Office of the Governor)
Age 59

Educational Institute

Chulalongkorn University

Previous Position

1 Oct. 21 - Deputy Governor (Office of the Governor)
 1 Oct. 20 - Assistant Governor
 (Organization Management - Legal)
 1 Oct. 17 - Director, Legal Office
 1 May 17 - Director, Litigation and
 Investigation Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Wichean Punyawanchgul

Position Deputy Governor
(Planning and Power System Development)

Age 58

Educational Institute

King Mongkut's Institute of Technology North Bangkok:
Master of Engineering (Industrial Management)
Bachelor of Engineering (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Deputy Governor
(Planning and Power System Development)
- 1 Oct. 20 - Deputy Governor
(Electricity Authority Region 3)
- 1 Oct. 19 - Executive Director, PEA Area 2
(Chon Buri Province), Region 3
- 12 Nov. 18 - Executive Director, PEA Area 3
(Nakhon Pathom Province), Region 3

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Panumart Limsuwan

Position Deputy Governor (Corporate Strategy)

Age 57

Educational Institute

Ramkhamhaeng University: Master of Business Administration
Rajamangala University of Technology:
Bachelor of Engineering (Electrical Power)

Previous Position

- 1 Oct. 20 - Deputy Governor (Corporate Strategy)
- 1 Oct. 19 - Deputy Governor (General Service)
- 12 Nov. 18 - Deputy Governor (Corporate Social Responsibility)
- 1 Oct. 15 - Executive Director, PEA Area 2 (Nakhon Si Thammarat Province), Region 4

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Chardchai Poomrin

Position Deputy Governor
(Business and Marketing)

Age 57

Educational Institute

National Institute of Development Administration:
Master of Public Administration (Public Administration)

King Mongkut's Institute of Technology North Bangkok:
Bachelor of Science in Technical Education
(Electrical Engineering)

Previous Position

- 1 Oct. 20 - Deputy Governor (Business and Marketing)
- 1 Oct. 19 - Deputy Governor (Corporate Strategy)
- 1 Oct. 17 - Executive Director, PEA Area 2 (Chon Buri Province), Region 3
- 1 Oct. 16 - Expert Level 13, Office of the Governor

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Junya Wattanakul

Position Deputy Governor
(Electricity Authority Region 1)

Age 58

Educational Institute

Burapha University: Master of Public Administration
(Public Policy)

King Mongkut's Institute of Technology Ladkrabang:
Bachelor of Industrial Technology
(Industrial Instrumentation Technology)

Previous Position

- 1 Oct. 20 - Deputy Governor
(Electricity Authority Region 1)
- 12 Nov. 18 - Executive Director, PEA Area 3
(Lop Buri Province), Region 1
- 1 Oct. 15 - Director, Operation and Maintenance
Department, PEA Area 3
(Nakhon Pathom Province), Region 3

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Nutthawat Akararungruengkul

Position Deputy Governor
(Electricity Authority Region 2)

Age 58

Educational Institute

Ramkhamhaeng University: Master of Business Administration
College of Technology and Vocational Education:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 20 - Deputy Governor
(Electricity Authority Region 2)
- 1 Oct. 19 - Executive Director, PEA Area 3 (Nakhon Ratchasima Province), Region 2
- 12 Nov. 18 - Executive Director, PEA Area 2 (Ubon Ratchathani Province), Region 2
- 1 Oct. 15 - Director, Operation and Maintenance Department, PEA Area 2 (Ubon Ratchathani Province), Region 2

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Sompong Dumrongongtragool

Position Deputy Governor
(Electricity Authority Region 3)

Age 58

Educational Institute

Chiang Mai University: Master of Business Administration
College of Technology and Vocational Education Thewet Campus: Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 21 - Deputy Governor
(Electricity Authority Region 3)
- 1 Oct. 20 - Assistant Governor,
PEA Area 2 (Central), Chon Buri Province
- 1 Oct. 19 - Executive Director,
PEA Area 3 (Nakhon Pathom Province),
Region 3
- 1 Oct. 15 - Director, Business Planning
Department, Region 4

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Sumlit Chotibun

Position Deputy Governor
(Electricity Authority Region 4)

Age 58

Educational Institute

College of Technology and Vocational Education :
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 20 - Deputy Governor
(Electricity Authority Region 4)
- 12 Nov. 18 - Executive Director, PEA Area 3
(Yala Province), Region 4
- 1 Oct. 16 - Director, Engineering and Service,
PEA Area 3 (Yala Province), Region 4
- 18 Mar. 15 - Director, Operations and Maintenance
Department, PEA Area 3 (Yala Province),
Region 4

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Praphan Srinoun

Position Deputy Governor (Engineering)

Age 58

Educational Institute

Chiang Mai University:
Master of Economics
Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 21 - Deputy Governor (Engineering)
- 1 Oct. 20 - Assistant Governor, PEA Area 1
(Chiang Mai Province), Region 1
- 1 Oct. 19 - Executive Director, PEA Area 1
(Chiang Mai Province), Region 1
- 1 Oct. 17 - Director, Operation and Maintenance
Department, PEA Area 1
(Chiang Mai Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Kriengsak Kittiprapas

Position Deputy Governor (ICT)

Age 58

Educational Institute

Kasetsart University: Master of Business Administration
College of Technology and Vocational Education:
Bachelor of Business Administration (Information System)

Previous Position

1 Oct. 21 - Deputy Governor (ICT)
1 Oct. 20 - Assistant Governor (ICT)
1 Oct. 19 - Expert Level 13, Office of the Deputy
Governor (ICT)
1 Oct. 17 - Director, Information System
Development and Support Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Pasuta Kunsorn

Position Deputy Governor
(Construction and Project Management)

Age 58

Educational Institute

Ramkhamhaeng University: Master of Business Administration
Sukhothai Thammathirat Open University:
Bachelor of Public Administration (Public Administration)
Ratchathani College of Technology:
Bachelor of Industrial Technology (Electrical Engineering)

Previous Position

1 Oct. 21 - Deputy Governor
(Construction and Project Management)
1 Oct. 20 - Assistant Governor (Office of the Governor),
Acting Executive Vice President,
PEA ENCOM International Co. Ltd.
- Director, Substation Construction
Department
20 Mar. 18 - Deputy Director, Substation
Construction Department
1 Oct. 15 - Deputy Director, Substation
Construction Department

Directorship of other organizations:

Executive Director, PEA ENCOM International Co. Ltd.

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Pramote Sudsap

Position Deputy Governor
(Operation and Maintenance)

Age 58

Educational Institute

College of Technology and Vocational Education:
Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 21 - Deputy Governor
(Operation and Maintenance)
- 1 Oct. 20 - Assistant Governor
(Office of the Governor),
Acting Executive Vice President
PEA ENCOM International Co., Ltd.
- 1 Oct. 17 - Assistant Governor
(Operation and Maintenance)
- 18 Mar. 15 - Director, Power System Control and
Operation Department

Directorship of other organizations:

Executive Director, PEA ENCOM International Co. Ltd.

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Cheewin Phattanakhuha

Position Deputy Governor (Organization Support)

Age 59

Educational Institute

National Institute of Development Administration, Yonok
University: Master of Public Administration (Public
Administration)

Chiang Mai University: Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 20 - Deputy Governor (Organization Support)
- 1 Oct. 19 - Deputy Governor
(Business Development)
- 12 Nov. 18 - Executive Director, PEA Area 1
(Chiang Mai Province), Region 1
- 1 Oct. 17 - Director, Engineering and Service
Department, PEA Area 1 (Chiang Mai
Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Suchat Chothikatherakul

Position Deputy Governor (Accounting and Finance)
Age 60

Educational Institute

Ramkhamhaeng University:
Bachelor of Business Administration (Finance and Banking)

Previous Position

- 1 Oct. 19 - Deputy Governor (Accounting and Finance)
- 1 Oct. 17 - Assistant Governor (Accounting and Finance)
- 1 Oct. 16 - Director, Finance Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Pinyo Thongjerm

Position Deputy Governor
(Organization Management)
Age 59

Educational Institute

Walailak University: Master of Business Administration
King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Deputy Governor (Organization Management)
- 1 Oct. 20 - Assistant Governor, PEA Area 2 (South), (Nakhon Si Thammarat Province), Region 4
- 12 Nov. 18 - Executive Director, PEA Area 2 (Nakhon Si Thammarat Province), Region 4
- 23 Jan. 18 - Director, Engineering and Service Department, PEA Area 2 (Nakhon Si Thammarat Province), Region 4

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Sasiwipa Ampornsittikul

Position Assistant Governor (Office of the Governor)
Age 56

Educational Institute

Kasetsart University: Bachelor of Science (Accounting)

Previous Position

- 1 Oct. 20 - Assistant Governor (Office of the Governor)
- 1 Oct. 19 - Director, Office of the Governor
- 1 Oct. 17 - Director, Governor Affairs Department
- 1 Oct. 16 - Deputy Director, Governor's Affairs Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Surapong Chaimongkol

Position Assistant Governor (Office of the Governor)
Age 58

Educational Institute

National Institute of Development Administration:
 Master of Public Administration (Public Administration)
 King Mongkut's Institute of Technology North Bangkok:
 Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor (Office of the Governor)
- Director, Engineering and Service Department, PEA Area 1 (Chiang Mai Province), Region 1
- 1 Oct. 20 - Director, Engineering and Service Department, PEA Area 3 (Lop Buri Province), Region 1
- 12 Nov. 18 - Deputy Director, Operations and Maintenance Department, PEA Area 1 (Chiang Mai Province), Region 1
- 1 Jan. 15 - Deputy Director, Operations and Maintenance Department, PEA Area 1 (Chiang Mai Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Chakri Kitbuncha

Position Assistant Governor (Office of the Governor)
Age 54

Educational Institute

Ramkhamhaeng University: Master of Business Administration (Executive Management)

Sripatum University: Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor (Office of the Governor)
- 1 Oct. 20 - Director, Transmission and Distribution System Work Department
- 1 Oct. 19 - Director, Generation System Maintenance Department
- 1 Oct. 15 - Deputy Director, Substation and Power System Maintenance Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Anake Jensai

Position Assistant Governor (Internal Audit)
Age 59

Educational Institute

Ramkhamhaeng University: Bachelor of Business Administration (Finance and Banking)

Previous Position

- 1 Oct. 21 - Assistant Governor (Internal Audit)
- 12 Nov. 18 - Director, Support Process Audit Department
- 1 Oct. 16 - Deputy Director, Support Process Audit Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Wirote Buaklee

Position Assistant Governor (Digital)
Age 49

Educational Institute

Kasetsart University: Doctor of Engineering (Electrical)
 Chulalongkorn University: Master of Engineering (Electrical)
 King Mongkut's Institute of Technology Thonburi:
 Bachelor of Engineering (Electrical)

Previous Position

1 Oct. 20 - Assistant Governor (Digital)
 1 Oct. 19 - Assistant Governor (Corporate Strategy)
 12 Nov. 18 - Director, Power System Research and
 Development Department
 1 Apr. 15 - Deputy Director,
 System Planning Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Pongsakorn Yuthagovit

Position Assistant Governor
 (Planning and Power System Development)
Age 46

Educational Institute

Sasin Graduate Institute of Business Administration,
 Chulalongkorn University: Master of Business Administration /
 Executive
 Chulalongkorn University: Master of Engineering (Electrical)

Previous Position

1 Oct. 19 - Assistant Governor
 (Planning and Power System Development)
 1 Oct. 17 - Director, System Planning Department
 1 Apr. 15 - Deputy Director,
 System Planning Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Pradit Fuangfoo

Position Assistant Governor (Corporate Strategy)

Age 49

Educational Institute

University of Texas at Arlington: Doctor of Philosophy (Electrical Engineering)

Chulalongkorn University: Master of Engineering

Kasetsart University: Bachelor of Engineering (Electrical)

Previous Position

1 Oct. 20 - Assistant Governor (Corporate Strategy)
 1 Oct. 19 - Assistant Governor (Human Resources)
 23 Jan. 18 - Director, Human Resource Development
 1 Apr.15 - Deputy Director, Human Resource Development

Directorship of other organizations:

Committee, Center of Excellence in Electrical Power Technology

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Udomsak Temwong

Position Assistant Governor (Corporate Strategy - Corporate Affairs)

Age 54

Thepsatri Rajabhat University: Master of Business Administration (General Management)

King Mongkut's Institute of Technology North Bangkok: Bachelor of Industrial Education (Electrical Engineering)

Previous Position

1 Oct. 21 - Assistant Governor (Corporate Strategy - Corporate Affairs)
 12 Nov. 18 - Director, Operations and Maintenance Department, PEA Area 3 (Lop Buri Province), Region 1
 1 Oct. 15 - Deputy Director, Operations and Maintenance Department, PEA Area 3 (Lop Buri Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Mongkol Treekijjanon

Position Assistant Governor (Business and Marketing)
Age 54

Educational Institute

Suranaree University of Technology:
Doctor of Engineering (Energy Management)
Master of Engineering (Environmental)

Institute of Technology and Vocational Education:
Bachelor of Science in Technical Education
(Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor (Business and Marketing)
- 1 Oct. 20 - Assistant Governor, PEA Area 2 (Northeast), Ubon Ratchathani Province, Region 2
- 1 Oct. 19 - Executive Director, PEA Area 2 (Northeast), Ubon Ratchathani Province, Region 2
- 1 Oct. 17 - Director, Business Planning Department, Region 2

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Mongkolchai Prachborvorn

Position Assistant Governor (Engineering)
Age 58

Educational Institute

King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Technology (Industrial Electricity)

Previous Position

- 1 Oct. 21 - Assistant Governor (Engineering)
- 1 Oct. 20 - Director, Substation Work Department
- 1 Oct. 19 - Director, Transmission and Distribution System Work Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Thitirat Plasarn

Position Assistant Governor (ICT)

Age 54

Educational Institute

Dhurakij Pundit University: Master of Science
(Telecommunication Management)

Rangsit University: Bachelor of Business Administration
(Business Computer)

Previous Position

1 Oct. 21 - Assistant Governor (ICT)
1 Oct. 19 - Director, ICT Department
1 Oct. 17 - Deputy Director, ICT Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Samkan Santhavesuk

Position Assistant Governor
(Construction and Project Management)

Age 57

Educational Institute

Ramkhamhaeng University: Master of Business Administration

King Mongkut's Institute of Technology Ladkrabang:
Bachelor of Engineering (Electrical)

Previous Position

1 Oct. 21 - Assistant Governor
(Construction and Project Management)
12 Nov. 18 - Director, Power System Construction
1 Oct. 15 - Deputy Director, Operations
and Maintenance, PEA Area 2
(Ubon Ratchathani Province), Region 2

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Theera Srimai

Position Assistant Governor
(Operation and Maintenance)

Age 53

Educational Institute

Southeast Asia University: Bachelor of Engineering
(Electronics)

Previous Position

- 1 Oct. 20 - Assistant Governor
(Operation and Maintenance)
- 1 Oct. 19 - Expert Level 13, Office of the Deputy
Governor (Operation and Maintenance)
- 1 Oct. 17 - Director, Power System Control and
Operation Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Gromasak Kanttong

Position Assistant Governor
(Organization Support)

Age 55

Educational Institute

Ramkhamhaeng University:
Master of Business Administration (Logistics Management)
Bachelor of Arts (Political Science)

Previous Position

- 1 Oct. 20 - Assistant Governor
(Organization Support)
- 1 Oct. 19 - Assistant Governor (General Service)
- 1 Oct. 16 - Director, Administration Department
- 1 Jun. 14 - Deputy Director, Supply Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Isares Chensupakarn

Position] Assistant Governor
(Accounting and Finance)

Age 58

Educational Institute

Ramkhamhaeng University:
Master of Business Administration (Accounting)
Bachelor of Business Administration (Accounting)

Previous Position

1 Oct. 19 - Assistant Governor
(Accounting and Finance)
1 Oct. 16 - Director, Accounting Department
1 Jan. 14 - Deputy Director,
Accounting Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Monchai Danuphoboriboon

Position Assistant Governor (Organization
Management-Human Resource)

Age 54

Educational Institute

National Institute of Development Administration:
Master of Arts (Social Development)
Prince of Songkla University:
Bachelor of Arts (Social Development)

Previous Position

1 Oct. 20 - Assistant Governor (Organization
Management - Human Resources)
12 Nov. 18 - Director, Human Resource Strategy
Department
1 Oct . 17 - Deputy Director (Organization
Management - Human Resources)

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Jakarit Anurit

Position Assistant Governor
(Organization Management- Legal)

Age 59

Educational Institute

Kasetsart University: Master of Business Administration

Chulalongkorn University: Bachelor of Laws

Previous Position

- 1 Oct. 21 - Assistant Governor (Legal)
- 1 Oct. 17 - Director, Litigation and Investigation Department
- 1 Jan 17 - Deputy Director, Litigation and Investigation Department

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Nakorn Chotika

Position Assistant Governor
(Provincial Electricity Authority Area 1
(North) Chiang Mai Province)

Age 58

Educational Institute

Chiang Mai University: Master of Economics

Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 1 (North), Chiang Mai Province
- 1 Oct. 20 - Assistant Governor, PEA Area 3 (North), Lop Buri Province
- 12 Nov. 18 - Director, Engineering and Service Department, PEA Area 1 (Chiang Mai Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Prasert Jaicharoensub

Position Assistant Governor
(Provincial Electricity Authority Area 2
(North) Phitsanulok Province)

Age 58

Educational Institute

National Institute of Development Administration:
Master of Public Administration

King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 2 (North), Phitsanulok Province
- 1 Oct. 19 - Executive Director, PEA Area 2 (North), Phitsanulok Province
- 12 Nov. 18 - Expert Level 13,
Office of the Deputy Governor
(Electricity Authority Region 1)

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Songkran Chutitanateerakun

Position Assistant Governor
(Provincial Electricity Authority Area 3
(North) Lop Buri Province)

Age 58

Educational Institute

Khon Kaen University: Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 3 (North), Lop Buri Province
- 1 Oct. 16 - Director, Engineering and Service Department, PEA Area 2 (Phitsanulok Province), Region 2
- 1 Oct. 15 - Director, Engineering and Service Department, PEA Area 3 (Lop Buri Province), Region 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Wijarn Klungboonkrong

Position Assistant Governor
(Provincial Electricity Authority Area 1
(Northeast) Udon Thani Province)

Age 57

Educational Institute
Khon Kaen University: Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 1
(Northeast), Udon Thani Province
- 1 Oct. 15 - Director, Engineering and Service
Department, PEA Area 3 (Nakhon
Ratchasima Province), Region 2
- 1 Mar. 13 - Deputy Director, Network Operation,
PEA Area 3 (Nakhon Ratchasima
Province)

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Perapon Puranachot

Position Assistant Governor
(Provincial Electricity Authority Area 2
(Northeast) Ubon Ratchathani Province)

Age 55

Educational Institute
College of Technology and Vocational Education:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 2
(Northeast), Ubon Ratchathani Province
- 1 Oct. 20 - Director, Operation and Maintenance
Department, PEA Area 2
(Chon Buri Province), Region 3
- 12 Nov. 18 - Director, Engineering and Service
Department, PEA Area 2
(Chon Buri Province), Region 3

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Prasit Junprasit

Position Assistant Governor
(Provincial Electricity Authority Area 3
(Northeast) Nakhon Ratchasima Province)

Age 56

Educational Institute
King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 3 (Northeast), Nakhon Ratchasima Province (Electrical Power Function), Region 2
- 1 Oct. 20 - Director, Operation and Maintenance Department, PEA Area 2 (Chon Buri Province), Region 3
- 12 Nov. 18 - Director, Engineering and Service Department, PEA Area 1 (Udon Thani Province), Region 2

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None

Khajorn Prongfa

Position Assistant Governor
(Provincial Electricity Authority Area 1
(Central) Phra Nakhon Si Ayutthaya
Province)

Age 55

Educational Institute
Kasetsart University: Master of Business Administration
Mahanakorn University of Technology:
Bachelor of Industry (Power Engineering)

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 1 (Central), Phra Nakhon Si Ayutthaya Province
- 1 Oct. 19 - Executive Director, PEA Area 1 (Phra Nakhon Si Ayutthaya Province), Region 3
- 12 Nov. 18 - Director, Operation and Maintenance Department, PEA Area 3 (Nakhon Pathom Province), Region 3

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Montre Yantrawattana

Position Assistant Governor
(Provincial Electricity Authority Area 2
(Central) Chon Buri Province)

Age 57

Educational Institute

Burapha University: Master of Public Administration
(Public Policy)

College of Technology and Vocational Education:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 2
(Central), Chon Buri Province (Electrical
Power Function), Region 3
- 1 Oct. 20 - Assistant Governor, PEA Area 3
(Northeast), Nakhon Ratchasima Province
- 1 Oct. 19 - Director, Operation and Maintenance
Department, PEA Area 2
(Chon Buri Province), Region 3

Directorship of other organizations: None

**Shareholding in energy-related companies and businesses of
over 5% of all voting shares:** None

**Procurement / hiring agreement with PEA for a starting
amount of 100 million baht (including service as nominee of
the company as a director or shareholder):** None

Pukdee Wongsaporm

Position Assistant Governor
(Provincial Electricity Authority Area 3
(Central) Nakhon Pathom Province)

Age 57

Educational Institute

Khon Kaen University: Bachelor of Engineering (Electrical)

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 3
(Central), Nakhon Pathom Province
- 12 Nov. 18 - Executive Director, PEA Area 1
(Udon Thani Province), Region 2
- 1 Oct. 16 - Director, Operation and Maintenance
Department, PEA Area 2
(Phitsanulok Province), Region 1

Directorship of other organizations: None

**Shareholding in energy-related companies and businesses of
over 5% of all voting shares:** None

**Procurement / hiring agreement with PEA for a starting
amount of 100 million baht (including service as nominee of
the company as a director or shareholder):** None





Phaitool Ratanakorn

Position Assistant Governor
(Provincial Electricity Authority Area 1
(South) Phetchaburi Province)

Age 58

Educational Institute

King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 1 (South), Phetchaburi Province
- 1 Oct. 19 - Executive Director, PEA Area 1 (Phetchaburi Province), Region 4
- 1 Oct. 17 - Director, Engineering and Service Department, PEA Area 1 (Phetchaburi Province), Region 4

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None



Jumnian Boonkaew

Position Assistant Governor
(Provincial Electricity Authority Area 2
(South) Nakhon Si Thammarat Province)

Age 57

Educational Institute

King Mongkut's Institute of Technology North Bangkok:
Bachelor of Industrial Education (Electrical Engineering)

Previous Position

- 1 Oct. 21 - Assistant Governor, PEA Area 2 (South), Nakhon Si Thammarat Province
- 1 Oct. 20 - Director, Engineering and Service Department, PEA Area 3 (Yala Province), Region 4
- 1 Oct. 16 - Manager, PEA Hat Yai District Class 1

Directorship of other organizations: None

Shareholding in energy-related companies and businesses of over 5% of all voting shares: None

Procurement / hiring agreement with PEA for a starting amount of 100 million baht (including service as nominee of the company as a director or shareholder): None





Suparp Kasiwong

Position Assistant Governor
(Provincial Electricity Authority Area 3
(South) Yala Province)

Age 58

Educational Institute

Prince of Songkla University: Bachelor of Engineering
(Electrical)

Sukhothai Thammathirat Open University:
Bachelor of Public Administration (Public Administration)
Bachelor of Economics

Previous Position

- 1 Oct. 20 - Assistant Governor, PEA Area 3 (South),
Yala Province
- 23 Jan. 18 - Director, Operation and Maintenance
Department, PEA Area 3 (South),
Yala Province
- 1 Oct. 16 - Director, Engineering and Service
Department, PEA Area 2 (Nakhon
Si Thammarat Province), Region 4

Directorship of other organizations: None

**Shareholding in energy-related companies and businesses of
over 5% of all voting shares:** None

**Procurement / hiring agreement with PEA for a starting
amount of 100 million baht (including service as nominee of
the company as a director or shareholder):** None



Engagement in PEA's Related-Party Transactions

The Provincial Electricity Authority (PEA) requires the Board of Directors and senior management to disclose their respective related-party transactions in order to disclose their shareholding (securities or shares) in PEA-related businesses potentially leading to conflicts of interest between themselves and the common good. Below are the disclosure guidelines:

1) The Board of Directors (including the Governor): Report shareholding in energy-related companies exceeding 10 percent of the total voting shares of such companies as well as hiring and procurement items involving PEA with a ceiling of 100 million baht or more

2) Senior management (deputy governors and assistant governors): Comply with PEA's 2021 rules on prevention of conflicts of interest with PEA by reporting position holding of management or other posts in agencies with competing interests with those of PEA, securities portfolios of energy-related companies exceeding 5 percent, and hiring and procurement items involving PEA with a ceiling of 100 million baht or more.

In addition, PEA commands a review of related-party transactions by assigning its Internal Audit Bureau to examine such transactions between business partners and all employees. To this end, the bureau analyzes data under the SAP system for matching addresses and names ("address matches") between the addresses and names of vendors engaging in business with PEA against the addresses and names of employees each year. The written findings are to be reported to the Governor, the Audit Committee, and the Board by 31 March of the following year.



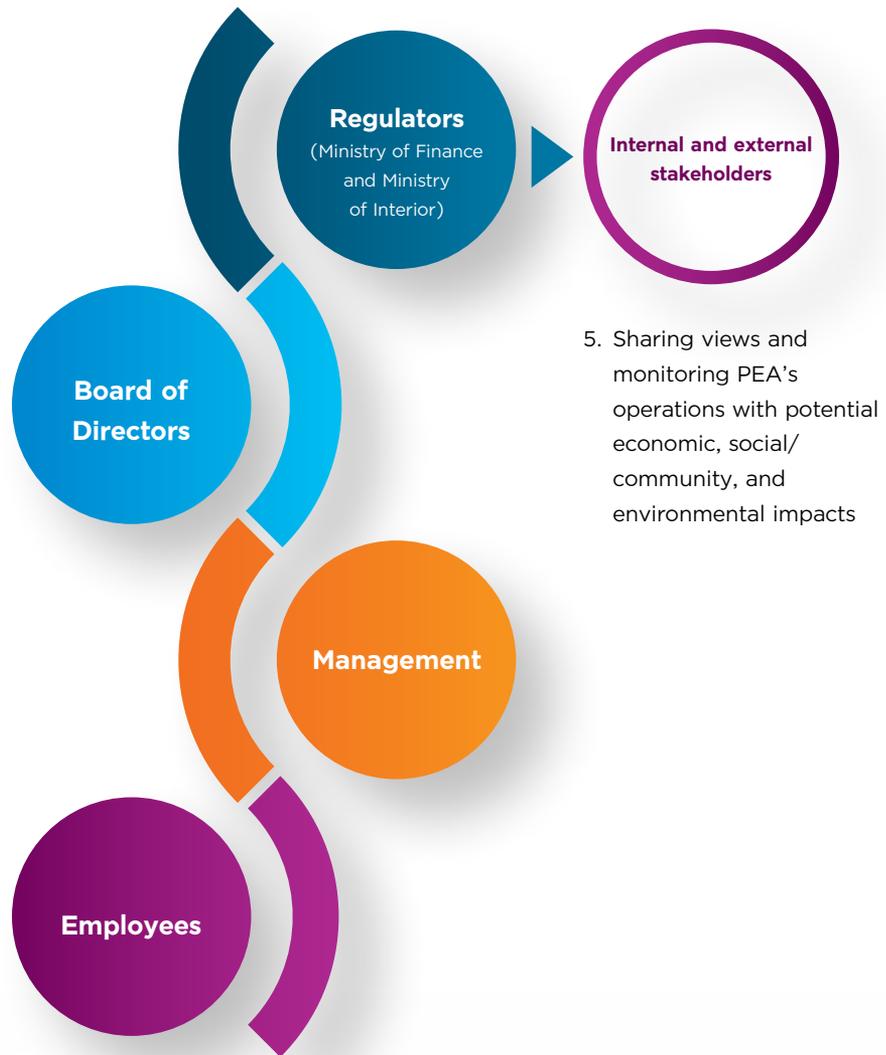


Corporate Governance, Risk Management, and Compliance (GRC)

Corporate Governance

The Provincial Electricity Authority (PEA) satisfies the government policy that promotes public administration with good governance, transparency, and accountability by declaring a policy on administration and development titled “Good Governance: Business Conduct with Good Governance, Transparency, and Accountability”. Digital technology is to be used for establishing monitoring and assessment processes with stakeholder engagement encouraged. Integrity with systematic governance and corporate social values (CSVs) are to also be developed for sustainability in parallel throughout the entire ecosystem. PEA also focuses on business management under cooperation from all parties involved, namely the regulators, the Board of Directors, management, employees, and external stakeholders, to ensure understanding and concrete implementation of the code.

1. Setting directions as well as financial and non-financial goals as could be expected from the establishment of PEA
2. Overseeing management to ensure their utmost management capability with ethics to achieve expectations by the regulators
3. Upholding operational excellence underlined by business ethics to achieve successful outcomes under the scope of the Board of Directors
4. Working at their full potential with ethics under the management of the PEA Governor and management



5. Sharing views and monitoring PEA's operations with potential economic, social/ community, and environmental impacts



Corporate Governance Policy

PEA bases its organizational development on the code, concepts, and guidelines for good corporate governance (CG) on a par with international standards. This move will bring about achievement under the code, transparency, and accountability to drive sustainable growth. To ensure that the Board, management, and employees are aware of and abide by these principles, PEA announced its CG Policy with the following objectives:

1. PEA's corporate governance must conform to the CG Code, the Principles and Guidelines for Corporate Governance for the State Enterprise Office B.E.2562 (2019), and guidelines set by the State Enterprise Policy Office (SEPO). It is expected that PEA will command competitiveness and performance with long-term perspectives doing an ethical and responsible business toward good corporate citizenship with corporate resilience.

2. The Board of Directors, executives, and all employees must conform to the **measures for promoting transparency and anti-corruption** described below:

2.1 Disclosure of information: PEA must disclose its financial and non-financial data in a transparent, accurate, complete, timely, and auditable manner. It must also value and treat all stakeholders equitably and fairly.

2.2 Stakeholder engagement: PEA must advocate systems, measures, or guidelines for stakeholders' monitoring and voicing views about its operations and services.

2.3 Advocacy of transparency: Hiring, procurement, and supply sourcing must be in strict compliance with applicable laws and regulations. Hiring and procurement details must be announced through all legally required channels.

2.4 Whistleblowing management: PEA must provide channels for complaints, comments, and whistleblowing for incidents suspected of fraud or breach of business ethics. It must assure whistleblowers of protection and fair treatment, keeping them from any threat or unfair act.

2.5 Prevention of bribery: PEA must not give or receive bribes, engage in direct or indirect conflicts of interest, or ignore any action considered a fraud. This is deemed part of the responsibilities of the Board, management, and all PEA employees.

2.6 Prevention of conflicts of interest between personal gain and the common good: PEA must institute regulations and guidelines as well as an IT system to prevent conflicts of interest.

2.7 Audit of discretionary exercise: PEA must set out guidelines to ensure employees' compliance with manuals and standards to minimize subjective decisions.

3. All directors of the Board, management, and all employees must **strictly comply with the CG Code and guidelines** as well as laws and regulations, ordinances, and announcements concerning anti-corruption.

4. Directors of the Board and management must **behave ethically and serve as role models** for all employees. They are also required to maintain an ambience that embraces the Sufficiency Philosophy while encouraging their staff to comply with laws and business ethics.





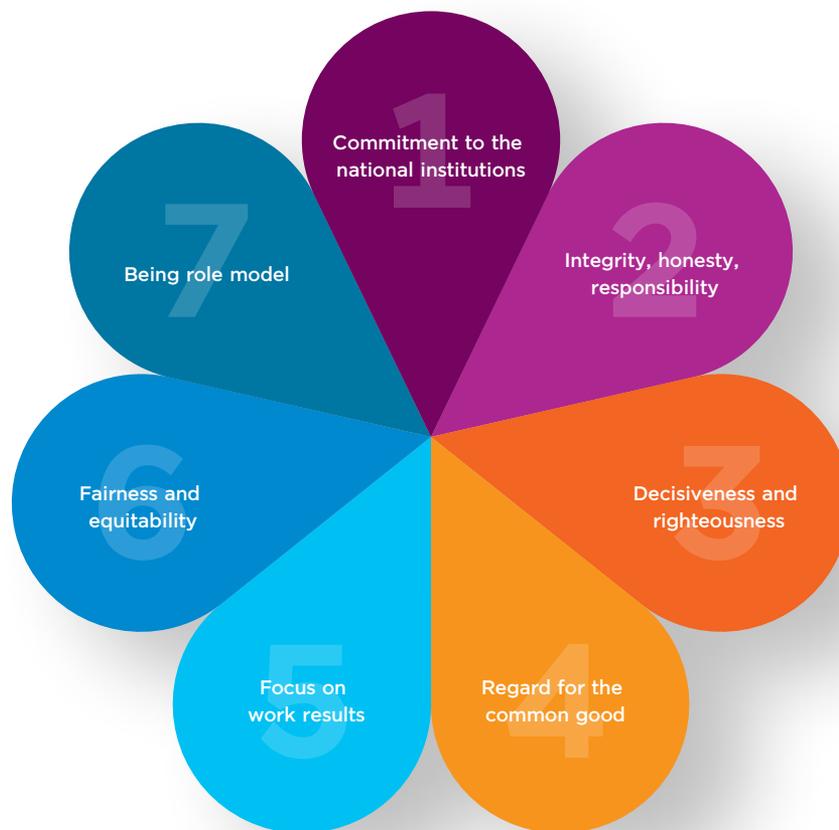
5. PEA must apply digital technology for **establishing a monitoring and internal-control process**, a key tool for overseeing and assessing transparency, anti-corruption, and risk prevention performance while earnestly enhancing efficiency in the process to detect and punish violators.

Ethics for Stakeholder Treatment

PEA values business administration with integrity, which aligns with such moral standards as righteousness, ethics, and decent custom, considered part of a set of values driving its secure growth, enhancing its corporate image, and fostering good relationship with all stakeholders. It therefore issued guidelines for business ethics and a code of conduct for directors, executives, and all employees to abide by.

Core Values

1. **Compliance with the Ethical Standard Act B.E. 2562 (2019), Section 1 (Ethical Standard and Code of Ethics) and Section 5 (Ethical Standard), which consist of:**



2. Stakeholder treatment

PEA is responsible for power supply that is efficient, stable, safe, and reliable by performing its duties with honesty and efficiency with due regard for the interests of all stakeholders.

1. Guidelines for treating regulators and the public sector

- Perform duties with integrity and make prudent and fair decisions for optimal results
- Provide regular, complete, and factual updates about PEA
- Report PEA's outlook, both positive and negative

2. Guidelines for treating customers and power users

- Deliver quality products and services
- Provide accurate, sufficient, and timely information to customers
- Systematically maintain the confidentiality of customers' information and refrain from exploiting it for their own or related parties' gain

3. Guidelines for treating communities, society, and the environment

- Comply with laws and regulations concerning safety, occupational health, society, and the environment at all sites
- Devise preventive and corrective measures to counter socio-environmental impacts caused by PEA's operations
- Engage communities, society, and all stakeholders in activities and projects and allow them to voice concerns about PEA's operations

4. Guidelines for treating the media

- Disclose information equally to the media
- Provide quick and timely information
- Offer the media close-up opportunities to meet PEA executives

5. Guidelines for treating business partners

- Do not solicit, receive, or pay for any dishonest benefit
- In case a demand, acceptance, or payment of dishonest benefit is identified, take corrective actions fairly and promptly
- Strictly honor all agreed terms
- Promote fair competition

6. Guidelines for treating the Board of Directors

- Ensure that the Board is equipped with competence and skills (Skill Matrix) required for steering PEA's business toward key goals and mission
- Define a systematic process for selecting directors from SEPO's Directors' Pool
- Encourage all committees to strictly follow PEA's regulations on Meetings and Directors' Roles and Responsibilities B.E. 2554 (2011), charter, and manual for the Board, of which regular assessment is to be made for individuals and committees throughout the year





7. Guidelines for treating employees and internal units

- Treat employees with politeness and respect for individuality and human dignity
 - Value employees' competency development and provide each with equal opportunities
 - Listen to employees' views and comments while encouraging exchange of opinions
 - Promote teamwork and mutual respect
 - Comply strictly with laws and regulations concerning employment
 - Provide fair compensation
 - Promote a work-supportive ambience and environment
-

8. Guidelines for treating affiliates

- Define clear business directions for PEA's affiliates, both short and long terms
 - Oversee the operations of PEA's affiliates to ensure proper operating standards and goal attainment in a sustainable manner under PEA's Way of Conduct (WOC)
-

9. Guidelines for treating competitors

- Observe a healthy competition scope
 - Refrain from exercising unlawful monopoly or discrimination
 - Promote fair market competition with a focus on accomplishing missions with maximum efficiency
-

10. Guidelines for treating creditors

- Engage in lawful, fair, and transparent contracts with all creditors
 - Never opt for dishonest methods or conceal material information or facts that may compromise creditors' interests
 - Strictly and honestly honor all agreed terms with creditors
 - Arrange repayment plus interest to all creditors on time and at the agreed amounts
-



3. Compliance with laws and public policies

PEA cooperates with the government by complying with policies, laws, regulations, and ordinances.

Promotion of Corporate Governance

PEA commands a Master Plan for Corporate Governance and Prevention and Suppression of Fraud and Corruption (B.E. 2560-2564) (2017-2021) (Revision 4 B.E. 2564 (2021)), designed to scope its execution of CG work. In the master plan are defined CG strategies and execution plans for the prevention and suppression of fraud and corruption, properly analyzed for congruence with prevailing indicated scopes. The master plan consists of four strategies:

Supervision and Promotion		Prevention and Suppression	
Strategy 1 Heighten intention for management under CG Code	Strategy 2 Enhance CG knowledge, society, and culture	Strategy 3 Heighten CG standard and proactive fraud prevention system	Strategy 4 Establish participation in processes and tools for efficient prevention, suppression, vigilance, monitoring, auditing, and punishment

CG Performance Outcomes

Strategy 1: Heighten intention for management under CG Code

In 2021, training and activities involving CG and anti-corruption were continually arranged for members of the Board and subcommittees, including a lecture titled “Good Governance and Prevention and Suppression of Fraud in State Enterprises”, given by Prof. Vicha Mahakun, Dean of Faculty of Laws, Rangsit University, and an offsite meeting to deliver policies and engage with provincial staff.





Strategy 2: Enhance CG knowledge, society, and culture

PEA held activities to promote good governance along with a culture that values morality, integrity, ethics, transparency, and anti-corruption in the operations, known as soft control, among 42,891 executives and employees. These activities stressed such topics as sufficiency philosophy, good governance, prevention of conflicts of interest, ethics standards, transparent procurement and information disclosure, as well as the investigation process and punishment for fraud. Also arranged during the year was “CG testing”, assessment of awareness and application of CG, culture, and values of morality, integrity, ethics, transparency, and anti-corruption in the operations among executives and employees. Feedback was received from 27,717, following the assessment, reflecting 99.58% of the workforce. As high as 95.04% of CG awareness was achieved against the target of 95%.

Strategy 3: Heighten CG standard and proactive fraud prevention system

PEA has since 2014 taken part in a project entitled “Integrity and Transparency Assessment” (ITA). In the 2021 assessment, we scored 98.34% with a rating of AA, topping all agencies attached to the Ministry of Interior and all state enterprises of the energy and public utilities group and securing the sixth ranking among all state enterprises (the highest ranking in eight years after joining the assessment). We upgraded our CG e-System efficiency by investigating ways to integrate and develop a CG profile database of executives and employees. The database provides individual information about his/her CG performance. It also benefits integration of the GRC (Governance, Risk Management and Compliance) work and development of PEA personnel at 12 regional offices’ Information Centers. Our personnel, at least one from each regional office, would attend training with those from the Office of the Official Information Commission (OIC), Office of the Permanent Secretary, Prime Minister’s Office. They would then be tasked with providing knowledge about the Information Act to community people across the country at least once a quarter.

Strategy 4: Establish participation in processes and tools for efficient prevention, suppression, vigilance, monitoring, auditing, and punishment

In 2021 we introduced a mechanism for fraud vigilance and monitoring so that fraud prevention, monitoring, and investigation, as well as punishment, can be concretely carried out. Key information systems described below were developed and reviewed:

1. Sustainable Transparency Reporting and Monitoring System (STRMS)
2. Review of database of duties and responsibilities (PICSA) established from integration of internal control and the PEA Transparency standard
3. Whistleblowing system.

We also set up a PEA Transparency Network to support cooperation between internal personnel and the civil society in closely monitoring fraud. The network currently has 13 branches, namely the 12 PEA Regional Offices and Head Office, of which members total 41,430: 23,559 internal and 17,781 external.



Policy on Conflicts of Interest

Our regulation on Conflicts of Interest B.E. 2560 (2017) prevents internal fraud more efficiently and effectively in line with the criteria for transparency assessment of the Office of the National Anti-Corruption Commission (NACC). It requires executives, employees, and contract employees (with a two-year employment contract) to steer clear of conflicts of interest.

1. Never accept or sympathize with relatives in accepting any benefits, be they assets, gifts, discount offers, entertainment, services, training, or the likes which may influence decision-making
2. Never take part in any contract that one's company or a company of one's relative made with PEA
3. Never spend time otherwise designed for PEA's causes seeking personal or others' gain
4. Never exploit PEA's internal information for seeking benefit through any means either by oneself or in collaboration with others
5. Never exploit PEA's assets for personal or others' interests
6. Never abuse one's authority to influence decision-making by other PEA personnel, thus compromising PEA's interests
7. Never abuse one's position in seeking benefits for oneself or one's relatives or associates, or accept employment as an adviser of projects involving one's responsibility.

Guidelines for Preventing Conflicts of Interest

- Increase process efficiency to prevent conflicts of interest so as to ensure alignment with laws, regulations, and international standards while improving PEA's regulation on Prevention of Conflicts of Interest B.E. 2564 (2021) for use as guidelines by senior management, executives, employees, and contract employees (with a two-year employment contract). The aim is to ensure mastery and adherence to integrity, transparency, and fairness, which support reliable decision-making and behavior that values the common good rather than personal interests or those of friends and relatives
- Apply risk management, internal control, and internal audit systems to minimize risk, while regularly monitoring issues concerning conflicts of interest every year
- Define values and ethical behaviors that recognize organizational interests rather than personal interests, while organizing activities promoting moral awareness to avoid conflicts of interest
- File a written report on conflicts of interest – a rule that directors of the Board, senior management, executives, employees, and contract employees (with a two-year employment contract) must adhere to and strictly follow. Such report must be complete, accurate, reliable, and timely, inclusive of oneself, spouse, and other family members.
- Regarding transactions connected to people inside PEA, the Board will closely monitor such engagement to ensure their transparency and fairness on an arm's length basis. Directors, executives, and employees in such engagement must refrain from the approval process of such transactions.
- Disclose policies, principles, guidelines, and outcomes of conflict-of-interest prevention to the public every year through various channels, such as www.pea.co.th and the annual report.





Conflicts of Interest Reporting Process

PEA's regulation on Prevention of Conflicts of Interest between Personal Interests and the Common Good B.E. 2564 (2021), dated 1 October 2021, requires senior management, executives, employees, and contract employees (with a two-year employment contract) to file a report on conflicts of interest (COI Reporting) as follows:

1. Senior management, executives, employees, and contract employees (with a two-year employment contract) are required for COI Reporting in three cases:

Case 1: Annual reporting

Case 2: With each appointment, transfer, promotion, and recruitment

Case 3: With each conflict of interest that happens during the year. An exception is made only for such reasonable causes as when the person is on a study leave, on suspension from the job, or on ordination leave.

2. Senior management are required to file a report on related transactions in addition to that concerning conflicts of interest.

3. Senior management, executives, employees, and contract employees (with a two-year employment contract) having accepted an asset, gift, discount offer (except a sales promotion or marketing privileges equally offered to the public), entertainment, service, training (except training favoring the organizer), or the likes, worth over 3,000 Baht, for which the recipient must report such advantage that can have monetary value.

4. Those involved in PEA's key processes, which means work groups with risks of fraud or conflicts of interest, are to file an additional report as required by PEA's guidelines using the specified form.

COI Reporting is a proactive measure to prevent conflicts of interest. When an employee or a contract employee (with a two-year employment contract) is found to engage in a conflict of interest, the supervisor must bar that person from the approval process or his/her involvement in the process with risk of conflicts of interest, such as the procurement process of a project or an activity of his/her own, family members, relatives and/or friends.



Corporate Social Environmental Responsibility

PEA is committed to providing electricity services and expanding power distribution to remote areas to ensure nationwide electrification in parallel with awareness of corporate social environmental responsibility (CSR), both internal and external. In 2021, socio-environmental tasks planned by all work units were reviewed and integrated with a focus on clearer stakeholder management so that their demands and expectations could be properly responded and aligned with the ISO 26000 standard, which comprises seven main topics detailed below:

1. Organizational Governance

In our socio-environmental operations, PEA maintains compliance with laws, regulations, ethics, and a code of conduct. The National Strategy, the 12th National Economic and Social and Development Plan, policies of the Ministry of Interior, policies of the Corporate Governance and Sustainable Development Committee, policies of the PEA Governor, provincial electricity strategic plans, and ISO 26000 standards have provided guidelines for control, review, and formulation of the CSR in-Process Master Plan to raise the standards of all work processes.

We hold an annual workshop that facilitates analysis into strengths, weaknesses, opportunities, and threats facing our CSR. The attempt encourages all employees to master the principles and approaches of CSR in-Process and CSR after-Process. We command a process to prevent and minimize impacts caused by our products and services as well as our operations facing both internal and external stakeholders. Assessment is made on work results, while feedback is valued for raising work efficiency.

In 2021 PEA drew up a master plan on stakeholder management for 2021-2025 while integrating operating plans/projects for creating shared values (CSVs) with special attention paid to CSR in-Process and innovation for communities and the environment. Our models of operations have been designed to better respond to stakeholders' needs in each area, including a plan to promote renewable energy for tourism and safety, a plan to encourage community enterprises to adopt clean energy, and a plan to support technical research and development of innovation for communities.





2. Human Rights

We respect human rights. Our organizational management and operations conform to the National Action Plan on Business and Human Rights (NAP) phase 1 B.E. 2562-2565 (2019-2022) to ensure equitable treatment of stakeholders throughout the value chain in terms of labor, community, land, natural resources, the environment, and human right defenders.

In 2020 we declared our intention to implement measures to prevent and solve problems of sexual abuse or sexual harassment in the workplace, which provides clear guidelines and mechanisms for complaint management. We have since 2016 recruited disabled persons under Section 33 as both employees and contract employees, the total current number of whom (106) is fewer than that of the previous year due to termination of employment (such as retirement and early retirement). In addition to providing training to enhance skills and expertise, we arrange various welfare schemes to retain employees, including scholarships, maternity leave, childcare service, medical welfare for employees and family members, and medical services on PEA's own premises. We also exercise fair, transparent treatment throughout the organization. Employees and contract employees are provided with opportunities for career advancement with regular training provided without gender discrimination from the first day of employment until they reach higher positions. PEA commands fair criteria for personnel appointment and promotion, primarily considering one's skills and potential.

PEA has continuously paid attention to improvement of the quality of life of the underprivileged. We thus arranged such facilities as dedicated parking spaces, ramps, bridges between buildings, and automatic doors for the disabled and the elderly visiting PEA premises. PEA has also developed its website catering to the needs of the disabled to ensure their complete access to our information. In collaboration with the Universal Foundation for Persons with Disabilities, PEA initiated a project to provide careers for people with disabilities as guided by the Sufficiency Philosophy. Sales spaces dedicated to goods and services produced by the disabled are also provided at Head Office and regional offices, altogether 124 as of the end of 2021.

3. Labor Practices

Commanding a plan for personnel with competency and skills to efficiently grow in their career paths, PEA also provides a hygienic and safe workplace. Support and assistance are arranged for the workforce, such as welfare and benefits, as well as communication channels for them to express expectations and views to foster their satisfaction and engagement with the organization. Results of a survey showed that needs and expectations vary with the nature of work, which will be used to improve policies on welfare and benefits to better respond to their needs.

As safety, security, and occupational health is a vital issue, we take seriously improvement of the workplace to ensure a higher level of safety and hygiene. A committee on safety, occupational health, and workplace environment was set up at all worksites, currently numbering 224 committees. Committee representatives come from both employer and employee sides equally (50:50). Additionally, we have a work unit dedicated specifically to safety, occupational health, and the work environment. A proactive occupational health process is also readily available, which involves health risk assessment in areas of work where chemicals or hazardous substances are present, together with control of hazards from the operations and regular inspection and monitoring of workplace environment.



4. The Environment

Recognizing its responsibility for the environment in all its operating processes to prevent impacts on communities and the environment, PEA adheres to applicable laws, such as the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992). Before embarking on any construction project, PEA conducts an environmental impact assessment (EIA) around the area and holds a public hearing with community people and agencies concerned. The information obtained is analyzed for designing a suitable operating process and measures for control and monitoring of environmental impacts. To manage severe environmental impacts, PEA prepares an EIA report, subject to endorsement from the Cabinet and applicable agencies, namely the National Environmental Board and the Ministry of Natural Resources and Environment.

We have instituted an efficient ecosystem, taking into account value addition to products and services along with reduction in resource consumption and environmental impacts. To this end, we laid down measures to enhance organizational efficiency and reduce operating costs through less energy and resource consumption, while designing measures for reducing pollution. These measures include replacing air-conditioners with the inverter type, reducing the use of thermal paper and bond paper for receipt printing, replacing conventional light bulbs with the LED type, installing efficient power generators, promotion of environment-friendly procurement, garbage sorting to support reuse and recycling trends, reducing tap water consumption, reducing power consumption in office buildings, and curbing the vehicle fleet for lower diesel consumption. As a result, we managed to trim 5,646.14 tCO₂eq of greenhouse gases as reported by the Thailand Greenhouse Gas Management Organization (Public Organization).

PEA has run the Green Office Project since 2014 to encourage all its work units to recognize optimal use of resources, environment friendliness, and greenhouse gas reduction while getting prepared to become an environment-friendly organization of an international standard. To this end, we have been determined to encourage employees and contract employees to pay attention to sustainable environmental impact reduction, including reduction in the consumption of electricity, fuels, and water, while turning their focus to reusing materials to minimize waste, reducing and discontinuing the use of hazardous substances in the workplace to reduce disposal of hazardous waste into the environment and reduce greenhouse gases from PEA's operations. At the end of 2021, our Green Office Project, carried out at 301 work sites, won several awards, including gold awards (excellent) for 289 sites, silver awards (very good) for 11 sites, and a bronze award (good) for one site. PEA is planning to expand the Green Office Project to all its work sites nationwide by 2024.

5. Fair Operating Practices

We value fair treatment of all stakeholders. Measures have been laid down to prevent and suppress corruption. We also announced a good governance policy to promote transparency while introducing measures to promote transparency and anti-corruption (seven measures, 20 approaches), consisting of (1) information disclosure; (2) stakeholder engagement; (3) transparency promotion; (4) complaint management; (5) bribery prevention; (6) prevention of conflicts of interest; and (7) audit of discretionary exercise.





PEA reviewed its Good Governance and Anti-Corruption Master Plan 2017-2021 (Revision 4, 2021) and drew up four key strategies: (1) enhance PEA's commitment to the CG Code; (2) promote CG knowledge, society, and culture; (3) raise CG standards and a proactive anti-corruption system; and (4) encourage participation in suppression, monitoring, investigation, and punishment processes and mechanisms to achieve efficiency at an internationally accepted standard. We also announced a PEA Sustainable Transparency policy, which stresses six key operating principles: (1) rendering fair and accountable services; (2) disclosure of financial and non-financial information; (3) systematic complaint management; (4) anti-corruption and fraud prevention; (5) transparent oversight and monitoring of operating results; and (6) giving support to a civil society network.

In 2021 key activities were continually carried out, including introduction of a CG policy that expands the existing PEA Sustainable Transparency Plan; a plan to integrate its information system that improves CG operations, known as CG-eSystem; a work plan for monitoring and keeping the units where corruption was discovered informed about internal control; a plan for strict application of the public sector's procurement system to ensure accuracy, fairness, and auditability at all stages; a plan for enhancing the efficiency of the complaint management process at PEA's Anti-Corruption Operation Center; a plan to raise the CG standard of the IT system; a plan to develop a system for monitoring and investigating offenders (E-Investigate); a compliance roadmap; and a plan to ensure compliance for 2021-2023, as well as communication and training on policies and anti-corruption approaches to staff for all at PEA.

6. Consumer Issues

PEA regards consumers, or customers, as its key stakeholders. Therefore, a management plan and a system development plan were drawn up with emphasis on building and managing relationship with customers, becoming a Customer-Centric Organization, and recognizing Voice of Customers (VOCs), with the master plan on stakeholder management (2021-2025) already integrated to assist in the analysis of customer expectations so that activities, work plans, and projects could be systematically developed to meet the needs of all stakeholders, covering existing customers, previous customers, competitors' customers, and potential customers. We have provided five VOC channels, namely:

- 1) Voice-based channel – 1129 PEA Contact Center and office/executive phone numbers
- 2) Document-based channel – a letter/fax, news and information, policy introduction by executives and regulating agencies
- 3) Mass media and social network-based channel – PEA mobile application, PEA website, and PEA E-mail
- 4) Interactive-based channel – a visit to the office, dialogue, and customer relations activities
- 5) Survey-based channel – follow-up phone calls to gauge customer satisfaction within 15 days after three services are rendered (request for meter installation, request for expansion of low-voltage electrification area, and request for expansion of transformer installation area).

PEA has continuously expedited development of service offering through the Internet to facilitate customers' ready access to information, keeping pace with the digital world and sustaining the New-Normal lifestyle amid the spread of Covid-19. A mobile application on smart phones has thus been developed to provide various services, including PEA Care & Service, an application dedicated to providing a one-stop



service regarding checking, improving, and repairing power systems and electrical appliances that are convenient, safe, and standardized. The service is carried out by licensed indoor-circuit electricians from the “One Tambon, One Electrician” Project, one of our social service initiatives. PEA Smart Plus is another mobile application developed for providing various services, including billing, bill calculation, payment through credit cards and the online banking system, request for electrification, reinstallation of meters for overdue payment, power interruption notification, suggestions and recommendations, searching for service points, public relations, advertising supplementary services (such as payment notification through SMS), and providing PEA’s activity calendar.

7. Community Engagement and Development

PEA forged cordial relations with communities to identify problems and impacts from its operations, while providing proper knowledge about economical and safe use of electricity through the “PEA Safe Community” Project. The project, now clocking its ninth consecutive year, spreads helpful knowledge about economical and safe use of electricity to minimize risk of losses of lives and properties from improper use of electricity among general and PEA customers, namely public and private agencies, educational institutes, and community leaders. As part of the project, we provide training to students studying electrical power at lower and upper vocational levels, who will be assigned to check and improve power systems in communities under the purview of PEA nationwide to ensure safety.

We value community people’s access to power supply and encourage them to enhance their understanding of the need to use renewable energy amid higher demand in the future. The “Community Enterprise with Alternative/Renewable Energy” Project was thus initiated. As a result of community relations activities organized nationwide, we have learned local people’s problems, impacts that cause their concerns, and community needs. After finding out in 2021 that certain local communities still lacked professional electricians, we decided to carry on with the “One Tambon, One Electrician” Project, which started in 2017. We arranged training for these electricians so that they can serve their respective communities. The project not only created a career for community residents but also promoted cooperation between PEA staff and local communities, while fostering cooperation among government agencies. As a result of the satisfaction survey conducted in 2021, as high as 88.40% of project participants are happy with the benefit of the project.

Due to the spread of Covid-19, which affected people’s health across the country, PEA has been determined to ensure power supply stability for hospitals and areas providing public services so that medical treatment for patients and those with health risks can be continuously carried out at full capacity. PEA provided inspection of both main and back-up power systems and the power systems of hospitals under the Ministry of Public Health located in PEA’s service areas in 74 provinces. As additional support, PEA handed out drinking water and personal protective equipment (PPE), such as face masks, face shields, alcohol hand gel for hospitals, communities, and public health service areas in need.





Risk Management

Our Risk Management and Internal Control Committee aligns risk management practices with COSO-ERM 2017 and the State Enterprise Policy Office (SEPO) guidelines. Such practices also conform to PEA’s strategy, which identifies enterprise risk factors by considering internal and external factors that influence organizational objectives and goals. We also command an information system that supports risk analysis and impact reporting as well as an early warning system of impending incidents or hazards that may damage the organization. In addition, each responsible party for risk management is required to assess and report risk management outcomes to the Risk Management and Internal Control Committee every quarter. Should any risk assessment outcome miss its target or should any factor cause PEA to miss its objectives, the committee is to provide suggestions and recommendations, which PEA’s Risk Management function and the risk owner are to follow and adjust risk management strategies to keep foreseeable risks at an acceptable level (risk appetite).

Strategic Objective / Risk Factors

SO1	SO2	SO3	SO4	SO5
Strategic Objective				
Upgrading integrated CG to achieve sustainability	Aiming for operational excellence in all aspects in response to future power systems	Focus on responding to the needs of all stakeholders	Moving toward a non-regulated business by developing an advantaged portfolio	Modernizing the organization by leveraging human capital, digital technology, and innovation
Enterprise Risk Factors for 2020				
RF9: Impact on financial and operation liquidity should a new wave of Covid-19 occur	RF1: Total losses (percent) in the distribution system RF2: Quality of low-voltage power supply missing the target RF6: Monitoring of DG (only for VSPPs) for grid management missing the target RF8: Deficient number of meters for replacement due to the procurement plan of electronic meters to replace conventional meters (Electromechanical Induction Type Meter) missing the target	RF7: Data analytics still unable to create business value addition for the organization	RF3: Related businesses and mechanisms for overseeing and pursuing opportunities missing the target	RF4: Digital technology security (Cybersecurity) RF5: Personnel competency development with multi-skills and business mind in response to the transformed industrial structure missing the target



In 2021 PEA faced nine risk factors derived from its assessment of existing controls for each risk factor, as described below:

2021 Risk Factor	KRI	Risk Appetite	Risk Tolerance
1. Total losses (percent) in the distribution system	Percentage of total losses in the distribution system	5.40%	5.44%
2. Quality of low-voltage power supply missing the target	Success rate (percent) Set out transformer assessment criteria after completion of the planned maintenance; no complaint should arise within the defined timeframe	100%	95%
	Success rate (percent) Inspect the transformer installed furthest after improvement as planned; work should be completed to the desired standard	100%	95%
3. Related businesses and mechanisms for overseeing and pursuing opportunities missing the target	Success of the plan for related businesses	100%	97%
	Revenues from related businesses, except ENCOM	6.3 billion Baht	6.15 billion Baht
4. Digital technology security (Cybersecurity)	Plan to monitor information security under the ISO/IEC 27001:2013 standard (100 items)	100%	95%
5. Personnel competency development with multi-skills and business mind in response to the transformed industrial structure missing the target	Plan to raise competency of target groups of employees with new-skill / up-skill / re-skill development	90%	85%





2021 Risk Factor	KRI	Risk Appetite	Risk Tolerance
6. Monitoring of DG (only for VSPPs) for grid management missing the target	Success rate of RTU instillation for VSPPs (percent)	100%	90%
7. Data analytics still unable to create business value addition for the organization	Success in analysis and preparation of the database of potential customers (Strategic and Star) to define marketing strategy for related businesses	100%	99%
8. Deficient number of meters for replacement due to the procurement plan of electronic meters to replace conventional meters (Electromechanical Induction Type Meter) missing the target	Number of e-meters to be received	- Organization Support Function to take 1 st goods delivery by May 2021	- Organization Support Function to take 1 st goods delivery by November 2021
	Number of conventional meters (Electromechanical Induction Type Meter) in stock nationwide	- Operation and Maintenance Function to take 1 st goods delivery by July 2021	- Operation and Maintenance Function to take 1 st goods delivery by March 2022
9. Impact on financial and operation liquidity should a new wave of Covid-19 occur	Cash ending per quarter	Equal to replenishment for all categories	50% higher than safety stock (but not equal to replenishment)
		Higher than or equivalent to 12 billion Baht	No less than 7 billion Baht



Risk Management Performance

SO 1

Upgrading integrated CG to achieve sustainability

Enterprise risk issue

RF9: Impact on financial and operation liquidity should a new wave of Covid-19 occur

2021 Performance

PEA researched into the spread of Covid-19 around the world and foresees possible impacts, while looking into lessons learned from the first wave of the pandemic. PEA took note of possible impacts on itself and all stakeholders, which reflect their needs and expectations as well as their satisfaction.

SO 2

Aiming for operational excellence in all aspects in response to future power systems

Enterprise risk issues

RF1: Total losses (percent) in the distribution system

RF2: Quality of low-voltage power supply missing the target

RF6: Monitoring of DG (only for VSPPs) for grid management missing the target

RF8: Deficient number of meters for replacement due to the procurement plan of electronic meters to replace conventional meters (Electromechanical Induction Type Meter) missing the target

2021 Performance

As our prime mission is to provide stable power supply and, according to SO2, which aims for operational excellence in power supply, we value improvement of the quality of low-voltage electricity to the goal by 2021. We monitored the standard of the decentralized generation (DG) system to ensure our ability to raise power supply quality for stability, reliability, efficiency, and sufficiency, thus leading to power optimization and sustaining future utility and industrial restructuring. We also have a plan to replace conventional utility meters with electronic ones. The PEA Smart Grid Roadmap was drawn up in accordance with Thailand's 20-year Smart Grid Master Plan B.E. 2558-2579 (2015-2036) under the Ministry of Energy. We are closely monitoring and expediting the plan to ensure alignment of implementation with the master plan.





SO 3

Focus on responding to the needs of all stakeholders

Enterprise risk issue

RF7: Data analytics still unable to create business value addition for the organization

2021 Performance

In response to SO3, which focuses on catering to the needs of all stakeholders and which triggered the use of PEA's current customer database, we carried out data analytics, particularly those of high-value customers, and designed marketing strategies to expand business opportunities associated with high-value customers. Data analytics have therefore been developed to create value addition to the organization through cross-selling and up-selling with existing customers, followed by expansion to new customers. This requires PEA to get prepared for several vital issues, including setting up a database suitable for driving the organization according to each core strategy, a survey on adequacy and distribution of information for performing data analytics, and management of structured data that benefits data analytics to ensure that PEA can leverage the data to efficiently create value addition.

SO 4

Moving toward a non-regulated business by developing an advantaged portfolio

Enterprise risk issue

RF3: Related businesses and mechanisms for overseeing and pursuing opportunities missing the target

2021 Performance

PEA realizes the need to introduce an investment policy and the design of Potential Portfolio Strategies after performing a SWOT analysis to identify opportunities for forging business alliances and a network of public and private collaboration amid the shifting industrial structure that dictates business opportunities. Such opportunities embrace the power industry's value chain and SO4, which aims for becoming a non-regulated business by developing an advantaged portfolio. This will enable PEA to manage its overall investment in various businesses with mechanisms within PEA and affiliates to maximize sustainable business development to respond to power restructuring. To this end, operations of PEA affiliates through PEA ENCOM International Co., Ltd., and future affiliates will play a larger role as both key investors and co-investors with PEA's business partners. PEA therefore stresses related businesses and creation of processes and mechanisms for overseeing affiliates to ensure that their operations align with its strategies.





SO 5

Modernizing the organization by leveraging human capital, digital technology, and innovation

Enterprise risk issues

RF4: Digital technology security (Cybersecurity)

RF5: Personnel competency development with multi-skills and business mind in response to the transformed industrial structure missing the target

2021 Performance

By using digital technology, PEA assures all stakeholders of its operation security and reliability. This will be a springboard for driving the organization toward a Digital Utility, in terms of standard, data privacy, and cybersecurity. PEA values security of information and communication systems to bolster confidence in online communication and transactions. We also laid down measures and guidelines for service personnel nationwide about protection of personal rights and personal data of service applicants to ready the organization for the growth of digital technology. Measures for vigilance and cyber-threats were also properly formulated under international standards, particularly the protection of critical infrastructure to make it secure for operations, advocate networking to share cyber-threat data, and advocate awareness of cyber-threats. As PEA aims to become a digital utility fully adopting technology into its operations with emphasis on development of related businesses, it has in place a personnel development plan to fill each individual's competency gap. The Digital Competency-Based Assessment Model and development of target groups of staff according to their digital competency have been introduced to suit their career paths. A succession plan has already been drawn up for key positions in response to business requirements. Personnel development is also needed for keeping pace with technological transformation and the rapid change in the power industry.





BOARD OF DIRECTORS OF THE PROVINCIAL ELECTRICITY AUTHORITY 2021



Chatchai Phromlert, Chairman

(Directors' Pool 2018)

Age: 60

Position: Permanent Secretary for Interior, Ministry of Interior

Key work experience:

1. Director General, Department of Disaster Prevention and Mitigation
2. Governor, Lop Buri Province

Education:

1. Master of Public Administration, Chulalongkorn University
2. Bachelor of Political Science, Chulalongkorn University

Directorships of other organizations:

1. Chairman of the Board of Directors, Metropolitan Electricity Authority
2. Director, the Government Lottery Office

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution as Chairman of the PEA Board of Directors with effect from 28 October 2020 to 30 September 2021.





Danucha Pichayanon

(Directors' Pool 2020)

Age: 51

Position: Secretary-General, Office of the National Economics and Social Development Council

Key work experience:

1. Deputy Secretary General, Office of the National Economics and Social Development Council
2. Policy and Plan Advisor, Office of the National Economics and Social Development Council
3. Director, Bureau of the Analysis of Government's Investment Projects

Education:

1. Master of Science in Engineering Management, George Washington University, USA
2. Bachelor of Engineering, Chulalongkorn University

Directorships of other organizations:

1. Director, PTT Public Company Limited
2. Director, Bank of Thailand

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020



Yodphot Wongrukmit

(Directors' Pool 2020)

Age: 62

Position: Advisory Chairman, Nakhonchai Air Company Limited

Key work experience:

1. Senior Executive Advisor, Bangchak Corporation Public Company Limited
2. Senior Executive Vice President, Corporate Management and Sustainability Development, Bangchak Corporation Public Company Limited
3. Senior Executive Vice President, Corporate Administration and Information Technology, Bangchak Corporation Public Company Limited

Education:

1. Master of Business Administration, Middle Tennessee State University, USA
2. Bachelor of Economics, University of the Thai Chamber of Commerce (2nd Class Honors)

Directorships of other organizations:

1. Chairman, PEA ENCOM International Company Limited
2. Independent Director, Bless Asset Group

Shareholding in energy-related companies and businesses of above 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020





Gen. Parnuvach Narkavong

Age: 65

Position: Retired Government Official

Key work experience:

1. Senior Expert, Royal Thai Army
2. Deputy Chief of Staff, Royal Thai Army
3. Assistant Chief of Staff for Civil Affairs, Royal Thai Army

Education:

1. Master of Public Administration, National Institute of Development Administration (NIDA)
2. Command and General Staff College (CGSC RTA, Class 68)

Directorships of other organizations:

None

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020 to 17 May 2021

Patdikom Wongsuvan

(Directors' Pool 2016)

Age: 65

Position: Retired Government Official

Key work experience:

1. Director General, Department of Corrections
2. Deputy Director General, Department of Corrections
3. Prison Warden, Khlong Prem Central Prison

Education:

1. Master of Political Science, Thammasat University
2. Bachelor of Laws, Thammasat University

Directorships of other organizations:

Qualified Director on Law, Town and Country Planning Board

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 27 June 2018 to 22 March 2021





Thongchai Chawalitpicheat

Age: 59

Position: Director General,
Office of Industrial Economics

Key work experience:

1. Deputy Permanent Secretary, Ministry of Industry
2. Director General, Department of Industrial Works, Ministry of Industry

Education:

Bachelor of Engineering, Chiang Mai University

Directorships of other organizations:

Director, Export-Import Bank of Thailand

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020

Nikorn Susiriwattananont

(Directors' Pool 2018)

Age: 65

Position: Advisor, Renewable Energy Industry Club,
The Federation of Thai Industries

Key work experience:

1. Vice President, The Federation of Thai Industries
2. Chairman, Thai Iron and Steel Industry Club, The Federation of Thai Industries
3. Committee, The Iron and Steel Institute of Thailand

Education:

1. Master of Commerce, Thammasat University
2. Bachelor of Sociology and Anthropology, Thammasat University

Directorships of other organizations:

None

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020 to 29 June 2021





Sak Segkhoonthod

(Directors' Pool 2018)

Age: 55

Position: Consultant on Digital Transformation,
Electronic Transactions Development Agency

Key work experience:

1. President & CEO,
Digital Government Development Agency
2. Executive Vice President, Government Information
Technology Services (GITS), National Science and
Technology Development Agency (NSTDA)

Education:

1. Doctor of Philosophy (Electronic Systems Engineering),
Essex University, UK
2. Master of Computer Studies, Essex University, UK
3. Bachelor of Industrial Technology in Electronics,
King Mongkut's Institute of Technology Ladkrabang

Directorships of other organizations:

1. Director, PEA ENCOM International Company Limited
2. Director, Payment System Committee, Bank of Thailand

**Shareholding in energy-related companies and
businesses of over 5% of all voting shares:**

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the
PEA Board of Directors with effect from 28 October 2020



Pol. Maj. Gen. Wiwat Chaisangkha

(Directors' Pool 2021)

Age: 55

Position: Deputy Commander, Central Investigation
Bureau, Royal Thai Police

Key work experience:

1. Commander, Natural Resources and Environmental
Crime Suppression Division
2. Commander, Consumer Protection Police Division

Education:

1. Master of Public and Private Management,
National Institute of Development Administration
(NIDA)
2. Bachelor of Public Administration,
Royal Police Cadet Academy

Directorships of other organizations:

Director, Forest Industry Organization

**Shareholding in energy-related companies and
businesses of over 5% of all voting shares:**

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the
PEA Board of Directors with effect from 28 October 2020





Fig. Off. Kamolnai Chaixanien

(Directors' Pool 2020)

Age: 63

Position: Deputy Managing Director,
TCC Assets (Thailand) Company Limited

Key work experience:

1. Senior Vice President,
Thai Beverage Public Company Limited
2. Deputy Managing Director,
Asset Management for International Hotels Group,
TCC Assets (Thailand) Company Limited

Education:

1. Master of Business Administration,
Cornell University, USA
2. Master of Engineering (Operations Research and
Industrial Engineering), Cornell University, USA
3. Bachelor of Science in Chemical Engineering,
University of New Hampshire, USA

Directorships of other organizations:

1. Director, ASM International Limited
2. Director, ThaiBev Marketing Company Limited
3. Director, Amarin Printing and Publishing
Public Company Limited

**Shareholding in energy-related companies and
businesses of over 5% of all voting shares:**

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the
PEA Board of Directors with effect from 28 October 2020

Chavang Thaiying

(Directors' Pool 2021)

Age: 59

Position: Permanent Law Councillor
(Krisdika Counsel, Advisory Level),
Office of the Council of State

Key work experience:

1. Director, Public Law Training and Development Institute
2. Director, Common Legal Information Center,
Office of the Council of State
3. Director, Administrative Division,
Office of the Council of State

Education:

1. Master of Laws, Chulalongkorn University
2. Bachelor of Laws, Ramkhamhaeng University
Bachelor of Education, Chulalongkorn University

Directorships of other organizations:

None

**Shareholding in energy-related companies and
businesses of over 5% of all voting shares:**

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the
PEA Board of Directors with effect from 28 October 2020





Panit Dhirapharbwongse

(Directors' Pool 2018)

Age: 54

Position: Legal Advisor, Office of the Permanent Secretary, Ministry of Finance

Key work experience:

1. Director, Legal Affairs Group, Office of the Permanent Secretary, Ministry of Finance
2. Head, Legal Affairs Group, Legal Bureau, Revenue Department

Education:

1. Doctor of Philosophy (Law), Thai Government Scholarship, Queen Mary College, University of London, UK
2. Master of International Economic Law, University of Warwick, UK
3. Bachelor of Laws, Thammasat University

Directorships of other organizations:

1. Director, Islamic Bank Asset Management
2. Director, KTB Law Company Limited

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020



Prof. Weerakorn Ongsakul

(Directors' Pool 2020)

Age: 54

Position: Professor, Asian Institute of Technology

Key work experience:

Dean, School of Environment, Resources and Development, Asian Institute of Technology

Education:

1. Doctor of Philosophy in Electrical Engineering, Texas A&M University
2. Master of Electrical Engineering, Texas A&M University
3. Bachelor of Electrical Engineering, Chulalongkorn University

Directorships of other organizations:

1. Executive Director, Bangchak Initiative and Innovation Center at AIT, School of Environment, Resources and Development, Asian Institute of Technology
2. Director, PEA ENCOM International Company Limited

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 27 June 2018 to 26 June 2021





Assoc. Prof. Thira Jearsiripongkul

(Directors' Pool 2018)

Age: 46

Position: Dean, Faculty of Engineering,
Thammasat University

Key work experience:

1. Director, Office of the Registrar, Thammasat University
2. Assistant President, Rangsit Campus Management Development, Physical Division, Thammasat University
3. Director, Twinning Engineering Programmes (TEP), Thammasat English Program of Engineering (TEPE)

Education:

1. Doctor of Engineering in Applied Mechanics (Dynamics), Technische Universitat Darmstadt, Germany
2. Master of Engineering in Mechatronics, School of Advanced Technologies (Exchange Program), Asian Institute of Technology, Bangkok, Thailand, and Hamburg University of Technology, Hamburg, Germany
3. Bachelor of Mechanical Engineering, King Mongkut's University of Technology Thonburi

Directorships of other organizations:

None

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 27 June 2018 to 26 June 2021, and from 20 July 2021



Prechaporn Suwatnodom

(Directors' Pool 2019)

Age: 45

Position: Senior Professional Civil Engineer,
Bureau of Planning, Department of Highways

Key work experience:

1. Working Group on Supporting Operation of Subcommittee on Strategic Innovation and Digital Technology Management, Metropolitan Electricity Authority
2. Director, CAT Telecom Public Company Limited
3. Subcommittee of Digital Technology Development, Metropolitan Waterworks Authority

Education:

1. Ph.D. (Philosophy in Civil Engineering), University of California, Los Angeles, USA
2. M.S. (Engineering), University of California, Los Angeles, USA
3. M.S. (Science), University of California, Los Angeles, USA
4. B.S. (Civil Engineering Specialize in Transportation Engineering), University of California, Irvine, USA (Honors)
5. B.S. (Civil Engineering Specialize in Structure Engineering), University of California, Irvine, USA (Honors)

Directorships of other organizations:

None

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 28 October 2020





Assoc. Prof. Pornanong Budsaratragoon

Age: 53

Position: Head, Department of Banking and Finance,
Faculty of Commerce and Accountancy,
Chulalongkorn University

Key work experience:

1. Working Group on Provident Fund Capability Development, The Securities and Exchange Commission (SEC)
2. Expert, Senate Commission on Economics, Finance, and Treasury
3. Director, Thai Capital Market Supervisory Board, The Securities and Exchange Commission (SEC)

Education:

1. Doctor of Business Administration (Finance), Chulalongkorn University
2. Master of Business Administration (MIS), University of Dallas, USA
3. Bachelor of Business Administration (Quantitative Management), Chulalongkorn University

Directorships of other organizations:

Director, Thai-Nichi Institute of Technology Council,
Office of the Higher Education Commission

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 20 July 2021

Col. Saranyu Viriyavejakul

(Directors' Pool 2019)

Age: 52

Position: Vice President, Neighboring Countries
Economic Development Cooperation Agency
(Public Organization)

Key work experience:

1. Deputy Director, Peace Operations Center, Directorate of Joint Operations, Royal Thai Armed Forces Headquarters
2. Director, Projects and Budget Division, Directorate of Joint Intelligence
3. Director, Protocol Division, Office of External Relations, Directorate of Joint Intelligence

Education:

1. Doctor of Science (Technology of Environmental Management), Mahidol University
2. Master of Science (Structural Engineering), Stanford University, USA
3. Master of Science (Environmental Engineering), University of California, Los Angeles, USA
4. Bachelor of Science (Honors) (Double Majors in Civil Engineering and Nuclear Engineering), United States Military Academy (USMA: West Point), USA

Directorships of other organizations:

Executive Director, United Thai-Sweden 1897 Foundation

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 20 July 2021





Sompong Preeprem

(Directors' Pool 2018)

Age: 60

Position: Governor, Provincial Electricity Authority
(from 12 November 2018 to 16 August 2021)

Key work experience:

1. Deputy Governor (Planning and Power System Development)
2. Assistant Governor (Planning and Power System Development)
3. Assistant Governor (Office of the Governor), Acting Deputy Chief Executive Officer, PEA ENCOM International Company Limited

Education:

1. Master of Business Administration, Kasetsart University
2. Bachelor of Engineering (Electrical Engineering), Khon Kaen University

Directorships of other organizations:

Director, National Electronics and Computer Technology Center (NECTEC)

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 12 November 2018 to 16 August 2021



Supachai Ek-un

(Directors' Pool 2021)

Age: 56

Position: Governor, Provincial Electricity Authority
(Take a position since 17 August 2021 - Present)

Key work experience:

1. Deputy Governor (Engineering)
2. Deputy Governor (Electricity Authority Region 3)
3. Executive Director, Provincial Electricity Authority Area 1 (Central) Phra Nakhon Si Ayutthaya Province

Education:

1. Master of Engineering (Safety Engineering), Kasetsart University
2. Master of Public Administration, Khon Kaen University
3. Bachelor of Science in Technical Education (Electrical Engineering), King Mongkut's Institute of Technology North Bangkok

Directorships of other organizations:

None

Shareholding in energy-related companies and businesses of over 5% of all voting shares:

None

Connected transactions (accounting year 2021):

None

Remarks: Appointed by the Cabinet resolution to the PEA Board of Directors with effect from 17 August 2021





Report of the Audit Committee

The PEA's Audit Committee was appointed by the PEA's Board of Directors from the ranks of directors who are experts, competent, and experienced as required by the Skill Matrix. The current committee consists of

- | | |
|--|-----------------------------|
| 1. Pol.Maj.Gen. Wiwat Chaisangkha | Chairman of Audit Committee |
| 2. Mr. Panit Dhirapharb Wongse | Audit Committee |
| 3. Assoc. Prof. Pornanong Budsaratragoon | Audit Committee |

Serving as its secretary is Mr. Anake Jensai, Assistant Governor (Internal Audit).

This year The Audit Committee held a total of 12 meetings, with the executives team, the internal auditors, and the external auditor (EY Office Co., Ltd.), who were in attendance on pertinent agenda items. A report was submitted to the PEA's Board of Directors each time.

Performance Highlights

1. Review of Financial Reports

Each month The Audit Committee reviewed PEA's financial reports along with performance outcomes, meeting and consulting with, inquiring, hearing explanations and opinions of applicable heads of units, internal auditors, and the external auditor. The Audit Committee listened to financial analysis presentations with management and provided advice on key issues for PEA to act upon. This is to ensure that PEA's financial reports are properly prepared in compliance with legal requirements as well as financial reporting standards with timely, accurate, relevant and sufficient disclosures of information.

The Audit Committee also met with the external auditor (EY Office Co., Ltd.) in the private session of management for consultation on the audit scope and guidelines, audit outcomes, freedom of execution, and the external auditor's opinion. In 2021 PEA paid a total of 7 million baht in audit fees.

2. Review of Risk Management, Internal Control, and Corporate Governance

The Audit Committee oversaw PEA's business undertaking to ensure internal control systems exist within regular review of the efficiency and suitability of the risk management process. It provided advice on key issues for management to execute to ensure that such process conforms to international codes, embraces key internal and external risk factors, and includes PEA's responses to the Covid-19 pandemic.



3. Oversight of Internal Audit

The Audit Committee approved the five-year audit plan (2022-2026) and the 2022 audit plan of the Internal Audit Bureau; reviewed audit outcomes and followed up each quarter on the actions taken in response to the bureau's recommendations. Reviewed the internal audit work process manual, annual budget, personnel recruitment, training and development plans for efficient and effective performances to abide by international standards, and also supporting internal auditor to seek out self-improvement for Certified Internal Auditor (CIA) certification. The bureau complied with PEA's standard of transparency and sustainability to treat internal and external stakeholders fairly.

The Audit Committee gave the Internal Audit Bureau key recommendations to execute for more efficient internal audit.

4. The Audit Committee's Quality Assurance

The Audit Committee reviewed PEA's 2019 Audit Committee Charter and Work Manual and prepared PEA's 2021 Audit Committee Charter and Work Manual. Conducted self-assessment of composition and qualifications to prepare Audit Committee's improvement plan and outcome report which aligned with guidelines of State Enterprise Policy Office, Ministry of Finance. Prepared the action plan for performance improvement aligned with State Enterprise Assessment Model: SE-AM, and also has the performance improvement outcome report and self-assessment for both individuals and the whole committee members.

In summary, the Audit Committee executed its duties under the scope of its charter, freely commenting and adding value to PEA. The Audit Committee regards PEA's and its affiliates' financial reports as materially accurate by financial reporting standards, with information disclosure that proves suitable, adequate, and credible. PEA commands conformance to applicable laws and regulations as well as adequate, suitable, and efficient risk management practices as well as internal-control system.

Pol.Maj.Gen.



(Wiwat Chaisangkha)
Chairman of the Audit Committee





Report of the Risk Management and Internal Control Committee

The Provincial Electricity Authority (PEA) has applied the principles of risk management and internal control as guided by COSO (The Committee of Sponsoring Organization of Treadway Commission) to COSO 2013 – Internal Control and COSO 2017 – Enterprise Risk Management Integrating with Strategy and Performance. In short, PEA has integrated risk management with its own strategies, thus linking it to performance assessment. A structure governs risk management and internal control, made up of corporate level and functional (departmental) level. In place are systematic reporting channels and monitoring/assessment of both areas to ensure that PEA houses comprehensive risk management practices and an internal-control system, ready to promptly sustain changing circumstances potentially affecting business. In short, PEA will benefit from these moves both at present and in the future.

In 2021 PEA conducted risk assessment involving internal and external factors that could affect its business and mapped out plans to foster confidence in the achievement of its strategic goals. The Risk Management and Internal Control Committee endorsed nine risk factors to be managed by PEA as follows:

1. Total losses (in percent) in the distribution system
2. Quality of low-voltage electricity missing the goal
3. Downstream business outcomes and the mechanism of oversight and pursuit of business opportunities of affiliates missing the goal
4. Security of the digital technology system
5. The inability to develop personnel's competencies in the form of multi-skills and cultivate a business mind among its personnel for business undertaking under a transformed industrial structure
6. Monitoring of DG behavior (only for VSPPs) for managing the grid system as planned
7. Data analytics cannot yet add value to PEA's businesses
8. Meters for replacement are in short supply due to the inability to secure electronic meters to replace mechanical watt-hour meters in time
9. Impacts on PEA's financial liquidity and business if there should be a new round of Covid-19 infection.

As for the internal-control system, PEA commands IT system application in support of performance monitoring and assessment together with the development of the internal-control system to ensure that the existing system is modern, adequate, suitable, and efficient enough to prevent or reduce risks to manageable levels. It also prepared an annual assessment report on internal control for the Ministry of Interior within 90 days of the year-end, with copies sent to the PEA Board and the Audit Committee.

The committee met with PEA management to map out various measures for managing risks and the internal-control system as planned, while continually commanding quarterly performance monitoring and assessment of various trends that could significantly affect PEA.





The Risk Management and Internal Control Committee is committed to efficiently and suitably providing oversight and managing key risks as well as the internal-control system to pursue PEA's business objectives. We are convinced that the participation of the entire workforce in conforming to PEA's defined measures for risk management and the internal-control system will enhance its prospects of success while cushioning the severity and uncertainty potentially facing PEA's overall business.

(Yodphot Wongrukmit)

Chairman of the Risk Management and Internal Control Committee





Independent Auditor's Report

To the Board of Directors of Provincial Electricity Authority

Opinion

I have audited the accompanying consolidated financial statements of Provincial Electricity Authority and its subsidiary (the Group), which comprise the consolidated statement of financial position as at 31 December 2021, and the related consolidated statements of comprehensive income, changes in 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 Provincial Electricity Authority for the same period.

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Provincial Electricity Authority and its subsidiary and of Provincial Electricity Authority as at 31 December 2021, 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 the State Audit Standards and 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 State Audit Standards as issued by the State Audit Commission and the Code of Ethics for Professional Accountants as issued by the Federation of Accounting Professions as relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the State Audit Standards and the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Other Matter

- a. The State Audit Standards as described in the Basis for Opinion section and the Auditor's Responsibilities for the Audit of the Financial Statements section are relevant only to the audit of the financial statements, which are prepared by management in accordance with Thai Financial Reporting Standards.
- b. The Consolidated financial statements of Provincial Electricity Authority and its subsidiary (the Group) and the separate financial statements of Provincial Electricity Authority for the year ended 31 December 2020 were audited by another auditor who, under their report dated 17 June 2021, expressed an unmodified opinion on those financial statements.

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 the State Audit standards and 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 the State Audit standards and 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 am responsible for the audit resulting in this independent auditor's report.

Gingkarn Atsawarangsalit
 Certified Public Accountant (Thailand) No. 4496
 EY Office Limited
 Bangkok: 24 March 2022





Provincial Electricity Authority and its subsidiary

Statements of financial position

As at 31 December 2021

(Unit: Thousand Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
Assets					
Current assets					
Cash and cash equivalents	7	12,240,072	13,509,471	10,857,809	12,185,955
Trade and other receivables	6, 8	46,440,711	44,335,018	45,986,779	44,231,977
Short-term loans to related parties	6	49,237	-	-	-
Inventories	9	2,485,973	2,585,146	2,477,313	2,577,636
Specific-purpose deposits at financial institutions	10	40,852,170	37,302,536	40,852,170	37,302,536
Undue input VAT		2,327,494	2,239,500	2,324,593	2,235,949
Advance payments to suppliers	6	1,920,043	1,786,424	1,877,572	1,839,323
Other current assets		108,273	83,722	84,733	65,908
Total current assets		106,423,973	101,841,817	104,460,969	100,439,284
Non-current assets					
Restricted bank deposits		50,000	50,000	-	-
Investments in subsidiary	11	-	-	3,295,284	2,451,284
Investments in associates	12	1,387,804	629,085	-	-
Investments in joint ventures	13	-	-	-	-
Other non-current financial assets	14	256,896	242,811	1,896	1,561
Other non-current receivables	15	999,550	639,541	38,947	61,766
Constructions in progress	16	56,076,891	51,910,377	55,409,989	51,513,714
Investment properties	17	500,679	501,107	452,171	501,107
Property, plant and equipment	18	316,267,673	296,292,899	316,273,652	296,284,915
Right-of-use assets	23.1.1	1,902,142	1,639,927	1,854,009	1,619,109
Intangible assets	19	2,591,028	2,669,654	2,586,595	2,666,583
Other non-current assets	20	123,129	178,610	104,801	99,911
Total non-current assets		380,155,792	354,754,011	380,017,344	355,199,950
Total assets		486,579,765	456,595,828	484,478,313	455,639,234

The accompanying notes are an integral part of the financial statements.



Provincial Electricity Authority and its subsidiary

Statements of financial position (continued)

As at 31 December 2021

(Unit: Thousand Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
Liabilities and equity					
Current liabilities					
Trade and other payables	6, 21	48,566,500	47,259,133	48,163,434	47,147,545
Current portion of long-term loans	22	5,635,932	8,242,447	5,553,516	8,242,447
Current portion of lease liabilities	23.1.2	851,283	717,820	840,917	713,635
Accrued remittance to the Ministry of Finance	24	12,162,638	15,855,024	12,162,638	15,855,024
Advance received per contract		1,024,859	1,143,044	1,021,409	1,143,044
Deposits payable	25	346,782	429,875	346,782	429,875
Other current liabilities	26	3,394,348	3,100,838	3,387,464	3,097,874
Total current liabilities		71,982,342	76,748,181	71,476,160	76,629,444
Non-current liabilities					
Long-term loans, net of current portion	22	122,615,879	99,539,287	121,667,176	99,196,390
Lease liabilities, net of current portion	23.1.2	1,264,348	1,114,993	1,224,814	1,097,502
Other non-current payables		17,171	39,450	17,171	39,450
Provisions for litigations	27	428,644	369,792	428,644	369,792
Provisions for service contracts		176,668	89,090	-	-
Construction obligations	6, 28	5,998,553	7,289,743	6,000,287	7,289,743
Deferred revenues	29	56,659,166	54,872,413	56,659,166	54,872,413
Electricity usage guarantee	30	23,584,596	23,290,014	23,584,626	23,290,044
Sales and service guarantee		1,880,734	1,554,729	1,873,314	1,552,400
Provision for long-term employee benefits	31	16,254,192	17,879,236	16,251,539	17,877,282
Other non-current liabilities		59,652	34,224	59,651	34,224
Total non-current liabilities		228,939,603	206,072,971	227,766,388	205,619,240
Total liabilities		300,921,945	282,821,152	299,242,548	282,248,684

The accompanying notes are an integral part of the financial statements.





Provincial Electricity Authority and its subsidiary
Statements of financial position (continued)

As at 31 December 2021

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Equity				
Initial capital	87,004	87,004	87,004	87,004
Contributions from the government	4,802,501	4,802,501	4,802,501	4,802,501
Retained earnings				
Appropriated-statutory reserve - subsidiary	10,801	8,348	-	-
Unappropriated	180,759,159	168,878,804	180,347,905	168,503,026
Other components of equity	(1,645)	(1,981)	(1,645)	(1,981)
Total equity	185,657,820	173,774,676	185,235,765	173,390,550
Total liabilities and equity	486,579,765	456,595,828	484,478,313	455,639,234

The accompanying notes are an integral part of the financial statements.

.....
 (Mr. Supachai Ek-un)
 Director and Governor

.....
 (Mr. Suchat Chothikatherakul)
 Deputy Governor
 (Accounting and Finance)



Provincial Electricity Authority and its subsidiary

Statement of comprehensive income

For the year ended 31 December 2021

(Unit: Thousand Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
Profit or loss:					
Revenues					
Sales and Rendering of services	32	497,667,677	473,296,199	497,246,506	473,167,787
Revenue compensations	33	10,917,960	15,374,040	10,917,960	15,374,040
Other income		856,853	857,910	854,218	857,046
Total revenues		509,442,490	489,528,149	509,018,684	489,398,873
Expenses					
Cost of electricity		428,283,139	414,907,017	428,283,139	414,907,017
Employee compensations		20,207,487	20,740,583	20,174,441	20,710,866
Employee benefit expenses		1,672,472	1,441,042	1,671,772	1,440,505
Executives' remunerations		119,897	116,699	115,396	113,410
Preventive, repair and maintenance, and construction expenses		7,729,018	6,256,059	7,350,880	6,239,222
Depreciation and amortisation expenses		24,872,946	23,667,756	24,863,043	23,662,048
Other operating expenses		9,121,689	9,246,919	9,106,433	9,121,740
Other expenses		838,997	1,229,897	838,995	1,229,896
Total expenses		492,845,645	477,605,972	492,404,099	477,424,704
Operating profit		16,596,845	11,922,177	16,614,585	11,974,169
Share of profit from investments in associates	12	65,553	77,943	-	-
Finance income		473,890	720,332	468,504	710,711
Finance cost	34	(3,067,426)	(2,742,871)	(3,061,990)	(2,740,179)
Profit before income tax expenses		14,068,862	9,977,581	14,021,099	9,944,701
Tax income (income tax expenses)		(9,834)	7,699	-	-
Profit for the year		14,059,028	9,985,280	14,021,099	9,944,701
Other comprehensive income:					
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods</i>					
Actuarial gain - net of income tax	31	1,634,256	1,078	1,634,256	-
Gain (loss) on changes in value of equity investments designated at fair value through other comprehensive income		336	(281)	336	(281)
Total other comprehensive income not to be reclassified to profit or loss in subsequent periods		1,634,592	797	1,634,592	(281)
Other comprehensive income for the year		1,634,592	797	1,634,592	(281)
Total comprehensive income for the year		15,693,620	9,986,077	15,655,691	9,944,420

The accompanying notes are an integral part of the financial statements.





Provincial Electricity Authority and its subsidiary

Statement of changes in equity

For the year ended 31 December 2021

(Unit: Thousand Baht)

	Consolidated financial statements							Total equity
	Initial capital and contributions from the government		Retained earnings		Unappropriated	Other component of equity		
	Appropriated	Unappropriated	Appropriated	Unappropriated		other comprehensive income	Gain (loss) on investment in equity designated at fair value through other comprehensive income	
Balance as at 1 January 2020	4,889,505	7,722	166,148,246		(1,700)		(1,700)	171,043,773
Profit for the year	-	-	9,985,280		-		-	9,985,280
Other comprehensive income for the year	-	-	1,078		(281)		(281)	797
Total comprehensive income for the year	-	-	9,986,358		(281)		(281)	9,986,077
Transfer unappropriated to statutory reserve - subsidiary	-	626	(626)		-		-	-
Adjusted remittance to the Ministry of Finance for the year 2019 (Note 24)	-	-	4,088,350		-		-	4,088,350
Remittance to the Ministry of Finance for the year (Note 24)	-	-	(11,343,524)		-		-	(11,343,524)
Balance as at 31 December 2020	4,889,505	8,348	168,878,804		(1,981)		(1,981)	173,774,676
Balance as at 1 January 2021	4,889,505	8,348	168,878,804		(1,981)		(1,981)	173,774,676
Profit for the year	-	-	14,059,028		-		-	14,059,028
Other comprehensive income for the year	-	-	1,634,256		336		336	1,634,592
Total comprehensive income for the year	-	-	15,693,284		336		336	15,693,620
Transfer unappropriated to statutory reserve - subsidiary	-	2,453	(2,453)		-		-	-
Adjusted remittance to the Ministry of Finance for the year 2020 (Note 24)	-	-	4,043,524		-		-	4,043,524
Remittance to the Ministry of Finance for the year (Note 24)	-	-	(7,854,000)		-		-	(7,854,000)
Balance as at 31 December 2021	4,889,505	10,801	180,759,159		(1,645)		(1,645)	185,657,820

The accompanying notes are an integral part of the financial statements.



**Statement of changes in equity (continued)**

For the year ended 31 December 2021

(Unit: Thousand Baht)

	Separate financial statements					Total equity
	Initial capital and contributions from the government	Unappropriated retained earnings	Other component of equity			
			Other comprehensive income	Gain (loss) on investment in equity designated at fair value through other comprehensive income	Total other components of equity	
Balance as at 1 January 2020	4,889,505	165,813,499	(1,700)	(1,700)	(1,700)	170,701,304
Profit for the year	-	9,944,701	-	-	-	9,944,701
Other comprehensive income for the year	-	-	(281)	(281)	(281)	(281)
Total comprehensive income for the year	-	9,944,701	(281)	(281)	(281)	9,944,420
Adjusted remittance to the Ministry of Finance for the year 2019 (Note 24)	-	4,088,350	-	-	-	4,088,350
Remittance to the Ministry of Finance for the year (Note 24)	-	(11,343,524)	-	-	-	(11,343,524)
Balance as at 31 December 2020	4,889,505	168,503,026	(1,981)	(1,981)	(1,981)	173,390,550
Balance as at 1 January 2021	4,889,505	168,503,026	(1,981)	(1,981)	(1,981)	173,390,550
Profit for the year	-	14,021,099	-	-	-	14,021,099
Other comprehensive income for the year	-	1,634,256	336	336	336	1,634,592
Total comprehensive income for the year	-	15,655,355	336	336	336	15,655,691
Adjusted remittance to the Ministry of Finance for the year 2020 (Note 24)	-	4,043,524	-	-	-	4,043,524
Remittance to the Ministry of Finance for the year (Note 24)	-	(7,854,000)	-	-	-	(7,854,000)
Balance as at 31 December 2021	4,889,505	180,347,905	(1,645)	(1,645)	(1,645)	185,235,765

The accompanying notes are an integral part of the financial statements.



Provincial Electricity Authority and its subsidiary

Cash flow statement

For the year ended 31 December 2021

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Cash flows from operating activities				
Profit before tax	14,068,862	9,977,581	14,021,099	9,944,701
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation and amortisation	24,872,946	23,667,756	24,863,043	23,662,048
Expected credit losses	308,378	334,405	294,465	311,782
Loss from impairment of investment	-	7,559	-	-
Loss from repossessions	-	395	-	-
Loss from obsolete materials (reversal)	18,644	(105,719)	17,150	(108,460)
Amortisation of deferred revenues	(4,720,584)	(4,529,404)	(4,720,584)	(4,529,404)
Revenues from donations	(284)	(11,249)	(284)	(11,249)
Loss on sales and write-off of assets	1,326,175	885,461	1,326,173	885,461
Loss from write-off of materials	34,122	16,116	34,122	16,116
Loss from terminated leases	5,322	-	5,322	-
Provision for long-term employee benefits	1,672,472	1,441,042	1,671,772	1,440,505
Provisions for litigations	59,722	101,959	59,722	101,959
Unrealised loss on foreign exchange	16,517	11,806	16,517	11,806
Amortisation premium (discount) on loans	8,231	(13,374)	8,066	(12,271)
Revenues from receive scrap materials	(720,926)	(430,843)	(720,926)	(430,843)
Revenues from renting or using other assets	-	(10,379)	-	-
Revenues from financing service contracts	-	(37,276)	-	-
Loss from provisions for service contracts	-	5,705	-	-
Share of profit from investments in associates	(65,553)	(77,943)	-	-
Finance income	(473,890)	(720,332)	(468,504)	(710,711)
Finance cost	3,067,426	2,742,871	3,061,990	2,740,179
Profit from operating activities before changes in operating assets and liabilities	39,477,580	33,256,137	39,469,143	33,311,619
Operating assets (increase) decrease				
Trade and other receivables	(2,429,624)	(3,882,778)	(2,064,927)	(3,801,002)
Inventories	767,333	136,525	769,977	122,845
Specific-purpose deposits at financial institutions	(3,549,634)	5,490,200	(3,549,634)	5,490,200
Undue input VAT	(87,994)	16,138	(88,644)	16,827
Advance payments to suppliers	(133,619)	31,726	(38,249)	(22,774)
Other current assets	(24,551)	4,772	(18,825)	21,545
Other non-current receivables	(32,633)	67,663	22,819	(15,649)
Other non-current assets	47,487	(7,879)	(4,890)	455
Operating liabilities increase (decrease)				
Trade and other payables	1,494,539	(4,935,482)	1,203,061	(4,993,423)
Advance received per contract	(118,185)	(145,458)	(121,635)	(145,458)
Deposits payable	(83,093)	116,043	(83,093)	116,044
Other current liabilities	293,510	225,599	289,590	224,846
Other non-current payables	(22,887)	(12,260)	(22,887)	(12,260)
Provisions for service contracts	87,578	(430)	-	-
Construction obligations	(1,291,190)	(1,889,983)	(1,289,456)	(1,889,983)
Deferred revenues	6,359,239	6,107,010	6,359,239	6,107,010

The accompanying notes are an integral part of the financial statements.



Provincial Electricity Authority and its subsidiary

Cash flow statement (continued)

For the year ended 31 December 2021

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Operating liabilities increase (decrease) (continued)				
Electricity usage guarantee	294,582	(7,979,892)	294,582	(7,979,892)
Sales and service guarantee	326,005	467,996	320,914	467,175
Other non-current liabilities	25,427	30,967	25,427	30,967
Cash paid for provisions for litigations	(870)	-	(870)	-
Cash paid for long-term employee benefits	(1,599,474)	(1,887,800)	(1,599,474)	(1,887,800)
Cash flows from operating activities	39,799,526	25,208,814	39,872,168	25,161,292
Cash received from interest income	489,444	789,488	484,164	778,269
Cash paid for income tax	(1,841)	(1,822)	-	-
Net cash flows from operating activities	40,287,129	25,996,480	40,356,332	25,939,561
Cash flows from investing activities				
Cash paid for investments in current financial assets	-	(1,884,606)	-	(2,000,000)
Cash received from investments in current financial assets	-	3,000,000	-	3,000,000
Cash paid for investments in non-current financial assets	(13,750)	(241,250)	-	-
Cash paid for short-term loans to related parties	(65,237)	-	-	-
Cash received from short-term loans to related parties	16,000	-	-	-
Cash paid for investments in subsidiary	-	-	(844,000)	(560,000)
Cash paid for investments in associates	(742,831)	(94,837)	-	-
Dividends from investments in associates	49,665	50,201	-	-
Decrease in advanced payment for share subscription in associates	-	2,281	-	-
Cash paid for constructions in progress	(45,656,636)	(45,256,188)	(45,059,020)	(44,828,845)
Cash paid for purchase of investment properties	(48,508)	-	-	-
Cash paid for purchase of property, plant and equipment	(3,879,540)	(3,700,788)	(3,890,931)	(3,699,824)
Cash received from disposal of property, plant and equipment	153,891	54,551	153,891	54,551
Cash paid for purchase of intangible asset	(65,531)	(248,860)	(63,425)	(248,769)
Interest expense capitalised to constructions in progress	(608,736)	(339,089)	(608,736)	(339,089)
Net cash flows used in investing activities	(50,861,213)	(48,658,585)	(50,312,221)	(48,621,976)
Cash flows from financing activities				
Cash received from short-term loans	-	5,000,000	-	5,000,000
Cash received from long-term loans	28,688,057	37,344,000	28,000,000	37,000,000
Repayment of short-term loans	-	(5,000,000)	-	(5,000,000)
Repayment of long-term loans	(8,242,446)	(5,212,846)	(8,242,446)	(5,212,846)
Interest paid	(2,860,988)	(2,448,533)	(2,857,144)	(2,446,709)
Repayments of lease liabilities	(777,076)	(815,816)	(769,805)	(812,458)
Cash paid for remittance to the Ministry of Finance	(7,502,862)	(982,000)	(7,502,862)	(982,000)
Net cash flows from financing activities	9,304,685	27,884,805	8,627,743	27,545,987
Net increase in cash and cash equivalents	(1,269,399)	5,222,700	(1,328,146)	4,863,572
Cash and cash equivalents at beginning of year	13,509,471	8,286,771	12,185,955	7,322,383
Cash and cash equivalents at end of year (Note 7)	12,240,072	13,509,471	10,857,809	12,185,955

Supplemental cash flows information

Non-cash items consist of:

Payables from purchase of property, plant and equipment	25,480	361,380	25,480	357,610
Payables from constructions in progress	1,255,265	1,304,217	1,255,265	1,304,217
Transfer constructions in progress to property, plant and equipment	41,288,531	36,950,304	41,288,531	36,949,468
Transfer constructions in progress to intangible asset	709,485	2,696,131	709,485	2,696,131
Transfer constructions in progress to project assets	327,377	102,370	-	-
Transfer property, plant and equipment to investment properties	6,500	83,046	6,500	83,046
Transfer investment property to property, plant and equipment	39,246	1,973	39,246	1,973
Acquisitions of equipment under lease agreements	990,046	890,764	956,142	880,587
Received assets from donations	142,245	124,072	142,245	124,072

The accompanying notes are an integral part of the financial statements.





Provincial Electricity Authority and its subsidiary

Notes to consolidated financial statements

For the year ended 31 December 2021

1. General information

1.1 General information of Provincial Electricity Authority

Provincial Electricity Authority was established as a state enterprise for public utility under Provincial Electricity Authority Act, B.E. 2503 and is located at 200 Ngamwongwan Road, Ladyao, Chatuchak, Bangkok 10900. The main objective of Provincial Electricity Authority is to generate, obtain, distribute and sell electricity energy to people, businesses and industrial sectors in 74 provinces throughout Thailand, with the exception of Bangkok, Nonthaburi, and Samut Prakan provinces.

1.2 Financial Criteria

According to the policy on determining the electricity tariff structure, the Energy Regulatory Commission (ERC) has established financial criteria with objectives to supervise the operational performance of Provincial Electricity Authority in order to bring about appropriate investments with a financial rate of return that reflects the weighted average cost of capital, efficiently control costs, monitor the investments and establish operating principles. In the event that the operational investing of Provincial Electricity Authority do not comply with the investment plan, the ERC will consider a clawback as stipulated in the criteria and conditions set forth by the ERC. Moreover, the ERC will consider restoring/recovering the financial position so that Provincial Electricity Authority is able to maintain financial position in accordance with the specified criteria and conditions (Return On Investment Capital: ROIC).

1.3 The spread of Coronavirus disease 2019

The Coronavirus disease 2019 pandemic is adversely impacting most businesses and industries. This situation may bring uncertainties and have an impact on the environment in which the Group operates. The Group's management has continuously monitored ongoing developments and assessed the financial impact in respect of the valuation of assets, provisions and contingent liabilities, and has used estimates and judgement in respect of various issues as the situation has evolved.

Therefore, the cabinet approved measures to assist people who has been affected by the effect of Coronavirus disease 2019 pandemic and alleviating their suffering by reducing basic utility expenses, during the year the related significant measures that Provincial Electricity Authority provided are as follows:

- 1.3.1 Measures to refund the electricity meter deposits to customers of type 1: a residential user, and type 2: a small business user, starting from 31 March 2020, onwards.



1.3.2 Measures of free electricity usages for type 1.1.1: a residential user with electricity usage free first 90 units according to monthly electricity bills from February 2021 to August 2021 except April 2021, and type 2: a small business user (excluding government agencies and state-owned companies) with electricity usage free first 50 units according to monthly electricity bills from February 2021 to June 2021 except April 2021 and with electricity usage free first 100 units according to July to August 2021.

1.3.3 Measures to reduce electricity for residential user type 1.1.2 and 1.2 according to monthly electricity bills from February 2021 to August 2021 except April 2021.

2. Basis of preparation

2.1 The financial statements have been prepared in accordance with Thai Financial Reporting Standards enunciated under the Accounting Professions 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 Provincial Electricity Authority. 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 Provincial Electricity Authority and the following subsidiary company (“the subsidiary”) (collectively as “the Group”):

Company’s name	Nature of business	Country of incorporation	Percentage of shareholding	
			2021	2020
			%	%
PEA ENCOM International Company Limited	Investing in electricity-related businesses and conducting training services concerning electricity systems	Thailand	100	100

b) Provincial Electricity Authority is deemed to have control over an investee or subsidiary 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) Subsidiary is fully consolidated, being the date on which Provincial Electricity Authority obtains control, and continue to be consolidated until the date when such control ceases.





- d) The financial statements of the subsidiary are prepared using the same significant accounting policies as Provincial Electricity Authority.
- e) Material balances and transactions between the Group have been eliminated from the consolidated financial statements.

2.3 The separate financial statements present investments in subsidiary 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 2021. 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.

3.2 Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2022

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 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, for some standards, providing temporary reliefs or temporary exemptions for users.

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

Sales

Revenue from sale of goods is recognised at the point in time when control of the asset is transferred to the customer, generally upon delivery of the goods. Revenue is measured at the amount of the consideration received or receivable, excluding value added tax, of goods supplied after deducting returns, discounts, allowances and price promotions to customers.

Rendering of services

Service revenue is recognised at a point in time upon completion of the service.

Construction service revenue is recognised over time when services have been rendered taking into account the stage of completion, measuring based on comparison of actual construction costs incurred up to the end of the period and total anticipated construction costs to be incurred to completion.



The recognised revenue which is not yet due per the contracts. The amounts recognised as are reclassified to trade receivables when the Group's right to consideration is unconditional such as upon completion of services and acceptance by the customer.

The obligation to transfer goods or services to a customer for which the Group has received consideration (or an amount of consideration is due) from the customer is presented under the caption of "Advances received per contract / Deferred revenue" in the statement of financial position are recognised as revenue when the Group performs under the contract.

Contributions for constructing electricity distributing systems

Contributions for constructing electricity distributing systems represent cash collected from people who request to use the electricity in order to reduce the cost of Provincial Electricity Authority for construction of the electricity distributing systems. Ownership of the systems, including responsibility for maintenance and repair belongs to Provincial Electricity Authority. Such contributions are presented as "Deferred revenues" in the statements of financial position and recognised as revenues at the rate of 5 percent per annum when the construction is completed (the rate is equal to the depreciation rate of Provincial Electricity Authority's electricity distributing system assets).

Revenues from transferring of operating assets

Revenues from transferring of operating assets represent assets received from donations which are used in operations. Most of such assets are electricity distribution systems that the electricity users donate to Provincial Electricity Authority, which Provincial Electricity Authority is responsible for maintenance. Such assets are presented as deferred revenues from transferring of operating assets in the statements of financial position and recognised as revenues at the rate in accordance with depreciation rates of such assets over their useful lives.

Assets received from donations, which are not used in operations are recognised as other non-operating revenues in the statements of comprehensive income in the period of acquisitions.

Contribution revenues from foreign financial institutions

Contribution revenues according to the solution of foreign financial institutions represent contributions from foreign financial institutions in forms of interest discount to be used for various purposes of Provincial Electricity Authority. Such revenues are presented as deferred revenues in the statements of financial position and recognised as revenues based on the actual amount of expenses incurred.

Revenue compensations

Revenue compensations received in accordance with resolution of regulators are recognised when the Group obtains the right to receive the revenue compensations.

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).





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 right to receive the dividends is established.

4.2 Cash and cash equivalents

Cash and cash equivalents consist of cash in hand and at banks, and all highly liquid investments with an original maturity of three months or less and not subject to withdrawal restrictions.

4.3 Inventories

Inventories which consist of spare parts and supplies, are valued at the lower of cost (under the weighted average method) and net realisable value. Allowance is made in full for obsolete spare parts and supplies and for spare parts and supplies pending for improvement.

4.4 Specific-purpose deposits at financial institutions

4.4.1 Specific-purpose deposits at financial institutions, which are presented as current assets in statements of financial position, are deposits to be used within one accounting period and with the specific purposes and conditions. Special-purpose deposits comprises of electricity usage guarantee fund, sinking fund for repayment of bonds, and restricted cash. All of which can be used in Provincial Electricity Authority's activities in case of Provincial Electricity Authority having the deficits in working capital. Interest from electricity usage guarantee fund is used for benefits of electricity users and KFW special fund is used for scholarships, training, analysis and research.

4.4.2 Special-purpose deposits at financial institutions, which are presented as non-current assets in the statements of financial position, are deposits to be used longer than one accounting period and cannot be used for operating activities are PEA Employee Gratuity Fund.

4.5 Investments in subsidiary, joint ventures and associates

Investments in joint ventures and associates are accounted for in the consolidated financial statements using the equity method.

Investments in subsidiary is accounted for in the separate financial statements using the cost method.

4.6 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).

Depreciation of investment properties is calculated by reference to their costs on the straight-line basis over estimated economic useful lives of 33 years. No depreciation is provided on land. Depreciation of the investment properties is included in determining income.



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.

4.7 Constructions in progress

Constructions in progress include construction costs, borrowing costs incurred on direct costs associated with the borrowing of funds used for the construction, and other costs which are directly related to construction or preparation of the property for its intended use. No depreciation is provided on constructions in progress.

4.8 Property, plant and equipment/Depreciation

Land is stated at cost. Buildings and equipment are stated at cost less accumulated depreciation and allowance for loss on impairment of assets (if any).

Depreciation of plant and equipment is calculated by reference to their costs on the straight-line basis over the following estimated useful lives:

Land improvement	16 - 33 years
Buildings	16 - 33 years
Electricity generating systems	5 - 33 years
Electricity distributing systems	5 - 25 years
Furniture, tools and equipment	5 - 25 years
Vehicles	5 - 10 years

Depreciation is included in determining income.

No depreciation is provided on land.

An item of property, plant 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.

4.9 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of an asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of the respective assets. All other borrowing costs are expensed in the period they are incurred. Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds.

4.10 Intangible assets

Intangible assets are carried at cost less accumulated amortisation and any accumulated impairment losses (if any).

Intangible assets with finite 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 expense is charged to profit or loss.





A summary of the intangible assets with finite useful lives is as follows:

	Useful lives
Computer software licenses	5 years
Computer software	5 years

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. As 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 less any lease incentives received.

Depreciation of right-of-use assets are calculated by reference to their on the straight-line basis over the shorter of their estimated useful lives and the lease term.

Land and Land improvement	1 - 19	years
Buildings	1 - 5	years
Electricity generating systems	2	years
Furniture, tools and equipment	3 - 5	years
Vehicles	3 - 5	years
Intangible assets	6	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, variable lease payments that depend on an index or a rate, 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. Variable lease payments that do not depend on an index or a rate are recognised as expenses in the period in which the event or condition that triggers the payment occurs.



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.

The Group as a lessor

A lease that transfers substantially all the risks and rewards incidental to ownership of an underlying asset to a lessee is classified as finance leases. As at the commencement date, an asset held under a finance lease is recognised as a receivable at an amount equal to the net investment in the lease or the present value of the lease payments receivable and any unguaranteed residual value. Subsequently, finance income is recognised over the lease term to reflect a constant periodic rate of return on the net investment in the lease.

A lease is classified as an operating lease if it does not transfer substantially all the risks and rewards incidental to ownership of an underlying asset to a lessee. Lease receivables from operating leases is recognised as income in profit or loss on a straight-line basis over the lease term. Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying assets and recognised as an expense over the lease term on the same basis as the lease income.

4.12 Related party transactions

Related parties comprise individuals or enterprises that control, or are controlled by, Provincial Electricity Authority, whether directly or indirectly, or which are under common control with Provincial Electricity Authority.

They also include associates, and individuals or enterprises which directly or indirectly own a voting interest in Provincial Electricity Authority that gives them significant influence over Provincial Electricity Authority, key management personnel, directors, and officers with authority in the planning and direction of Provincial Electricity Authority's operations.

4.13 Foreign currencies

The consolidated and separate financial statements are presented in Baht, which is also Provincial Electricity Authority'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 property, plant 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. 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.

In the assessment of asset impairment, if there is any indication that previously recognised impairment losses may no longer exist or may have decreased, the Group estimates the asset's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The increased carrying amount of the asset attributable to a reversal of an impairment loss shall not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years. Such reversal is recognised in profit or loss.

4.15 Employee benefits

Short-term employee benefits

Salaries, wages, overtimes, bonuses, contributions to the social security fund, compensated absences and other short-term benefits in accordance with the contract of employment are recognised as expenses when incurred.

Post-employment benefits and other long-term employee 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 Group's contributions are recognised as expenses when incurred.

Defined benefit plan and other long-term employee benefits

The Group has obligations in respect of the severance payments it must make to employees upon retirement under State Enterprise Labor Relations Act, B.E. 2543, compensation under Labor Law, compensated absences of employees who are dismissed without committing an offense under the law, unused portion of personal leaves of employees, souvenir for retired employees and other employee benefit plans in accordance with the contract of employment. In addition, The Group has other long-term employee benefit welfare for employees who are due in accordance with the conditions.

The obligation under the defined benefit plan and other long-term employee benefit plans is determined by a professionally qualified independent actuary based on actuarial techniques, using the projected unit credit method.

Actuarial gains and losses arising from defined benefit plans are recognised immediately in other comprehensive income.



Actuarial gains and losses arising from other long-term benefits are recognised immediately in profit and loss.

Past service costs are recognised in profit or loss on the earlier of the date of the plan amendment or curtailment and the date that the Group recognises restructuring-related costs.

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

For subsidiary, current income 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

For subsidiary, 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 Subsidiary 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 Subsidiary 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 Subsidiary records deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to 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.

Classification and measurement of financial 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 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 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:

Allowance for expected credit losses of trade receivables

In determining an allowance for expected credit losses of trade, the management needs to make judgement and estimates based upon, among other things, past collection history, aging profile of outstanding debts and the forecast economic condition for groupings of various customer segments with similar credit risks. The Group's historical credit loss experience and forecast economic conditions may also not be representative of whether a customer will actually default in the future.

Post-employment benefits under defined benefit plans and other long-term employee benefits

The obligation under the defined benefit plan and other long-term employee benefit plans is determined based on actuarial techniques. Such determination is made based on various assumptions, including discount rate, inflation rate, future salary increase rate, mortality rate and staff turnover rate.

Provisions and contingent liabilities in relation to litigations

The Group has contingent liabilities as a result of litigation. The Group's management has used judgement to assess of the results of the litigation and believes that loss incurred will not exceed the record amounts as at the end of reporting period.

Property plant and equipment/Depreciation

In determining depreciation of plant and equipment, the management is required to make estimates of the useful lives and residual values of the plant and equipment and to review estimate useful lives and residual values when there are any changes.

In addition, the management is required to review property, plant and equipment for impairment on a periodical basis and record impairment losses 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.



6. Related party transactions

During the years, the Group had significant business transactions with person or related parties. Such transactions, which are summarised below, arose in the ordinary course of business and were concluded on commercial terms and bases agreed upon between Provincial Electricity Authority and those related parties.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Transactions with subsidiary company				
(eliminated from the consolidated financial statements)				
Sales and services income	-	-	7	5
Construction and purchase of fixed asset	-	-	317	-
Other operating expenses	-	-	55	136

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Transactions with associates				
Dividend income	50	50	-	-
Cost of electricity	477	486	477	486





As at 31 December 2021 and 2020, the balances of the accounts between Provincial Electricity Authority and those related companies are as follows:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Other receivable – related party (Note 8)				
Subsidiary	-	-	1	-
Short-term loans to related parties				
Associates	49	-	-	-
Advance payments to suppliers				
Subsidiary	-	-	-	93
Trade and other payables - related party (Note 21)				
Subsidiary	-	-	52	21
Construction obligations				
Subsidiary	-	-	2	-

Short-term loans to related parties

As at 31 December 2021 and 2020, the balances of short-term loans to related parties and the movement in short-term loans are as follows:

(Unit: Million Baht)

	Consolidated financial statements			
	Balance as at 31 December 2020	During the year		Balance as at 31 December 2021
		Increase	Decrease	
Short-term loans to related parties				
Associates				
Thai Digital Energy Development Company Limited	-	17	-	17
Pracharath Biomass Maelan Company Limited	-	20	(10)	10
Pracharath Biomass Bannangsata Company Limited	-	28	(6)	22
Total	-	65	(16)	49



As at 31 December 2021, short-term loans to related parties are unsecured loans and are due within 2022 or within 30 days from the date of received from financial institutions, with an interest rate of 2.83 and 3.75 percent per annum.

Transactions with related parties as mentioned above do not include government agencies and state enterprises, except PEA ENCOM International Company Limited, a subsidiary of Provincial Electricity Authority.

Directors and management's benefits

During the years ended 31 December 2021 and 2020, the Group had employee benefit expenses payable to their directors and management as below.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Short-term employee benefits	120	117	115	113
Post-employment benefits	4	4	4	4
Total	124	121	119	117

7. Cash and cash equivalents

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Cash	53	38	53	38
Bank deposits - Current	35	3	31	-
Bank deposits - Saving	11,166	12,338	10,774	12,148
Bank deposits - Fixed	986	1,130	-	-
Total	12,240	13,509	10,858	12,186

As at 31 December 2021, bank deposits in saving accounts and fixed deposits carried interests between 0.05 and 0.45 percent per annum (2020: between 0.05 and 1.10 percent per annum).





8. Trade and other receivables

The balance of trade and other receivables as at 31 December 2021 and 2020, aged on the basis of due dates, can be summarised as follows:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Trade receivables				
Aged on the basis of due dates				
Not yet due	32,316	30,941	32,260	30,897
Past due				
Up to 3 months	7,453	6,975	7,453	6,970
3 - 6 months	1,013	1,489	1,012	1,485
6 - 12 months	759	732	756	732
Over 12 months	1,744	1,408	1,742	1,394
Total	43,285	41,545	43,223	41,478
Less: Allowance for expected credit losses	(2,126)	(1,848)	(2,096)	(1,832)
Total trade receivables - net	41,159	39,697	41,127	39,646
Other receivables				
Other receivables - unrelated parties	2,498	1,651	2,375	1,625
Other receivables - related party (Note 6)	-	-	1	-
Prepaid expenses	21	32	17	30
Interest receivable	8	24	7	23
Accrued revenues from the Power Development Fund	2,511	2,427	2,511	2,428
Other accrued revenues	483	728	179	695
Total	5,521	4,862	5,090	4,801
Less: Allowance for expected credit losses	(239)	(224)	(230)	(215)
Total other receivables - net	5,282	4,638	4,860	4,586
Trade and other receivables - net	46,441	44,335	45,987	44,232



Set out below is the movements in the allowance for expected credit losses of trade and other receivables.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Beginning balance	2,072	1,746	2,047	1,744
Expected credit losses	308	335	294	312
Amount written off	(15)	(9)	(15)	(9)
Ending balance	2,365	2,072	2,326	2,047

The normal credit term is 10 to 60 days (Provincial Electricity Authority only: 10 to 18 days).

9. Inventories

(Unit: Million Baht)

	Consolidated financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2021	2020	2021	2020	2021	2020
Operating materials and supplies	69	67	-	-	69	67
Materials and supplies for construction and maintenance	490	403	(2)	-	488	403
Materials and supplies for repair	1,526	1,582	-	-	1,526	1,582
Demolition materials and supplies, and obsolete materials and supplies	397	520	(2)	(6)	395	514
Materials and supplies pending for adjustments	54	36	(54)	(36)	-	-
Cars waiting for delivery	6	8	(2)	-	4	8
Materials and supplies in transit	4	11	-	-	4	11
Total	2,546	2,627	(60)	(42)	2,486	2,585





(Unit: Million Baht)

	Separate financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2021	2020	2021	2020	2021	2020
Operating materials and supplies	69	67	-	-	69	67
Materials and supplies for construction and maintenance	483	401	-	-	483	401
Materials and supplies for repair	1,526	1,582	-	-	1,526	1,582
Demolition materials and supplies, and obsolete materials and supplies	397	520	(2)	(3)	395	517
Materials and supplies pending for adjustments	54	36	(54)	(36)	-	-
Materials and supplies in transit	4	11	-	-	4	11
Total	2,533	2,617	(56)	(39)	2,477	2,578

During the current year, the Group reduced cost of allowance for obsolete materials and supplies and allowance for loss or misstated or lost materials and supplies under investigation by Baht 148 million (2020: Baht 334 million) (Provincial Electricity Authority only: Baht 147 million, 2020: Baht 331 million), to reflect the net realisable value. This was included in expense. In addition, the Group reversed the write-down of cost of inventories by Baht 130 million (2020: Baht 440 million) (Provincial Electricity Authority only: Baht 130 million, 2020: Baht 439 million), and reduced the amount of inventories recognised as expenses during the year.



10. Specific-purpose deposits at financial institutions

(Unit: Million Baht)

	Consolidated and Separate financial statements	
	2021	2020
Electricity usage guarantee fund (Note 30)	23,548	23,160
Interest from electricity usage guarantee fund	4,878	4,783
Sinking fund for repayment of bonds	6,253	1,427
KFW special fund	184	212
Restricted deposits with banks	3,264	3,444
Funding under the energy conservation policy from Energy Policy and Planning Office and other government agencies	1	15
Deposits on incomes reimburse to users based on the Energy Regulatory Commission's directives	2,724	4,262
Total	40,852	37,303

Electricity usage guarantee fund, sinking fund for repayment of bonds and restricted cash are deposits at financial institutions that can be used in Provincial Electricity Authority's activities in case of Provincial Electricity Authority have deficits in working capital.

Sinking fund for repayment of bonds is used as Provincial Electricity Authority guarantee for repayment of bonds at the maturity date. Provincial Electricity Authority will periodically deposit to the account for repayment of bonds with maturity period within 3 years.

Interest from electricity usage guarantee fund, interest from KFW special fund, and funding under the energy conservation policy from Energy Policy are deposited at financial institutions which are restricted for specific purposes as determined by Provincial Electricity Authority.

Restricted deposits - saving accounts are used as a guarantee for Provincial Electricity Authority's employee loans. Provincial Electricity Authority has to maintain a balance of saving accounts at a monthly average of Baht 3,100 million.

Deposits on incomes reimburse to users based on the Energy Regulatory Commission's directives are deposits at financial institutions that Provincial Electricity Authority uses according to a resolution directive by the Energy Regulatory Commission.





11. Investments in subsidiary

11.1 Details of investment in subsidiary

Investment in subsidiary as at 31 December 2021 and 2020 are as follows:

	Separate financial statements			
	Paid-up capital		Shareholding percentage	
	2021	2020	2021	2020
	(Million Baht)	(Million Baht)	(%)	(%)
Non-listed company				
PEA ENCOM International Company Limited	3,295	2,451	100	100

Investment in subsidiary in the separate financial statements represent the investment in PEA Encom International Company Limited. The Subsidiary is registered in Thailand with purposes of investing in electricity-related businesses and conducting training services concerning electricity systems for public organisations and private organisations both domestically and internationally. Provincial Electricity Authority has acquired 100 percent shareholding of its ordinary shares. The investments in subsidiary are recorded under the cost method.

Investments in subsidiary as presented in separate financial statements details as follows:

(Unit: Million Baht)

	Separate financial statements	
	Cost	
	2021	2020
Non-listed company		
PEA ENCOM International Company Limited	3,295	2,451

During the years ended 31 December 2021 and 2020, there was no dividend received from the subsidiary.



11.2 Significant changes in investment in subsidiary

- a. On 20 January 2021, the Provincial Electricity Authority's Board of Directors Meeting No. 1/2021 passed resolutions to approve share capital increase for PEA ENCOM International Company Limited, the subsidiary of Provincial Electricity Authority, as follows:
 1. An increase of share capital through issuance of 10.1 million shares with a par value of Baht 10 per share, totaling Baht 101 million was approved for PEA ENCOM International Company Limited to invest the proceeds in the power transmission system for the power plants of B.Grimm Power. (AIE - MTP) Company Limited. Provincial Electricity Authority paid for the shares on 11 March 2021 and PEA ENCOM International Company Limited registered the capital increase with the Ministry of Commerce on 25 March 2021. The shareholding percentage in subsidiary remains the same.
 2. An increase of Baht 1,150 million in share capital was approved for PEA ENCOM International Company Limited to invest in a solar energy power project of Set Energy Company Limited. Provincial Electricity Authority paid for the newly issued and called-up 62.6 million shares with a par value of 10 baht per share, totaling Baht 626 million on 5 April 2021. Also, PEA ENCOM International Company Limited registered the capital increase with the Ministry of Commerce on 9 April 2021. The shareholding percentage in subsidiary remains the same.

- b. On 21 April 2021, the Provincial Electricity Authority's Board of Directors Meeting No. 4/2021 passed resolutions to approve share capital increase for subsidiary through issuance of 11.7 million shares with a par value of Baht 10 per share, totaling Baht 117 million. The purpose of the capital increase was to jointly invest in MSEC Power Company Limited (MSEK) for the development of Solar Rooftop business in Thailand under a Private PPA power sales contract, with a target to reach 135 MW of solar capacity in 2025. Provincial Electricity Authority paid for the newly issued shares on 19 July 2021 and PEA ENCOM International Company Limited registered the capital increase with the Ministry of Commerce on 12 July 2021. The shareholding percentage in subsidiary remains the same.

- c. On 19 January 2022, the Provincial Electricity Authority's Board of Directors Meeting No. 1/2022 passed resolutions to approve share capital increase for subsidiary through issuance of 50 million shares with a par value of Baht 10 per share, totaling Baht 500 million, aiming to increase liquidity in the operation of the Solar Rooftop project. Provincial Electricity Authority paid for the newly issued shares on 16 March 2022 and PEA ENCOM International Company Limited registered the capital increase with the Ministry of Commerce on 23 March 2022. The shareholding percentage in subsidiary remains the same.

12. Investments in associates

12.1 Details of associates

Investments in associated companies in the consolidated financial statements as a transaction of PEA ENCOM International Company Limited which is the subsidiary of Provincial Electricity Authority, has jointly invested for the equity method.





(Unit: Million Baht)

Company's name	Nature of business	Country of Incorporation	Consolidated financial statements									
			Shareholding percentage		Cost		Carrying amounts based on equity method		Allowance for impairment of investments		Carrying amounts based on equity method - Net	
			2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
			(%)	(%)								
Indirect holdings												
Solar Power (Surin 1) Company Limited	Generating electricity from solar power	Thailand	25	25	41.25	41.25	110.1	101.4	-	-	110.1	101.4
Solar Power (Surin 2) Company Limited	Generating electricity from solar power	Thailand	25	25	41.25	41.25	107.9	99.0	-	-	107.9	99.0
Solar Power (KhonKaen 10) Company Limited	Generating electricity from solar power	Thailand	25	25	41.25	41.25	109.2	100.3	-	-	109.2	100.3
Solar Power (Loei 2) Company Limited	Generating electricity from solar power	Thailand	25	25	41.25	41.25	109.7	101.0	-	-	109.7	101.0
Pracharath Biomass Narathiwat Company Limited	Generating electricity from biomass	Thailand	40	40	2.4	2.4	2.2	2.2	(2.2)	(2.2)	-	-
Pracharath Biomass Maelan Company Limited	Generating electricity from biomass	Thailand	40	50.13	57.8	57.8	55.7	56.6	-	-	55.7	56.6
Pracharath Biomass Bannangsata Company Limited	Generating electricity from biomass	Thailand	40	50.55	61.6	61.6	58.8	59.9	-	-	58.8	59.9
Thai Serm Suk Energy Company Limited	Generating electricity from biomass	Thailand	25	25	25.0	25.0	24.0	23.6	-	-	24.0	23.6
Thai Digital Energy Development Company Limited	Develop integrated digital energy products and services	Thailand	25	25	50.0	50.0	49.5	49.8	-	-	49.5	49.8
Set Energy Company Limited	Develop and invest in smart power grids	Thailand	20	20	646.0	20.0	633.2	18.9	-	-	633.2	18.9
Encom Waste To Energy (Phranakhon Si Ayutthaya) Company Limited	Generating electricity from refuse derived fuel	Thailand	25	25	20.6	8.1	19.3	7.9	-	-	19.3	7.9
Salo Tech (Thailand) Company Limited	Generating and distribution of electricity	Thailand	25	25	30.5	1.3	29.1	0.7	-	-	29.1	0.7
Siam Electrail Company Limited	Develop electrical systems to support high-speed rail business	Thailand	25	25	3.1	3.1	2.7	3.1	-	-	2.7	3.1





(Unit: Million Baht)

Consolidated financial statements												
Company's name	Nature of business	Country of Incorporation	Shareholding percentage		Cost		Carrying amounts based on equity method		Allowance for impairment of investments		Carrying amounts based on equity method - Net	
			2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
			(%)	(%)								
Indirect holdings (continued)												
R E N Korat Energy Company Limited	Generating electricity from combined heat energy	Thailand	25	25	75.0	6.4	70.4	5.4	-	-	70.4	5.4
PEA Intelligent Technology Company Limited	Provide and sold electronic and smart devices	Thailand	25	25	1.5	1.5	1.5	1.5	-	-	1.5	1.5
Thai Encom Company Limited	Hire to set up a system for data analysis and research.	Thailand	25	-	6.3	-	6.3	-	-	-	6.3	-
PEA Encom Smart Solution Company Limited	Full services related to a solar cell system	Thailand	25	-	0.3	-	0.4	-	-	-	0.4	-
Total					1,145.1	402.2	1,390.0	631.3	(2.2)	(2.2)	1,387.8	629.1





12.2 Share of comprehensive income and dividend received

During the years ended 31 December 2021 and 2020, the subsidiary of Provincial Electricity Authority has recognised its share of comprehensive income from investments in associates in the statement of comprehensive income as follows:

(Unit: Million Baht)

Associates	Consolidated financial statements			
	Share of profits (losses) from investments in associates*		Dividend received by subsidiary	
	2021	2020	2021	2020
Solar Power (Surin 1) Company Limited	22.8	21.9	14.1	13.5
Solar Power (Surin 2) Company Limited	22.7	21.8	13.8	13.6
Solar Power (KhonKaen 10) Company Limited	20.6	20.3	11.7	11.9
Solar Power (Loei 2) Company Limited	18.8	19.1	10.1	11.2
Pracharath Biomass Narathiwat Company Limited	-	-	-	-
Pracharath Biomass Maelan Company Limited	(0.9)	(0.6)	-	-
Pracharath Biomass Bannangsata Company Limited	(1.1)	(1.1)	-	-
Thai Serm Suk Energy Company Limited	0.4	(0.5)	-	-
Thai Digital Energy Development Company Limited	(0.3)	(0.1)	-	-
Set Energy Company Limited	(11.7)	(1.1)	-	-
Encom Waste To Energy (Phranakhon Si Ayutthaya) Company Limited	(1.1)	(0.2)	-	-
Salo Tech (Thailand) Company Limited	(0.8)	(0.5)	-	-
Siam Electrail Company Limited	(0.4)	-	-	-
R E N Korat Energy Company Limited	(3.6)	(1.1)	-	-
PEA Intelligent Technology Company Limited	-	-	-	-
Thai Encom Company Limited	-	-	-	-
PEA Encom Smart Solution Company Limited	0.1	-	-	-
Total	65.5	77.9	49.7	50.2

* Financial information for the year 2021 as presented in the consolidated financial statements were prepared by the management of associated companies.



During the years ended 31 December 2021 and 2020, there was no share of other comprehensive income from investments in associates.

12.3 Significant changes in investments in associates

Encom West to Energy (Phra Nakhon Si Ayutthaya) Company Limited

During the year, Encom West to Energy (Phra Nakhon Si Ayutthaya) Company Limited called on payment for the newly issued shares. On 3 March 2021, the subsidiary of Provincial Electricity Authority paid for the shares in proportion to its original investment stake, or for 0.125 million shares at the rate of Baht 100 per shares, totaling Baht 12.5 million.

R E N Korat Energy Company Limited

During the year, R E N Korat Energy Company Limited called on payment for the newly issued shares. The subsidiary of Provincial Electricity Authority made payments for the shares in proportion to its original investment stake, or for 2.475 million shares at the rate of Baht 7.50 per share, totaling Baht 18.60 million, and for 5 million shares at the rate of Baht 10 per share, totaling Baht 50 million, on 30 March 2021 and 7 December 2021, respectively.

Set Energy Company Limited

During the year, Set Energy Company Limited called on payment for the newly issued shares. On 19 April 2021, the subsidiary of Provincial Electricity Authority paid for the shares in proportion to its original investment stake, or for 6.26 million shares at the rate of Baht 100 per share, totaling Baht 626 million.

Salo Tech (Thailand) Company Limited

During the year, Salo Tech (Thailand) Company Limited on payment for the newly issued shares. The subsidiary of Provincial Electricity Authority paid for the shares in proportion to its original investment stake in the amounts of EUR 0.29 million or Baht 10.75 million, EUR 0.25 million or Baht 9.25 million, and EUR 0.25 million or Baht 9.25 million, on 14 May 2021, 15 July 2021 and 29 October 2021, respectively.

Pracharath Biomass Mae Lan Company Limited and Pracharath Biomass Bannang Sata Company Limited

During the year 2020, Pracharath Biomass Mae Lan Company Limited and Pracharath Biomass Bannang Sata Company Limited resolved to approve the share capital increase. As a result, investment stakes in the associated companies increased from 40 percent to 50.13 percent, and to 50.55 percent, respectively. The reason for the increases in investment stakes was that a shareholder failed to pay for ordinary shares due to lack of financial liquidity.

However, during the current year, such shareholder made full payment for the ordinary shares. As a result, the investment stakes in these two associated companies remain the same at 40 percent.





Pracharath Biomass Narathiwat Company Limited

During the year 2020, the subsidiary's management was of an opinion that there was uncertainty in the business operation of Pracharath Biomass Narathiwat Company Limited. Therefore, the management considered recording impairment loss of such investment in the financial statements, presented as investment under the equity method of Baht 2.2 million in profit or loss.

Thai Encom Company Limited

On 4 October 2021, the subsidiary of Provincial Electricity Authority paid for the shares of Thai Encom Company Limited, a newly established company registered in Thailand, with a registered capital comprising 1,000 shares with a par value of Baht 100 per share. The subsidiary holds 25 percent the ordinary shares issued and sold, or 250 shares at the price of Baht 100, totaling Baht 25,000. The newly company is engaged in businesses relating to energy and renewable energy, efficient energy management, technology and communication, as well as businesses related to electric vehicles, data center establishment and construction.

On 20 October 2021, Thai ENCOM Company Limited called on payment for the newly issued 249,750 shares at the rate of 25 percent of the par value of Baht 100 per share. The subsidiary paid for the shares in proportion to its original investment stake amounting to Baht 6.3 million on 27 October 2021.

PEA ENCOM Smart Solution Company Limited

On 14 December 2021, the subsidiary of Provincial Electricity Authority paid for the shares of PEA ENCOM Smart Solution Company Limited, a newly established company registered in Thailand that has registered capital comprising 100,000 shares with a par value of Baht 10 per share. The subsidiary holds 25 percent of the ordinary shares issued and sold, or 25,000 shares at the price of Baht 10, totaling Baht 0.3 million. The newly company is engaged in installation of solar cells for the public sector and small businesses sector, as well as organisation of training on solar cell system operation.

On 4 March 2022, PEA ENCOM Smart Solution Company Limited called on payment for the newly issued 225,000 shares with a par value of Baht 10 per share, under the plan to increase registered capital. On 14 March 2022, the subsidiary made payment for the shares in proportion to its original investment stake, totaling Baht 2.3 million.



13. Investments in joint ventures

13.1 Details of investments in joint ventures

Investments in joint ventures represent investments in entities which are jointly controlled by the subsidiary of Provincial Electricity Authority and other companies as at 31 December 2021 and 2020. Details of these investments are as follows:

(Unit: Million Baht)

Joint venture	Nature of business	Country of incorporation	Consolidated financial statements					
			Shareholding percentage		Cost		Carrying amounts based on cost method	
			2021	2020	2021	2020	2021	2020
			(%)	(%)				
Indirectly owned								
PEA Encom Fah Chai joint venture	install and provide service on solar power electricity generating system	Thailand	25	25	5.5	5.5	5.3	5.3
Less: Allowance for impairment of investments					(5.5)	(5.5)	(5.3)	(5.3)
Total					<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Investments in joint venture in the consolidated financial statements is the investment of PEA ENCOM International Company Limited, the subsidiary of Provincial Electricity Authority, which has entered into a joint venture agreement in the name of PEA Encom Fah Chai joint venture to install and provide service on solar power electricity generating system on 8 March 2017 and are accounted by using the equity method.

During the year 2020, the management of the subsidiary assessed the uncertainty in the business operation of the joint venture. The subsidiary recognised allowance for impairment loss in such investment in which the investment under the equity method amounting to Baht 5.3 million in profit or loss.

During the years ended 31 December 2021 and 2020, there was no share of other comprehensive income from investments in joint venture and there was no dividend received from the joint venture.





14. Other non-current financial assets

Other non-current financial assets represent the Group's investments details as follows:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Equity instruments designated at FVOCI				
Listed company equity investment				
WP Energy Public Company Limited	2	2	2	2
Non-listed company equity investment				
B.Grimm Power (AIE-MTP) Company Limited	255	241	-	-
Total	257	243	2	2

Investment in B.Grimm Power (AIE-MTP) Company Limited

During the year 2020, the subsidiary has jointly invested in B.Grimm Power (AIE-MTP) Company Limited to invest in the power generation business under the Small Power Producer (SPP) contract amounting to Baht 16.25 million ordinary shares, the shareholding proportion of 5 percent in B.Grimm Power (AIE-MTP) Company Limited amounting to Baht 241.3 million.

On 9 December 2021, B.Grimm Power (AIE-MTP) Company Limited called up for an additional 25 percent of the capital increase shares. According to the resolution of the Board of Directors of B.Grimm Power (AIE-MTP) Co., Ltd. No. 4/2021 dated 18 November 2021, approved to call for unpaid shares of 25 percent of the total amount. Capital increase, representing the value of shares in PEA Encom International Company Limited amounting to Baht 13.8 million.



15. Other non-current receivables

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Installment receivables	17	39	17	39
Lease receivables	9	1	-	-
Receivable under finance lease	974	600	22	23
Total	1,000	640	39	62

16. Constructions in progress

(Unit: Million Baht)

	Consolidated financial statements		
	The Group's capital budget	Partially funded by electricity users	Total
As at 1 January 2020	27,998	5,542	33,540
Acquisition - at cost	36,140	6,736	42,876
Transfer out	(32,482)	(7,266)	(39,748)
	31,656	5,012	36,668
Inventories			15,241
Work in progress			2
As at 31 January 2020			51,911
As at 1 January 2021	31,656	5,012	36,668
Transfer	(639)	639	-
Acquisition - at cost	40,638	6,688	47,326
Transfer out	(34,537)	(7,788)	(42,325)
	37,118	4,551	41,669
Inventories			14,406
Work in progress			2
As at 31 December 2021			56,077





(Unit: Million Baht)

	Separate financial statements		
	Provincial Electricity Authority's capital budget	Partially funded by electricity users	Total
As at 1 January 2020	27,926	5,542	33,468
Acquisition - at cost	35,713	6,736	42,449
Transfer out	(32,380)	(7,266)	(39,646)
	31,259	5,012	36,271
Inventories			15,241
Work in progress			2
As at 31 January 2020			51,514
As at 1 January 2021	31,259	5,012	36,271
Transfer	(639)	639	-
Acquisition - at cost	40,041	6,688	46,729
Transfer out	(34,210)	(7,788)	(41,998)
	36,451	4,551	41,002
Inventories			14,406
Work in progress			2
As at 31 December 2021			55,410

Inventories presented in constructions in progress are the materials and supplies which Provincial Electricity Authority has purchased with specific purposes for use in the projects.

Provincial Electricity Authority has borrowed specific loans to construct buildings, electricity generating and distributing systems which are eligible for qualifying assets. The borrowing costs that directly attributable to the construction of qualifying assets and incurred from loans made for specific purposes are capitalised as cost of assets at interest rates of 0.72 to 6.53 percent per annum (2020: 0.72 to 6.53 percent per annum). Interest expenses on loans for the year ended 31 December 2021 amounting to Baht 3,600 million (2020: Baht 2,991 million) are capitalised as part of the cost of constructions in progress amounting to Baht 608 million (2020: Baht 339 million) and recognised as expenses in profit or loss amounting to Baht 2,992 million (2020: Baht 2,652 million).



17. Investment properties

The net book value of investment properties as at 31 December 2021 and 2020 is presented below.

(Unit: Million Baht)

	Consolidated financial statements				Separate financial statements			
	Land and land improvements	Building and building improvements	Construction in progress	Total	Land and land improvements	Building and building improvements	Construction in progress	Total
As at 31 December 2020								
Cost	149	475	-	624	149	475	-	624
Less: Accumulated depreciation	-	(123)	-	(123)	-	(123)	-	(123)
Net book value	149	352	-	501	149	352	-	501
As at 31 December 2021								
Cost	117	475	49	641	117	475	-	592
Less: Accumulated depreciation	-	(140)	-	(140)	-	(140)	-	(140)
Net book value	117	335	49	501	117	335	-	452

A reconciliation of the net book value of investment properties for the years 2021 and 2020 is presented below.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Net book value at beginning of year	501	436	501	436
Acquisition - at cost	49	-	-	-
Transfer	(32)	81	(32)	81
Depreciation for the year	(17)	(16)	(17)	(16)
Net book value at end of year	501	501	452	501

Provincial Electricity Authority had rental revenue from investment properties for the year ended 31 December 2021 of Baht 26 million (2020: Baht 23 million). As at 31 December 2021, the cost value of land for lease is Baht 43 million (2020: Baht 43 million) and the cost value of building for lease is Baht 475 million (2020: Baht 475 million).





The additional information of the investment properties as at 31 December 2021 and 2020 stated below:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
The fair value of land and land improvements	397	421	397	421
The fair value of building and building improvements	174	176	174	176
The fair value of construction in progress	49	-	-	-
Total	620	597	571	597

The fair value has been determined based on valuation announced by the Treasury Department and the fair value of construction in progress is stated at cost.



18. Property, plant and equipment

Movements of property, plant and equipment for the years ended 31 December 2021 and 2020 are summarised below.

(Unit: Million Baht)

Consolidated financial statements							
	Land and land improvements	Buildings and construction	Electricity generating systems	Electricity distributing systems	Furniture, tools and equipment	Vehicles	Total
Cost:							
1 January 2020	16,432	18,903	2,675	492,106	24,788	10,569	565,473
Additions	1,196	202	5	16	1,242	1,467	4,128
Received from donations	-	-	6	107	4	5	122
Transfer from construction in progress	444	1,372	6	32,772	2,316	42	36,952
Transfer	(54)	2	(1)	(102)	31	2	(122)
Disposals	(19)	(64)	(3)	(3,707)	(434)	(152)	(4,379)
31 December 2020	17,999	20,415	2,688	521,192	27,947	11,933	602,174
Additions	733	100	19	106	1,058	1,531	3,547
Received from donations	-	-	-	142	-	-	142
Transfer from construction in progress	406	1,304	28	38,289	1,258	4	41,289
Transfer	41	7	373	(50)	2	(378)	(5)
Disposals	(16)	(165)	(3)	(6,162)	(589)	(141)	(7,076)
31 December 2021	19,163	21,661	3,105	553,517	29,676	12,949	640,071
Accumulated depreciation:							
1 January 2020	1,681	7,032	1,314	252,886	15,666	8,235	286,814
Depreciation for the year	146	605	93	19,337	1,819	464	22,464
Transfer	10	(1)	-	(68)	16	2	(41)
Depreciation on disposals	(13)	(33)	(3)	(2,752)	(403)	(152)	(3,356)
31 December 2020	1,824	7,603	1,404	269,403	17,098	8,549	305,881
Depreciation for the year	158	653	43	20,149	1,980	572	23,555
Transfer	1	4	146	(41)	1	(148)	(37)
Depreciation on disposals	(10)	(118)	(3)	(4,742)	(583)	(140)	(5,596)
31 December 2021	1,973	8,142	1,590	284,769	18,496	8,833	323,803





(Unit: Million Baht)

Consolidated financial statements							
	Land and land improvements	Buildings and construction	Electricity generating systems	Electricity distributing systems	Furniture, tools and equipment	Vehicles	Total
Net book value:							
31 December 2020	16,175	12,812	1,284	251,789	10,849	3,384	296,293
31 December 2021	17,190	13,519	1,515	268,748	11,180	4,116	316,268
Depreciation for the year							
2020 (Baht 246 million included in construction in progress cost, and the balance in statement of profit or loss)							22,218
2021 (Baht 275 million included in construction in progress cost, and the balance in statement of profit or loss)							23,280



(Unit: Million Baht)

	Separate financial statements						
	Land and land improvements	Buildings and construction	Electricity generating systems	Electricity distributing systems	Furniture, tools and equipment	Vehicles	Total
Cost:							
1 January 2020	16,432	18,903	2,675	492,106	24,783	10,569	565,468
Additions	1,196	202	5	13	1,240	1,467	4,123
Asset received from donations	-	-	6	107	4	5	122
Transfer from construction in progress	444	1,372	6	32,771	2,316	40	36,949
Transfer	(54)	2	(1)	(102)	31	2	(122)
Disposals	(19)	(64)	(3)	(3,707)	(434)	(152)	(4,379)
31 December 2020	17,999	20,415	2,688	521,188	27,940	11,931	602,161
Additions	733	99	19	121	1,056	1,531	3,559
Asset received from donations	-	-	-	142	-	-	142
Transfer from construction in progress	406	1,304	28	38,289	1,258	4	41,289
Transfer	41	7	373	(50)	2	(378)	(5)
Disposals	(16)	(165)	(3)	(6,162)	(589)	(141)	(7,076)
31 December 2021	19,163	21,660	3,105	553,528	29,667	12,947	640,070
Accumulated depreciation:							
1 January 2020	1,681	7,032	1,314	252,886	15,663	8,235	286,811
Depreciation for the year	146	605	93	19,336	1,818	464	22,462
Transfer	9	(1)	-	(67)	16	2	(41)
Depreciation on disposals	(12)	(33)	(3)	(2,753)	(403)	(152)	(3,356)
31 December 2020	1,824	7,603	1,404	269,402	17,094	8,549	305,876
Depreciation for the year	158	653	43	20,148	1,979	572	23,553
Transfer	1	4	146	(41)	1	(148)	(37)
Depreciation on disposals	(10)	(118)	(3)	(4,742)	(583)	(140)	(5,596)
31 December 2021	1,973	8,142	1,590	284,767	18,491	8,833	323,796





(Unit: Million Baht)

	Separate financial statements						
	Land and land improvements	Buildings and construction	Electricity generating systems	Electricity distributing systems	Furniture, tools and equipment	Vehicles	Total
Net book value:							
31 December 2020	16,175	12,812	1,284	251,786	10,846	3,382	296,285
31 December 2021	17,190	13,518	1,515	268,761	11,176	4,114	316,274
Depreciation for the year							
2020 (Baht 246 million included in construction in progress cost, and the balance in statement of profit or loss)							22,216
2021 (Baht 275 million included in construction in progress cost, and the balance in statement of profit or loss)							23,278

As at 31 December 2021, certain items of building and equipment were fully depreciated but are still in use. The gross carrying amount before deducting accumulated depreciation of those assets amounted to approximately Baht 104,673 million (2020: Baht 99,399 million) (Provincial Electricity Authority only: Baht 104,672 million, 2020: Baht 99,399 million).



19. Intangible assets

The net book value of intangible assets as at 31 December 2021 and 2020 is presented below.

(Unit: Million Baht)

	Consolidated financial statements			Separate financial statements		
	Computer software licenses	Computer software	Total	Computer software licenses	Computer software	Total
As at 31 December 2020						
Cost	4,741	2,007	6,748	4,738	2,007	6,745
Less: Accumulated amortisation	(3,776)	(302)	(4,078)	(3,776)	(302)	(4,078)
Net book value	965	1,705	2,670	962	1,705	2,667
As at 31 December 2021						
Cost	5,032	2,398	7,430	5,027	2,398	7,425
Less: Accumulated amortisation	(3,999)	(840)	(4,839)	(3,998)	(840)	(4,838)
Net book value	1,033	1,558	2,591	1,029	1,558	2,587

A reconciliation of the net book value of intangible assets for the years 2021 and 2020 is presented below.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Net book value at beginning of year	2,670	406	2,667	406
Acquisition - cost	66	252	63	249
Received from donations	-	2	-	2
Transfers from construction in progress	709	2,696	709	2,696
Amortisation for the year	(854)	(686)	(852)	(686)
Net book value at end of year	2,591	2,670	2,587	2,667





As at 31 December 2021, certain items of Computer software licenses were fully amortised but are still in use. The gross carrying amount before deducting accumulated amortisation of those assets amounted to approximately Baht 3,329 million (2020: Baht 3,103 million) (Provincial Electricity Authority only: Baht 3,328 million, 2020: Baht 3,103 million).

20. Other non-current assets

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Employee receivables	78	76	78	76
Deferred expenses	24	21	24	21
Retentions and deposits	4	2	2	2
Deferred tax assets	16	24	-	-
Revenue Department receivable	-	55	-	-
PEA Employee Gratuity Fund				
- Saving accounts	1	1	1	1
Total	123	179	105	100



21. Trade and other payables

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Trade payables - unrelated parties	42,868	42,241	42,803	42,140
Trade payables - related party (Note 6)	-	-	1	-
Other payables - unrelated parties	1,304	1,522	1,294	1,516
Other payables - related party (Note 6)	-	-	23	20
Accrued interest expenses	938	807	938	807
Accrued expenses - unrelated parties	3,222	2,419	2,841	2,394
Accrued expenses - related party (Note 6)	-	-	28	-
Unearned revenues - unrelated parties	235	270	235	270
Unearned revenues - related party (Note 6)	-	-	-	1
Total trade and other payables	48,567	47,259	48,163	47,148

22. Long-term loans

(Unit: Million Baht)

	Interest rate	Repayment schedule	Consolidated financial statements		Separate financial statements	
			2021	2020	2021	2020
Domestic long-term loans						
The Ministry of Finance	Interest free	1988 - 2031	133	133	133	133
Bonds	1.33 - 4.90	2007 - 2041	127,013	104,197	127,013	104,197
Financial institutions	0.7228	2020 - 2031	1,031	3,343	-	3,000
Foreign long-term loans						
Financial institutions	8.00*	2007 - 2023	75	109	75	109
Total			128,252	107,782	127,221	107,439
Less: Current portion			(5,636)	(8,243)	(5,554)	(8,243)
Long-term loans, net of current portion			122,616	99,539	121,667	99,196

* Borrowing interest rate of 8 percent per annum under the loan contract includes interest expense that Provincial Electricity Authority paid into KFW special fund at the rate of 6 percent per annum. The objective is to be used to develop the personnel of Provincial Electricity Authority. Another 2 percent per year is paid to lenders.





Movements of the long-term loan account for the years ended 31 December 2021 and 2020 summarised as follows:

(Unit: Million Baht)

Consolidated financial statements						
2021						
	Balance as at 1 January 2021	Additions during year	Decreases during year	Unrealised loss on foreign exchange	Premium (discount) amortise	Balance as at 31 December 2021
Domestic long-term loans						
The Ministry of Finance	133	-	(16)	15	1	133
Bonds	104,197	28,000	(5,190)	-	6	127,013
Financial institutions	3,343	688	(3,000)	-	-	1,031
Foreign long-term loans						
Financial institutions	109	-	(36)	2	-	75
Total	107,782	28,688	(8,242)	17	7	128,252

(Unit: Million Baht)

Consolidated financial statements						
2020						
	Balance as at 1 January 2020	Additions during year	Decreases during year	Unrealised loss on foreign exchange	Premium (discount) amortise	Balance as at 31 December 2021
Domestic long-term loans						
The Ministry of Finance	156	-	(16)	3	(10)	133
Bonds	74,298	35,000	(5,100)	-	(1)	104,197
Financial institutions	1,000	2,343	-	-	-	3,343
Foreign long-term loans						
Financial institutions	197	-	(97)	9	-	109
Total	75,651	37,343	(5,213)	12	(11)	107,782



(Unit: Million Baht)

	Separate financial statements					
	2021					
	Balance as at 1 January 2021	Additions during year	Decreases during year	Unrealised loss on foreign exchange	Premium (discount) amortise	Balance as at 31 December 2021
Domestic long-term loans						
The Ministry of Finance	133	-	(16)	15	1	133
Bonds	104,197	28,000	(5,190)	-	6	127,013
Financial institutions	3,000	-	(3,000)	-	-	-
Foreign long-term loans						
Financial institutions	109	-	(36)	2	-	75
Total	107,439	28,000	(8,242)	17	7	127,221

(Unit: Million Baht)

	Separate financial statements					
	2020					
	Balance as at 1 January 2020	Additions during year	Decreases during year	Unrealised loss on foreign exchange	Premium (discount) amortise	Balance as at 31 December 2021
Domestic long-term loans						
The Ministry of Finance	156	-	(16)	3	(10)	133
Bonds	74,298	35,000	(5,100)	-	(1)	104,197
Financial institutions	1,000	2,000	-	-	-	3,000
Foreign long-term loans						
Financial institutions	197	-	(97)	9	-	109
Total	75,651	37,000	(5,213)	12	(11)	107,439

During the year Provincial Electricity Authority issues PEA bonds B.E. 2564 and B.E. 2565, summarised as follows:





No.	Facility	Issued date	Maturity date	Interest rate	Interest payment term
	(Million Baht)			(% per annum)	
No.4/2564	5,000	24 February 2021	24 February 2026	1.33	Every six months
No.5/2564	1,000	29 July 2021	29 July 2031	2.26	Every six months
No.6/2564	9,000	29 July 2021	29 January 2037	2.85	Every six months
No.1/2565	5,000	30 November 2021	30 November 2027	1.80	Every six months
No.2/2565	3,000	30 November 2021	30 November 2033	3.07	Every six months
No.3/2565	5,000	30 November 2021	30 November 2041	3.67	Every six months

Long-term loan from a foreign financial institution of Provincial Electricity Authority secured by the Ministry of Finance.

Long-term loan from a domestic financial institution of the subsidiary is secured by the assets of the distribution and installation of generating electricity from Solar Power project, (Solar Rooftop) presented as other non-current receivables in the statement of financial position. In addition, the subsidiary has to comply with certain requirements as stipulated in the agreement which includes maintaining financial ratios as stipulated in the contract.

As at 31 December 2021, the long-term credit facilities and other credit facilities of the Group which have not yet been drawn down amounted to Baht 3,118 million (Provincial Electricity Authority only: Baht 3,000 million) (2020: Baht 3,806 million, Provincial Electricity Authority only: Baht 3,000 million).



23. Leases

23.1 The Group as a lessee

The Group has lease contracts for various items of land, buildings, vehicles and others used in its operations. Leases generally have lease terms between 1 - 19 years.

23.1.1 Right-of-use assets

Movements of right-of-use assets for the years ended 31 December 2021 and 2020 are summarised below:

(Unit: Million Baht)

	Consolidated financial statements						
	Land and land improvement	Buildings and construction	Electricity generating systems	Furniture, tool and equipment	Vehicles	Intangible assets	Total
As at 1 January 2020	58	100	7	7	1,177	148	1,497
Additions	75	59	48	3	693	13	891
Decrease from contract termination	-	(1)	-	-	-	-	(1)
Depreciation for the year	(32)	(55)	(9)	(3)	(498)	(150)	(747)
As at 31 December 2020	101	103	46	7	1,372	11	1,640
Additions	89	63	-	-	838	-	990
Decrease from contract termination	(2)	(2)	-	-	(2)	-	(6)
Depreciation for the year	(53)	(73)	(24)	(3)	(567)	(2)	(722)
As at 31 December 2021	135	91	22	4	1,641	9	1,902





(Unit: Million Baht)

	Separate financial statements						
	Land and land improvement	Buildings and construction	Electricity generating systems	Furniture, tool and equipment	Vehicles	Intangible assets	Total
As at 1 January 2020	58	89	7	7	1,174	148	1,483
Additions	75	49	48	3	693	13	881
Decrease from contract termination	-	(1)	-	-	-	-	(1)
Depreciation for the year	(32)	(53)	(9)	(3)	(497)	(150)	(744)
As at 31 December 2020	101	84	46	7	1,370	11	1,619
Additions	58	63	-	-	835	-	956
Decrease from contract termination	(1)	(2)	-	-	(2)	-	(5)
Depreciation for the year	(52)	(69)	(24)	(3)	(566)	(2)	(716)
As at 31 December 2021	106	76	22	4	1,637	9	1,854

23.1.2 Lease liabilities

(Unit: Million Baht)

	Consolidated financial statements	
	2021	2020
Lease payments	2,226	1,969
Less: Deferred interest expenses	(110)	(136)
Total	2,116	1,833
Less: Portion due within one year	(852)	(718)
Lease liabilities - net of current portion	1,264	1,115



(Unit: Million Baht)

	Separate financial statements	
	2021	2020
Lease payments	2,170	1,944
Less: Deferred interest expenses	(104)	(133)
Total	2,066	1,811
Less: Portion due within one year	(841)	(713)
Lease liabilities - net of current portion	1,225	1,098

Movements of the lease liabilities account during the years ended 31 December 2021 and 2020 are summarised below:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Balance at beginning of year	1,833	1,670	1,811	1,656
Additions	990	891	956	881
Accretion of interest	70	88	69	87
Repayments	(777)	(816)	(770)	(813)
Balance at end of year	2,116	1,833	2,066	1,811

A maturity analysis of lease payments is disclosed in Note 39.1 under the liquidity risk.





23.1.3 Expenses relating to leases that are recognised in profit or loss

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Depreciation expense of right-of-use assets	722	748	716	744
Interest expense on lease liabilities	70	88	69	87
Expense relating to short-term leases	41	60	40	59
Expense relating to leases of low-value assets	2	5	2	5
Expense relating to variable lease payments that do not depend on an index or a rate	32	31	31	30

23.1.4 Others

The Group had total cash outflows for leases for the year ended 31 December 2021 of Baht 852 million (2020: Baht 765 million) (Provincial Electricity Authority only: Baht 843 million, 2020: Baht 760 million), including the cash outflow related to short-term lease, leases of low-value assets and variable lease payments that do not depend on an index or a rate.

23.2 Group as a lessor

The Group has entered into finance leases for its generating electricity from solar rooftop system of the lease terms are between 15 - 25 years.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Undiscounted lease payments receivable under finance leases				
Within 1 year	100	66	2	2
Over 1 and up to 5 years	382	254	7	7
Over 5 years	1,049	730	32	33
Total	1,531	1,050	41	42
Less: Deferred interest income	(509)	(426)	(18)	(19)
Net investment in the finance leases	1,022	624	23	23
Less: Allowance for expected credit losses	(24)	(16)	-	-
Net	998	608	23	23



24. Accrued remittance to the Ministry of Finance

Movements of accrued remittance to the Ministry of Finance for the years ended 31 December 2021 and 2020 summarised as follows:

(Unit: Million Baht)

	Consolidated financial statements and Separate financial statements	
	2021	2020
Balance at beginning of year	15,855	9,582
Adjustment for remittance to the Ministry of Finance for the year 2019	-	(4,088)
Adjustment for remittance to the Ministry of Finance for the year 2020	(4,043)	-
Reserve for remittance to public revenues	7,854	11,343
Remit to public revenues during the year	(7,503)	(982)
Balance at end of year	12,163	15,855

The Ministry of Finance requires Provincial Electricity Authority to allocate net profit to the Ministry of Finance as state revenue remittance at the rate of 50 percent of net profit before deducting bonus expenses or at the remittance amount specified in the Annual Budget Appropriation Act of the Budget Bureau, Office of the Prime Minister.

During the year, Provincial Electricity Authority has to reserve for remittance to public revenue as stipulated in the Annual Budget Expenditure Act, Budget B.E. 2565

The State Enterprise Policy Office approved that Provincial Electricity Authority is to remit the state revenue for the year 2020 of Baht 7,300 million to the Ministry of Finance. During the year 2021, Provincial Electricity Authority already remitted such amount in full to the Ministry of Finance. Therefore, Provincial Electricity Authority adjusted the revenue projection of Baht 4,043 million.

The state Enterprise Policy Office approved that Provincial Electricity Authority is to remit the state revenue for the half-year 2021 of Baht 203 million to the Ministry of Finance. During the year 2021, Provincial Electricity Authority already remitted such amount of half-year in full to the Ministry of Finance.





25. Deposits payable

(Unit: Million Baht)

	Consolidated financial statements and Separate financial statements	
	2021	2020
Pending repayment electricity usage guarantee	133	158
Other deposits payable	214	272
Total deposits payable	347	430

26. Other current liabilities

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Retentions and deposits	442	283	435	283
Undue output tax	2,809	2,700	2,809	2,697
Suspense accounts	143	118	143	118
Total other current liabilities	3,394	3,101	3,387	3,098

27. Provisions for litigations

(Unit: Million Baht)

	Consolidated financial statements and Separate financial statements	
	2021	2020
Balance at beginning of year	370	268
Increase	86	104
Decrease	(27)	(2)
Balance at end of year	429	370



As at 31 December 2021, provisions for litigations have been set up for lawsuits relates to litigation in which compensation claims have been lodged against Provincial Electricity Authority. Provincial Electricity Authority has assessed the status of these lawsuits and expects to have provision for liabilities under 77 lawsuits (2020: 74 lawsuits), consisting of 33 cases in which full compensation of the claims is expected to be set up and 44 cases in which the compensation is expected to be less than the claims.

28. Construction obligations

As at 31 December 2021, The group had construction obligations of Baht 5,999 million (2020: Baht 7,290 million) (Provincial Electricity Authority only: Baht 6,000 million, 2020: Baht 7,290 million) from Provincial Electricity Authority receiving payment to expand the electricity distributing areas for electricity users which the electricity users have fully or partially funded the construction costs. The ownership of the assets belongs to Provincial Electricity Authority.

29. Deferred revenue

(Unit: Million Baht)

	Consolidated financial statements and Separate financial statements	
	2021	2020
Contributions for construction	54,753	52,982
Deferred revenues from transferring of assets	1,270	1,253
Deferred revenues from rental	322	337
Deferred revenues from services	128	134
Deferred revenues from energy management	4	4
Deferred revenues from donation	182	162
Total deferred revenue	56,659	54,872

30. Electricity usage guarantee

(Unit: Million Baht)

	Consolidated financial statements and Separate financial statements	
	2021	2020
Specific-purpose deposits at financial institutions (Note 10)	23,548	23,160
Suspense saving accounts	37	130
Total deferred revenue	23,585	23,290





Movements of Electricity usage guarantee for the years ended 31 December 2021 summarised as follows:

(Unit: Million Baht)

	Consolidated and separate financial statements
Balance at beginning of year	23,290
Increase from electricity usage guarantee	2,550
Decrease in refunding of electricity usage guarantee	(230)
Decrease in offset with unpaid electricity bills	(714)
Decrease in electricity usage cancellation or changing collateral from cash to bank guarantees	(1,282)
Transfer guarantees to income	(29)
Balance at end of year	<u>23,585</u>

Electricity usage guarantee is the money that electricity users deposit to Provincial Electricity Authority for guarantee of electricity usage. Provincial Electricity Authority deposits into the bank account named Electricity Usage Guarantee Fund to reserve fund for refunding of electricity usage guarantee to electricity users. Any interest income earned is separately deposited in the bank account named Interest from Electricity Usage Guarantee Fund. Provincial Electricity Authority will use interest of the fund to be repaid as interest on deposit for electricity usage guarantee to the electricity users according to the requirement of the Energy Regulatory Commission and will use in activities for public interests and/or beneficial activities for electricity users.

Provincial Electricity Authority has set the Regulation on Supervision of Electricity Usage Guarantee Fund, B.E.2557 and appointed the committee which is responsible for supervising and controlling an operation of Electricity Usage Guarantee Fund and interest from Electricity Usage Guarantee Fund. Provincial Electricity Authority has to made fund transfer at the amount equal to the net increase in electricity usage guarantee for each month to the Electricity Usage Guarantee Fund account. In case of working capital deficiency or liquidity difficulty, Provincial Electricity Authority can use the electricity usage guarantee fund as a working capital under consideration and approval of the Board of Directors of Provincial Electricity Authority. Then, Provincial Electricity Authority will be required to repay to electricity usage guarantee fund for not less than Baht 100 million on each month by depositing into the Electricity Usage Guarantee Fund account until the amount is fully covered. Also, Provincial Electricity Authority is required to make a payment of interest at the interest rate of saving accounts for state enterprises specified by Krung Thai Bank Public Company Limited by depositing into the Interest from Electricity Usage Guarantee Fund. In case of working capital deficiency or liquidity difficulty, the repayment can be postponed under the approval of the Governor and should be reported to the Board of Directors.



31. Provision for long-term employee benefits

Provision for long-term employee benefits as at 31 December 2021 and 2020 are as follows:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Provision for long-term post employee benefits	15,884	17,402	15,882	17,400
Provision for special post employee benefits	219	276	219	276
Provision for long service year award	151	201	151	201
Total	16,254	17,879	16,252	17,877

Provision for long-term employee benefits are presented as follows:

(Unit: Million Baht)

	Consolidated financial statements					
	2021			2020		
	Post-employment benefits	Other long-term employee benefits	Total	Post-employment benefits	Other long-term employee benefits	Total
Provision for long-term employee benefits at beginning of year	17,678	201	17,879	18,095	231	18,326
Included in profit or loss:						
Current service cost	1,161	20	1,181	1,162	20	1,182
Interest cost	292	4	296	289	3	292
Past service costs and gains or losses on settlement	196	(1)	195	(31)	(1)	(32)
Included in other comprehensive income:						
Actuarial gain arising from						
Financial assumptions changes	(1,603)	(31)	(1,634)	-	-	-
Experience adjustments	-	-	-	(1)	-	(1)
Benefits paid during the year	(1,621)	(42)	(1,663)	(1,836)	(52)	(1,888)
Provision for long-term employee benefits at end of year	16,103	151	16,254	17,678	201	17,879





(Unit: Million Baht)

	Separate financial statements					
	2021			2020		
	Post-employment benefits	Other long-term employee benefits	Total	Post-employment benefits	Other long-term employee benefits	Total
Provision for long-term employee benefits at beginning of year	17,676	201	17,877	18,093	231	18,324
Included in profit or loss:						
Current service cost	1,161	20	1,181	1,161	20	1,181
Interest cost	292	4	296	289	3	292
Past service costs and gains or losses on settlement	196	(1)	195	(31)	(1)	(32)
Included in other comprehensive income:						
Actuarial gain arising from						
Financial assumptions changes	(1,603)	(31)	(1,634)	-	-	-
Benefits paid during the year	(1,621)	(42)	(1,663)	(1,836)	(52)	(1,888)
Provision for long-term employee benefits at end of year	16,101	151	16,252	17,676	201	17,877

During 2021, Provincial Electricity Authority has approved an amendment to change the annual cumulative vacation schedule for retired employees from 30 days to 35 days. The change is considered to be an amendment of the retirement benefit scheme and resulted in an increase of Baht 220 million in Provincial Electricity Authority's long-term employee benefit reserve. Provincial Electricity Authority recorded the impact of the change by recognising past service costs as an expense immediately in the statement of comprehensive income.

Actuarial gain arising from defined benefit plans for employees of the group are recognised amounting to other comprehensive income Baht 1,634 million in the statement of comprehensive income (2020: Baht 1 million) (Provincial Electricity Authority only: Baht 1,634 million, 2020: Nil).

The Group expects to pay Baht 1,512 million of long-term employee benefits during the next year (2020: Baht 1,514 million) (Provincial Electricity Authority only: Baht 1,512 million, 2020: Baht 1,514 million).

As at 31 December 2021, the weighted average duration of the liabilities for long-term employee benefit is 20.5 years (2020: 21.5 years) (Provincial Electricity Authority only: 20.5 years, 2020: 21.5 years).



Significant actuarial assumptions are summarised below:

(Unit: % per annum)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Discount rate	2.15 - 2.54	1.87 - 2.15	2.54	1.87
Inflation rate	2.00	2.00 - 2.50	2.00	2.50
Salary increase rate	7.00 - 9.00	7.00 - 9.00	7.00 - 9.00	7.00 - 9.00
Turnover rate	0.00 - 8.00	0.00 - 8.00	0.20 - 8.00	0.20 - 8.00
Mortality rate	Thai mortality table 2017 with 3% adjustment of mortality rate	Thai mortality table 2017 with 3% adjustment of mortality rate	Thai mortality table 2017 with 3% adjustment of mortality rate	Thai mortality table 2017 with 3% adjustment of mortality rate

The result of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligation as at 31 December 2021 and 2020 are summarised below:

(Unit: Million Baht)

	(%)	2021			
		Consolidated financial statements		Separate financial statements	
		Increase	Decrease	Increase	Decrease
Discount rate	1	(1,668)	2,025	(1,668)	2,025
Inflation rate	1	60	(51)	60	(51)
Salary increase rate	1	2,355	(1,967)	2,355	(1,966)
Turnover rate	20*	(132)	139	(132)	138
Mortality rate	1	80	(92)	80	(192)





(Unit: Million Baht)

		2020			
		Consolidated financial statements		Separate financial statements	
		Increase	Decrease	Increase	Decrease
	(%)				
Discount rate	1	(1,916)	2,343	(1,915)	2,342
Inflation rate	1	67	(57)	67	(57)
Salary increase rate	1	2,495	(2,805)	2,495	(2,804)
Turnover rate	20*	(141)	147	(141)	147
Mortality rate	1	84	(97)	84	(97)

* percent of assumptions

32. Revenue from contracts with customers

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	Type of goods or service:			
Sale of electricity	483,747	460,077	483,747	460,077
Construction service income	3,840	3,446	3,840	3,446
Rendering of services	10,081	9,773	9,660	9,645
Total revenue from contracts with customers	497,668	473,296	497,247	473,168



(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Timing of revenue recognition:				
Revenue recognised at a point in time	3,263	3,146	2,836	3,013
Revenue recognised over time	494,405	470,150	494,411	470,155
Total revenue from contracts with customers	497,668	473,296	497,247	473,168

Set out below is a reconciliation of the revenue from contracts with customers with the amounts disclosed in Note 35 relating to the segment information:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
External customers	497,668	473,296	497,247	473,168
Inter-segment	398	148	-	-
	498,066	473,444	497,247	473,168
Adjustments and eliminations	(398)	(148)	-	-
Total revenue from contracts with customers	497,668	473,296	497,247	473,168

Assistance and support in accordance with relief measures entities impacted by COVID-19

On 1 June 2021, the Cabinet acknowledged and approved of the resolutions passed by the Loan Expenditure Screening Committee in the meetings No. 17/2021 and No. 18/2021 with respect to measures to relieve the obligation on cost of basic utilities due to the new outbreak of the COVID-19 (electricity and water supply expenses) of the Ministry of Interior by the financial support from financial sources as per the Emergency Decree Authorizing the Ministry of Finance to Raise Loans to Solve Problems, to Remedy and Restore the Economy and Society as Affected by the Coronavirus Disease Pandemic, B.E. 2563 (2019) (the Emergency Decree) whereby Provincial Electricity Authority received Baht 3,390 million on 9 July 2021.

On 17 August 2021, the Cabinet approved the resolution passed by the Loan Expenditure Screening Committee in the meeting No. 29/2021 in accordance with the Emergency Decree whereby Provincial Electricity Authority received Baht 6,154 million on 28 September 2021.





On 9 November 2021, the Cabinet approved the resolution passed by the Loan Expenditure Screening Committee in the meeting No. 13/2021 in accordance with the Emergency Decree B.E. 2564 whereby Provincial Electricity Authority received Baht 10,293 million on 24 December 2021.

33. Revenue compensation

With respect to sending contributions to and disbursement of money from the Power Development Fund under Section 97(1) and Section 97 paragraph two for revenue compensation among power utilities that are Provincial Electricity Authority, Metropolitan Electricity Authority and Electricity Generating Authority of Thailand to enhance extensive electrification and to support the policy on development decentralization to provincial areas, Metropolitan Electricity Authority is required to remit contributions to the Power Development Fund in accordance with Section 97(1) and Section 97 paragraph two on a monthly basis. The contributions are calculated based on the total amount for the year of Baht 11,508 million, or equivalent to Baht 959 million per month, in accordance with the Order of the Energy Regulatory Commission No.4/2021 dated 22 January 2021 (2020: calculated based the total amount for the year of Baht 14,784 million, or equivalent to Baht 1,232 million per month in accordance with the Order of the Energy Regulatory Commission No. 22/2020 dated 28 February 2020). Provincial Electricity Authority can request to disburse from the Power Development Fund in compliance with Section 97(1) and Section 97 paragraph two in the amount equal to the amount that Metropolitan Electricity Authority has contributed to the Power Development Fund each month. For the year ended 31 December 2021, the amount that Provincial Electricity Authority disbursed from the Power Development Fund in this matter was Baht 11,508 million (2020: Bath 14,784 million).

On 22 June 2021, the Energy Regulatory Commission (ERC) resolved to acknowledge the results of the calculation of the financial position. (preliminary actual value) for the year 2020. In calculating the return of the difference, the return amount of Baht 590 million for accrued income for the year 2019 shall be net with the results of the calculation of the financial position. Therefore, Provincial Electricity Authority recorded a reduction in revenue compensation with such amount.

34. Finance cost

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Interest expenses on borrowings	2,997	2,655	2,993	2,653
Interest expenses on lease liabilities	70	88	69	87
Total	3,067	2,743	3,062	2,740



35. Segment information

Operating segment information is reported in a manner consistent with Provincial Electricity Authority's 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 by region and have five reportable segments as follows:

- North
- Northeast
- Central region
- South
- Head office

The Group has aggregated the operating segments presented them as the reportable segment. The aggregated operating segments have similar economic characteristics and are similar in the other respects required by the standard.

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. Provincial Electricity Authority 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 tables present revenue and profit and total assets/total liabilities information regarding the Group's operating segments.





(Unit: Million Baht)

	Northern				Northeastern				Central				Southern				Head office				Elimination				Consolidated financial statements			
	2021		2020		2021		2020		2021		2020		2021		2020		2021		2020		2021		2020		2021		2020	
Assets																												
Trade receivables	6,157	6,136	6,734	6,803	21,269	20,527	7,669	7,367	4,669	4,669	3,523	(57)	(21)	46,441	44,335													
Other current assets	686	501	545	493	864	692	677	662	57,211	55,253	(94)	59,983	57,507															
Property, plant and equipment	67,854	64,511	71,171	64,430	101,081	95,707	70,797	66,900	5,379	4,745	(14)	316,268	296,293															
Other non-current assets	9,371	8,257	12,910	13,510	15,522	13,840	11,145	10,904	17,993	14,172	(3,053)	(2,222)	63,888	58,461														
Total Assets	84,068	79,405	91,360	85,236	138,736	130,766	90,288	85,833	85,252	77,693	(3,124)	(2,337)	486,580	456,596														
Liabilities and equity																												
Current liabilities	65,699	59,932	77,293	69,739	(284,210)	(263,921)	32,849	27,813	174,772	175,057	(57)	(115)	66,346	68,505														
Long-term loans	-	-	-	-	-	-	-	-	128,252	107,782	-	-	128,252	107,782														
Other non-current liabilities	18,534	18,733	25,017	25,340	38,219	37,824	19,682	20,206	4,874	4,431	(2)	-	106,324	106,534														
Total Liabilities	84,233	78,665	102,310	95,079	(245,991)	(226,097)	52,531	48,019	307,898	287,270	(59)	(115)	300,922	282,821														
Equity	(165)	740	(10,950)	(9,843)	384,727	356,863	37,757	37,814	(222,646)	(209,577)	(3,065)	(2,222)	185,658	173,775														
Total Liabilities and equity	84,068	79,405	91,360	85,236	138,736	130,766	90,288	85,833	85,252	77,693	(3,124)	(2,337)	486,580	456,596														



Operating results information regarding operating segments as at 31 December 2021 and 2020 are as follows:

(Unit: Million Baht)

	Northern		Northeastern		Central		Southern		Head office		Elimination		Consolidated financial statements	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Statement of comprehensive income														
Sales and Rendering of services	75,663	71,752	86,253	79,402	254,151	242,506	80,699	79,130	1,300	654	(398)	(148)	497,668	473,296
Revenue compensations	1,628	2,337	1,876	2,618	5,670	7,876	1,744	2,543	-	-	-	-	10,918	15,374
Other income	85	107	113	123	260	341	166	162	282	175	(50)	(50)	856	858
Total revenues	77,376	74,196	88,242	82,143	260,081	250,723	82,609	81,835	1,582	829	(448)	(198)	509,442	489,528
Cost of electricity	66,471	64,717	75,951	72,042	216,000	208,167	69,861	69,981	-	-	-	-	428,283	414,907
Employee compensations	3,845	4,041	4,545	4,662	4,707	4,783	3,602	3,699	3,514	3,560	(6)	(4)	20,207	20,741
Employee benefit expenses	325	281	383	326	402	346	308	266	255	222	-	-	1,673	1,441
Management's benefits	6	5	6	6	6	5	6	6	96	95	-	-	120	117
Preventive, repair and maintenance, and construction expenses	1,164	936	1,304	1,110	1,890	1,784	1,553	1,289	1,991	1,138	(173)	(1)	7,729	6,256
Depreciation and amortisation expenses	5,079	4,866	5,398	5,083	7,318	6,969	5,483	5,297	1,595	1,453	-	-	24,873	23,668
Other operating expenses	1,628	1,609	2,044	2,041	2,097	1,958	1,812	1,854	1,744	1,928	(203)	(143)	9,122	9,247
Other expenses	71	135	70	141	242	120	342	254	114	579	-	-	839	1,229
Total expenses	78,589	76,590	89,701	85,411	232,662	224,132	82,967	82,646	9,309	8,975	(382)	(148)	492,846	477,606
Share of profit from investments in associates	-	-	-	-	-	-	-	-	-	-	66	78	66	78
Finance income	17	12	14	9	50	66	25	14	368	619	-	-	474	720
Finance cost	(14)	(18)	(11)	(14)	(17)	(21)	(16)	(22)	(3,009)	(2,668)	-	-	(3,067)	(2,743)
Profit (loss) before income tax expenses	(1,210)	(2,400)	(1,456)	(3,273)	27,452	26,636	(349)	(819)	(10,368)	(10,195)	-	28	14,069	9,977
Income tax income (expenses)	-	-	-	-	-	-	-	-	(10)	8	-	-	(10)	8
Profit (loss) for the year	(1,210)	(2,400)	(1,456)	(3,273)	27,452	26,636	(349)	(819)	(10,378)	(10,187)	-	28	14,059	9,985
Other comprehensive income	-	-	-	-	-	-	-	-	1,635	1	-	-	1,635	1
Total comprehensive income for the year	(1,210)	(2,400)	(1,456)	(3,273)	27,452	26,636	(349)	(819)	(8,743)	(10,186)	-	28	15,694	9,986



Major customers

For the years 2021 and 2020, the Group has no major customer with revenue of 10 percent or more of an entity's revenues.

36. Provident fund

The Group and its employees have jointly established a provident fund in accordance with the Provident Fund Act B.E. 2530 which employees have option to pay into the fund accumulated at the rate of 3 - 15 percent of the salary of each and Provincial Electricity Authority will pay into the fund at the rate of 9 - 11 percent of salary of members. The fund, which is managed by MFC Asset Management Public Company Limited, will be paid to employees upon termination in accordance with the fund rules. The contributions for the year 2021 amounting to approximately Baht 1,287 million (2020: Baht 1,316 million) (Provincial Electricity Authority only: Baht 1,285 million 2020: Baht 1,314 million) were recognised as expenses.

37. Commitments and contingent liabilities

37.1 Capital commitments

As at 31 December 2021, Provincial Electricity Authority had capital commitments of approximately Baht 1,782 million (2020: Baht 3,050 million), mainly relating to purchase materials and supplies for construction.

37.2 Lease commitments

As at 31 December 2021 and 2020, the Group has future lease payments for land, buildings and vehicles required under these non-cancellable leases contracts that have not yet commenced as follows:

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
Payable:				
Within 1 year	39	43	39	42
Over 1 and up to 5 years	30	58	30	59



37.3 Service commitments

As at 31 December 2021, the subsidiary has commitment remaining amounting to Baht 2.5 million (2020: Baht 4.3 million), relating to consulting agreement for analysing to study the suitability of the acquisition and consulting agreement for inspect documents, control work and manage the contract for the construction of the 115 KV transmission line linking the BPAM power station with the GSPP1 power station amounting to Baht 0.4 million (2020: Nil)

37.4 Significant long-term agreement commitments

As at 31 December 2021, Provincial Electricity Authority has commitment under the Power Purchase Agreement with the Very Small Power Producer amounting to 946 contracts (2020: 942 contracts). The performance of the contracts are in accordance with the terms and conditions specified in the contracts. The purchase of electricity consists of the base electricity cost. Electricity bill according to the formula for automatically adjusting the electricity rate. The purchase price of electricity will be added and the operating fee is deducted by 2 percent (if any). The purchase price will vary according to the contractual sales volume and the type of fuel that the each VSPP has contracted with Provincial Electricity Authority.

37.5 Contributions to the Power Development Fund commitments

According to the Energy Business Act B.E. 2550, Sections 97(4) and 97(5) (Act), Provincial Electricity Authority must remit money to the Power Development Fund to promote the use of renewable energy and the technology used in the electricity business that has an impact on the environment and to promote society and people to have knowledge, awareness and participation in electricity. The amount delivered is based on calculation from Provincial Electricity Authority's distribution unit each month and other relevant information in accordance with the rules and conditions specified in the said Act. During the year, Provincial Electricity Authority has recorded such expenditure in profit or loss amounted to Baht 955 million (2020: Baht 700 million).

37.6 Litigations

As at 31 December 2021, Provincial Electricity Authority was being sued in 325 lawsuits with claims totaling Baht 13,165 million, which are under judicial proceedings. Provincial Electricity Authority expects to have to pay full compensation of the claims for 33 cases. Of the remaining cases, 248 cases are not expected to result in significant losses and in 44 cases the compensation paid is expected to be less than the claims.

A summary of the lawsuits that are not expected to result in significant losses and that may result in monetary damages less than the claims are as follows:

1. A total of 52 cases in which injured persons requested Provincial Electricity Authority to demolish assets or continue construction to completion, with claims amounting to totalling Baht 26 million.
2. A total of 52 cases where the injured persons claimed compensations from Provincial Electricity Authority in relation to employment and employee benefits, with claims amounting to totalling Baht 608 million.
3. A total of 73 cases in which the injured persons claimed for damages from Provincial Electricity Authority in circumstances where other persons or plaintiffs had received the damages from the property of Provincial Electricity Authority, with claims amounting to totalling Baht 279 million.
4. A total of 115 cases in which the injured persons claimed compensations from Provincial Electricity Authority in breach of contracts and infringement lawsuits, with claims amounting to totalling Baht 11,824 million.





38. Fair value hierarchy

As at 31 December 2021 and 2020, the Group had the assets and liabilities that were measured at fair value or for which fair value was disclosed using different levels of inputs as follows:

(Unit: Million Baht)

	Consolidated financial statements			
	2021			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVOCI				
Listed company equity investment	2	-	-	2
Non-listed company equity investment	-	-	255	255
Assets for which fair value are disclosed				
Investment properties	-	-	620	620
Liabilities for which fair value are disclosed				
Long-term loans	-	129,546	214	129,760

(Unit: Million Baht)

	Consolidated financial statements			
	2020			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVOCI				
Listed company equity investment	2	-	-	2
Non-listed company equity investment	-	-	241	241
Assets for which fair value are disclosed				
Investment properties	-	-	597	597
Liabilities for which fair value are disclosed				
Long-term loans	-	111,868	247	112,115



(Unit: Million Baht)

	Separate financial statements			
	2021			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVOCI				
Listed company equity investment	2	-	-	2
Assets for which fair value are disclosed				
Investment properties	-	-	571	571
Liabilities for which fair value are disclosed				
Long-term loans	-	129,546	214	129,760

(Unit: Million Baht)

	Separate financial statements			
	2020			
	Level 1	Level 2	Level 3	Total
Assets measured at fair value				
Financial assets measured at FVOCI				
Listed company equity investment	2	-	-	2
Assets for which fair value are disclosed				
Investment properties	-	-	597	597
Liabilities for which fair value are disclosed				
Long-term loans	-	111,868	247	112,115

During the current year, The Group has no change in methods and assumptions used in measured the fair value of financial instruments and, there were no transfers within the fair value hierarchy.





39. Financial instruments

39.1 Financial risk management objectives and policies

The Group's financial instruments principally comprise cash and cash equivalents, trade and other receivable, short-term loans to related parties, specific-purpose deposits at financial institution, restricted bank deposits, other non-current financial assets, trade and other payables, long-term loans, lease liabilities, and other non-current payables. 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 receivable, short-term loans to related parties, specific-purpose deposits at financial institution, restricted bank deposits, bank deposits, deposits at financial institution, other non-current financial assets, and other financial instruments, the maximum exposure to credit risk is limited to the carrying amounts as stated in the statement of financial position.

Trade receivables

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 are regularly monitored. Most of the electricity debtors of Provincial Electricity Authority are juristic persons and natural persons. There may be a risk arising from the debtor's failure to comply with the terms of the contract, which may cause damage to Provincial Electricity Authority and there may be a risk of credit concentration. However, there has been no significant losses that effect to Provincial Electricity Authority in the past.

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 revenues type and 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 limits are reviewed. The limits are set to minimise the concentration of risks and therefore mitigate financial loss through a counterparty's potential failure to make payments.

Market risk

There are two types of market risk comprising foreign currency risk and interest rate risk.



Foreign currency risk

The Group's exposure to the foreign currency risk relates primarily to loans that are denominated in foreign currencies. Exchange rate risk arises from changes in foreign currency exchange rates, which caused an impact on Provincial Electricity Authority in the current period and in the following years, which the Group It is expected that the effect of exchange rate changes is insignificant on the Group's foreign-denominated financial assets and liabilities. Because most of the group's transactions are made in Thai baht.

Interest rate risk

The Group's exposure to interest rate risk relates primarily to its banks deposits, trade and other receivable, short-term loans to related parties, specific-purpose deposits at financial institution, restricted bank deposits, other non-current receivables, trade and other payables, long-term loans, lease liabilities, and other non-current payables. Most of the Group's financial assets and liabilities bear floating interest rates or fixed interest rates which are close to the market rate.

As at 31 December 2021 and 2020, 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							
2021							
	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 Year	1-5 years	Over 5 years				
(% per annum)							
<u>Financial assets</u>							
Cash and cash equivalent	986	-	-	11,166	88	12,240	0.050 - 0.450
Trade and other receivables	39	-	-	-	46,402	46,441	0.590 - 19.664
Short-term loans to related parties	49	-	-	-	-	49	2.830 - 3.750
Specific-purpose deposits at financial institutions	28,265	-	-	12,587	-	40,852	0.555 - 0.800
Restricted bank deposits	50	-	-	-	-	50	0.250
Other non-current receivables	-	223	774	-	3	1,000	0.590 - 19.664
	<u>29,389</u>	<u>223</u>	<u>774</u>	<u>23,753</u>	<u>46,493</u>	<u>100,632</u>	
<u>Financial liabilities</u>							
Trade and other payables	6	-	-	-	48,561	48,567	2.667 - 6.726
Long-term loans	5,536	46,817	74,727	1,031	141	128,252	1.330 - 4.900
Lease liabilities	852	1,227	37	-	-	2,116	1.433 - 6.850
Other non-current payables	-	14	-	-	3	17	2.667 - 6.726
	<u>6,394</u>	<u>48,058</u>	<u>74,764</u>	<u>1,031</u>	<u>48,705</u>	<u>178,952</u>	





(Unit: Million Baht)

Consolidated financial statements							
2020							
	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 Year	1-5 years	Over 5 years				
(% per annum)							
<u>Financial assets</u>							
Cash and cash equivalent	1,130	-	-	12,338	41	13,509	0.050 - 1.100
Trade and other receivables	19	-	-	-	44,316	44,335	0.590 - 19.664
Specific-purpose deposits at financial institutions	28,183	-	-	9,120	-	37,302	0.650 - 1.550
Restricted bank deposits	50	-	-	-	-	50	0.250
Other non-current receivables	-	129	492	-	19	640	0.590 - 19.664
	29,382	129	492	21,458	44,376	95,837	
<u>Financial liabilities</u>							
Trade and other payables	6	-	-	-	47,253	47,259	2.667 - 6.726
Long-term loans	8,226	26,453	72,617	343	143	107,782	0.722 - 6.530
Lease liabilities	718	1,075	40	-	-	1,833	1.384 - 6.850
Other non-current payables	-	21	-	-	18	39	2.667 - 6.726
	8,950	27,549	72,657	343	47,414	156,913	



(Unit: Million Baht)

	Separate financial statements						
	2021						
	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 Year	1-5 years	Over 5 years				
(% per annum)							
<u>Financial assets</u>							
Cash and cash equivalent	-	-	-	10,774	84	10,858	0.050 - 0.250
Trade and other receivables	7	-	-	-	45,980	45,987	2.361 - 6.790
Specific-purpose deposits at financial institutions	28,265	-	-	12,587	-	40,852	0.555 - 0.800
Other non-current receivables	-	17	19	-	3	39	2.361 - 6.790
	28,272	17	19	23,361	46,067	97,736	
<u>Financial liabilities</u>							
Trade and other payables	6	-	-	-	48,157	48,163	2.667 - 6.726
Long-term loans	5,536	46,817	74,727	-	141	127,221	1.330 - 4.900
Lease liabilities	841	1,188	37	-	-	2,066	1.433 - 3.589
Other non-current payables	-	14	-	-	3	17	2.667 - 6.726
	6,383	48,019	74,764	-	48,301	177,467	





(Unit: Million Baht)

	Separate financial statements						
	2020						
	Fixed interest rates			Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 Year	1-5 years	Over 5 years				
(% per annum)							
<u>Financial assets</u>							
Cash and cash equivalent	-	-	-	12,148	38	12,186	0.050 - 0.300
Trade and other receivables	7	-	-	-	44,225	44,232	2.361 - 6.790
Specific-purpose deposits at financial institutions	28,183	-	-	9,120	-	37,303	0.650 - 1.550
Other non-current receivables	-	23	20	-	19	62	2.361 - 6.790
	28,190	23	20	21,268	44,282	93,783	
<u>Financial liabilities</u>							
Trade and other payables	6	-	-	-	47,142	47,148	2.667 - 6.726
Long-term loans	8,226	26,453	72,617	-	143	107,439	0.722 - 6.530
Lease liabilities	714	1,057	40	-	-	1,811	1.384 - 2.691
Other non-current payables	-	21	-	-	18	39	2.667 - 6.726
	8,946	27,531	72,657	-	47,303	156,437	

Liquidity risk

The Group monitors the risk of a shortage of liquidity by maintaining sufficient cash and cash equivalents to support the Group's operations and reduce the risks that may arise from the effects of fluctuations in cash flow. Approximately 30.81 percent of the Group's debt will mature in less than one year at 31 December 2021 (2020: 35.88 percent) (Provincial Electricity Authority only: 30.78 percent, 2020: 35.92 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 financial liabilities as at 31 December 2021 and 2020 based on contractual undiscounted cash flows:

(Unit: Million Baht)

Consolidated financial statements				
2021				
	Less than 1 year	1 - 5 years	Over 5 years	Total
Financial liabilities				
Trade and other payables	48,332	-	-	48,332
Deposits payable	348	-	-	348
Long-term loans	5,638	47,402	75,288	128,328
Lease liabilities	901	1,274	51	2,226
Other non-current payables	-	18	-	18
Total financial liabilities	55,219	48,694	75,339	179,252

(Unit: Million Baht)

Consolidated financial statements				
2020				
	Less than 1 year	1 - 5 years	Over 5 years	Total
Financial liabilities				
Trade and other payables	46,988	-	-	46,988
Deposits payable	430	-	-	430
Long-term loans	8,244	26,660	72,964	107,868
Lease liabilities	779	1,135	55	1,969
Other non-current payables	-	40	-	40
Total financial liabilities	56,441	27,835	73,019	157,295





(Unit: Million Baht)

	Separate financial statements			
	2021			
	Less than 1 year	1 - 5 years	Over 5 years	Total
Financial liabilities				
Trade and other payables	47,929	-	-	47,929
Deposits payable	348	-	-	348
Long-term loans	5,555	46,907	74,834	127,296
Lease liabilities	888	1,231	51	2,170
Other non-current payables	-	18	-	18
Total financial liabilities	54,720	48,156	74,885	177,761

(Unit: Million Baht)

	Separate financial statements			
	2020			
	Less than 1 year	1 - 5 years	Over 5 years	Total
Financial liabilities				
Trade and other payables	46,877	-	-	46,877
Deposits payable	430	-	-	430
Long-term loans	8,244	26,533	72,747	107,524
Lease liabilities	774	1,115	55	1,944
Other non-current payables	-	40	-	40
Total financial liabilities	56,325	27,688	72,802	156,815





39.2 Fair values of financial instruments

Since the majority of the Group's financial instruments 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 statement of financial position.

The estimated fair value of financial instruments, in comparison with the related amounts carried in the statement of financial position, is as follows:

(Unit: Million Baht)

	Consolidated and separate financial statements			
	2021		2020	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial liabilities				
Long-term loans	127,221	129,760	104,439	112,115

The methods and assumptions used by the Grouping estimating the fair value of financial instruments are as follows:

- 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.
- 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.
- The carrying amounts of debentures and long-term loans carrying interest at rates approximating the market rate, in the statement of financial position approximates their fair value.

40. 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 value, and subsidiary meets financial covenants attached to the loan agreements of subsidiary. The subsidiary has complied with these covenants throughout the reporting periods.

As at 31 December 2021, the Group's debt-to-equity ratio was 1.62:1 (2020: 1.63:1) and Provincial Electricity Authority only was 1.62:1 (2020: 1.63:1).





41. Reclassification

The Group's reclassifications accounts are as follows:

(Unit: Thousand Baht)

	As at 31 December 2020			
	Consolidated Financial Statements		Separate Financial Statements	
	As reclassified	As previously reported	As reclassified	As previously reported
<u>Statements of financial position</u>				
Investment in other current financial assets	-	1,561	-	1,561
Trade account receivables	-	36,990,141	-	36,950,588
Other current receivables	-	1,290,564	-	1,258,766
Accrued revenues	-	3,178,959	-	3,145,266
Trade and other receivables	44,335,018	-	44,231,977	-
Other current assets	83,722	79,384	65,908	65,915
Restricted bank deposits	50,000	-	-	-
Other non-current financial assets	242,811	241,250	1,561	-
Other non-current assets	178,610	228,610	99,911	99,911
Trade account payables	-	39,168,401	-	39,168,401
Other current payables	-	4,682,054	-	4,596,565
Accrued expenses	-	2,419,603	-	2,394,692
Accrued interest expense on loans	-	807,468	-	807,468
Trade and other payables	47,259,133	-	47,147,545	-
Current portion of long-term loans	8,242,447	8,244,438	8,242,447	8,244,438
Other current liabilities	3,100,838	403,024	3,097,874	400,943
Long-term loans, net of current portion	99,539,287	99,537,296	99,196,390	99,194,399
Sales and service guarantee	1,554,729	1,554,458	1,552,400	1,552,400
Retained earnings - Unappropriated	168,878,804	174,334,402	168,503,026	173,960,058
Other components of equity	(1,981)	(5,457,579)	(1,981)	(5,459,013)



(Unit: Thousand Baht)

	For the year ended 31 December 2020			
	Consolidated financial statements		Separate financial statements	
	As reclassified	As previously reported	As reclassified	As previously reported
<u>Statement of comprehensive income</u>				
Sales and rendering of services	473,296,199	473,703,482	473,167,787	473,575,071
Other income	857,910	1,170,959	857,046	1,160,473
Finance income	720,332	-	710,711	-
<u>Cash flow statement</u>				
Profit for the year	-	9,985,280	-	9,944,701
Profit before tax	9,977,581	-	9,944,701	-
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation and amortisation	23,667,756	23,913,196	23,662,048	23,907,488
Expected credit losses	334,405	320,628	311,782	311,782
Loss from impairment of assets under financing service contracts	-	13,761	-	-
Bonuses for employees and directors	-	1,204,740	-	1,204,740
Loss on disposal of assets	-	534,852	-	534,852
Loss on sales and write-off of assets	885,461	-	885,461	-
(Gain) loss on disposal of materials and supplies	-	16,116	-	16,116
Loss from write-off of materials	16,116	-	16,116	-
Other non-operating revenues	-	(12,271)	-	(12,271)
Amortisation premium (discount) on loans	(13,374)	-	(12,271)	-
Revenues from receive scrap materials	(430,843)	(80,234)	(430,843)	(80,234)
Deferred income tax	-	(7,699)	-	-
Interest income	-	(717,519)	-	(710,711)
Financial income	(720,332)	-	(710,711)	-
Operating assets (increase) decrease				
Trade account receivables	-	(2,440,827)	-	(2,430,374)
Other current receivables	-	(935,447)	-	(906,546)
Accrued revenues	-	(235,039)	-	(201,931)
Trade and other receivables	(3,882,778)	-	(3,801,002)	-





(Unit: Thousand Baht)

	For the year ended 31 December 2020			
	Consolidated financial statements		Separate financial statements	
	As reclassified	As previously reported	As reclassified	As previously reported
<u>Cash flow statement (continued)</u>				
Other current assets	4,772	50,159	21,545	62,673
Other non-current receivables	67,663	106,213	(15,649)	35,185
<u>Operating liabilities increase (decrease)</u>				
Trade accounts payable	-	(5,214,164)	-	(5,214,164)
Other current payable	-	815,724	-	776,898
Accrued expenses	-	(314,158)	-	(335,527)
Cash paid for bonuses	-	(1,608,952)	-	(1,606,182)
Trade and other payables	(4,935,482)	-	(4,993,423)	-
Deferred revenues	6,107,010	6,102,783	6,107,010	6,102,783
Other current liabilities	225,599	74,855	224,846	74,588
Sales and service guarantee	467,996	467,725	467,175	467,175
Employee gratuity fund	-	(1,604)	-	(1,604)
Other non-current liabilities	30,967	32,571	30,967	32,571
Cash received from interest income	789,488	786,675	778,269	778,269
Cash paid for investments in current financial assets	(1,884,606)	-	(2,000,000)	-
Cash received for investments in current financial assets	3,000,000	1,115,394	3,000,000	1,000,000
Cash paid for constructions in progress	(45,256,188)	(45,501,628)	(44,828,845)	(45,074,285)
Repayment of short-term loans	(5,000,000)	-	(5,000,000)	-
Repayment of long-term loans	(5,212,846)	(10,212,846)	(5,212,846)	(10,212,846)
Interest paid	(2,448,533)	(2,449,636)	(2,446,709)	(2,446,709)
Repayments of lease liabilities	(815,816)	(834,632)	(812,458)	(831,274)

The reclassifications had no effect to previously reported profit or equity.

42. Approval of financial statements

These financial statements were authorised for issue by Provincial Electricity Authority's Governor on 24 March 2022.



10-Year Profile

Item	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Sales and Rendering of services (Million Baht, MB)	497,247	473,168	502,784	482,681	461,324	454,262	463,419	462,732	431,124	385,641
Other Income (MB)	12,240	16,942	17,035	16,634	21,639	21,439	17,777	16,742	17,078	16,313
Operating expenses (MB)	491,565	476,195	503,185	475,650	452,105	446,548	456,528	455,647	423,598	383,744
Other expenses (MB)	3,901	3,970	3,317	3,049	3,406	3,265	3,595	3,430	3,529	3,234
Net profit (MB)	14,021	9,945	13,317	20,616	27,452	25,888	21,073	20,397	21,075	14,976
Investment property (MB)	50,132	48,622	23,206	34,356	29,517	37,457	37,230	27,154	26,240	25,395
Loans (MB)	127,221	107,439	75,651	71,580	76,151	78,075	84,283	82,254	79,385	74,515
Net assets (MB)	484,478	455,639	426,960	417,452	400,783	380,417	369,391	350,881	329,892	308,469
Customers	21,257,532	20,734,717	20,193,865	19,768,754	19,360,779	18,894,637	18,391,443	17,890,494	17,362,319	16,798,675
Total electricity sale units, including free-of-charge electricity (Million Units)	139,687	134,868	138,179	134,674	132,401	129,674	123,212	118,632	114,609	111,726
Average distribution unit (Units/Customer)	6,571	6,504	6,843	6,812	6,839	6,863	6,699	6,631	6,601	6,651
Maximum demand of electric power (MW)	21,282	20,001	20,952	19,475	19,721	20,439	18,597	17,724	17,294	16,682
Electricity purchase (Million Units)	147,737	142,676	146,017	142,296	139,548	137,078	130,390	125,484	120,796	118,738
- Purchase (Million Units)	147,650	142,586	145,932	142,191	139,443	136,974	130,299	125,380	120,696	118,644
- Self-generation (Million Units)	87	90	85	105	105	104	91	104	100	94
Transmission system (Circuit-Km)	14,719	13,527	13,097	12,765	12,258	11,776	11,564	11,414	10,992	10,341
High-voltage distribution system (Circuit-Km)	331,889	323,898	318,349	313,424	308,988	304,450	299,865	296,809	299,069	298,984
Low-voltage distribution system (Circuit-Km)	507,211	493,105	480,477	472,464	462,786	453,836	460,721	442,348	444,741	457,118
Number of PEA offices	946	946	946	945	933	933	933	933	914	914
Number of PEA Employees	28,168	28,372	29,085	29,659	29,835	30,114	29,093	28,109	27,792	28,060





PEA
DIGITAL
UTILITY



PEA
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