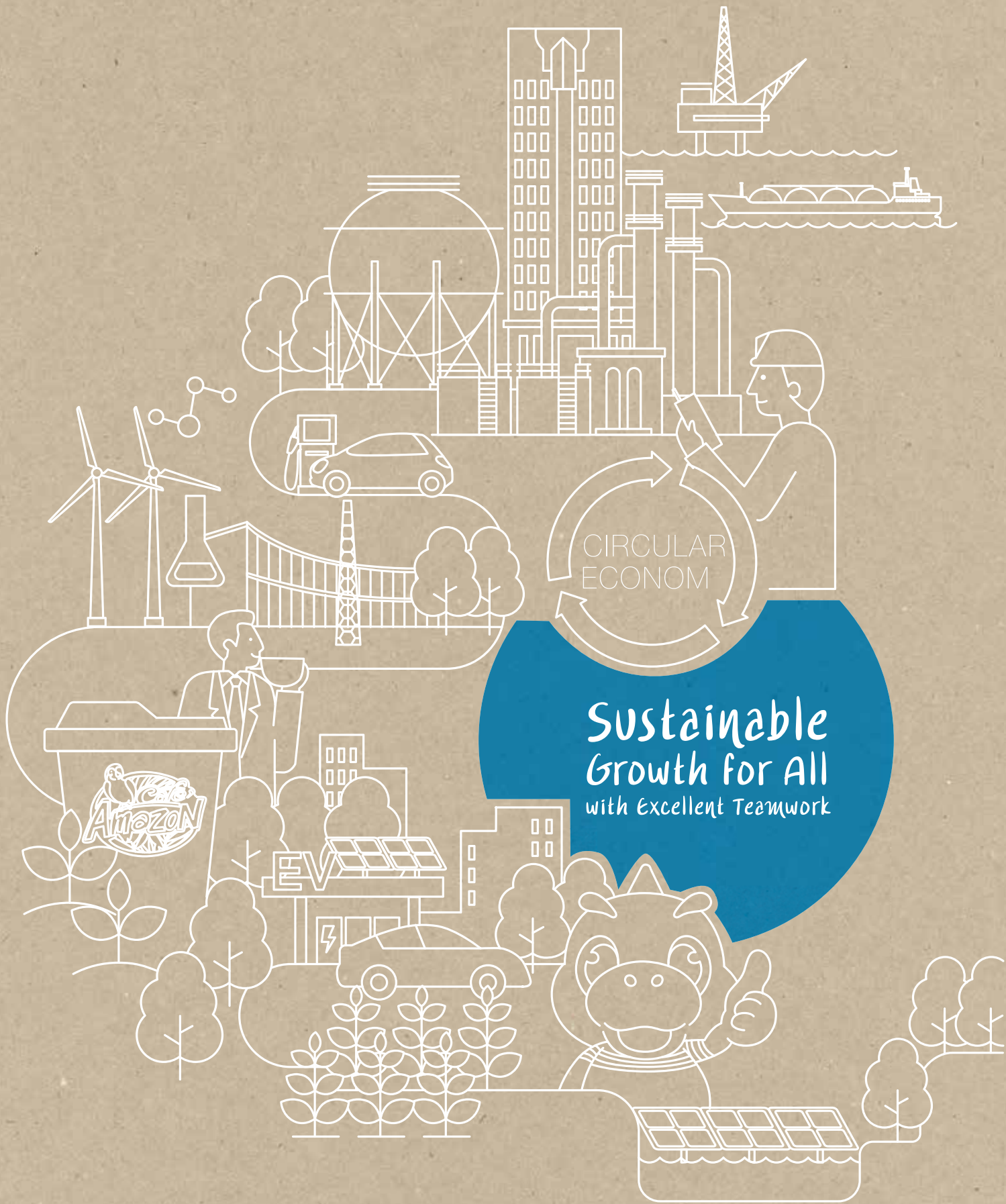




Annual Report 2019
PTT Public Company Limited



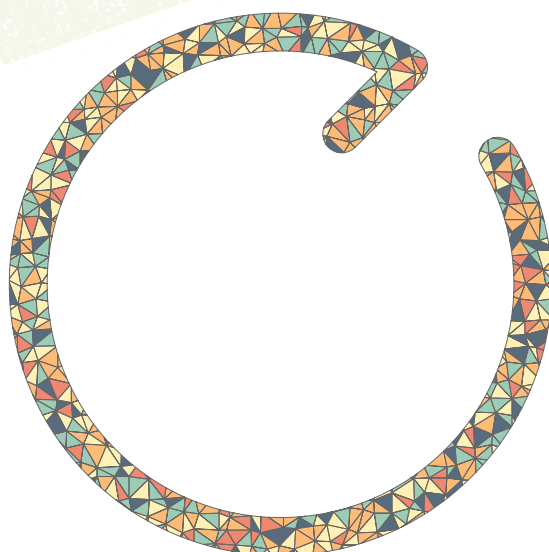
**Sustainable
Growth for All**
with Excellent Teamwork



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REUSE
REDUCE
RECYCLE



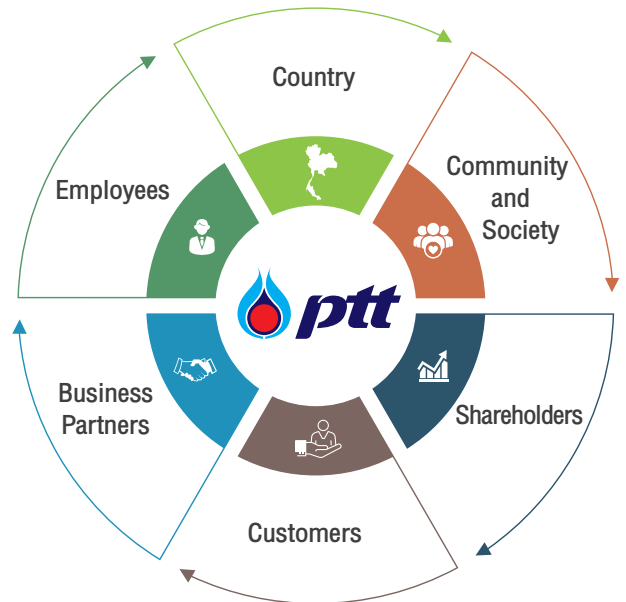
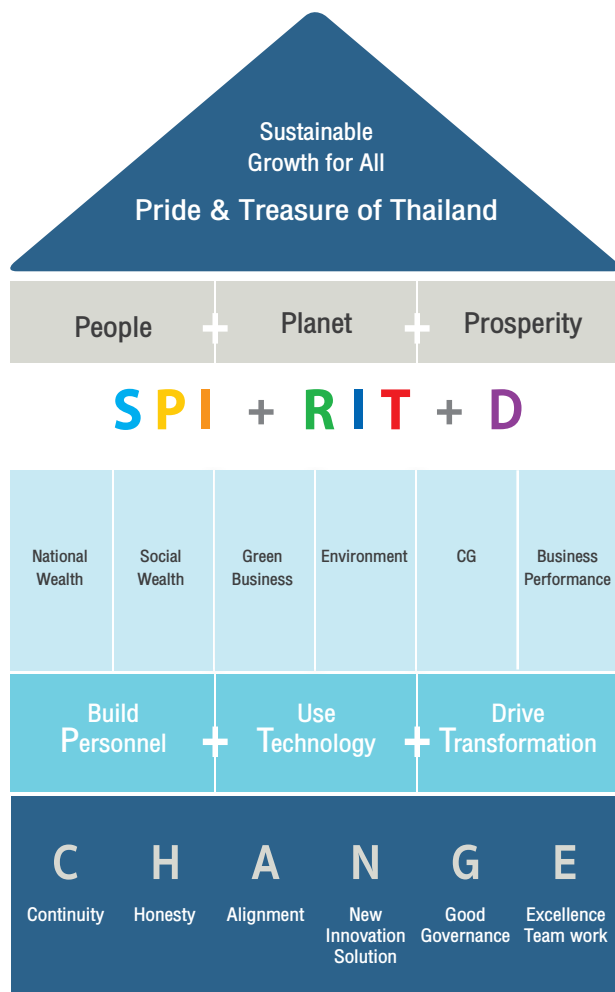
VISION

Thai Premier Multinational Energy Company

MISSION

To conduct integrated energy and petrochemical business as the nation's energy company whose mission to equally respond to all stakeholders through the following aspects

STRATEGIC FRAMEWORK



To the country

Ensuring long-term energy security by providing sufficient high-quality energy supply at fair prices to support economic growth

To customers

Ensuring customer satisfaction and loyalty by delivering world-class quality products and services at fair prices

To community and society

Maintaining a good standing corporate status in Thai society by exercising environmental stewardship of internationally accepted standards and helping to improve the quality of life for community and society

To business partners

Conducting fair business practice with all partners while promoting trust, relationship, and cooperation to expand business capability and increase efficiency in long-term business partnership

To shareholders

Operating profitable business that leads to sustainable growth while generating optimum returns

To employees

Promoting capability building professionally and ensuring employees' well-being is on the level with other leading companies

VALUES



PTT Information

Name	PTT Public Company Limited		
Initial	PTT		
Registered Number	0107544000108		
Type of Business	The company operates petroleum through investment in subsidiaries, joint ventures, and associates (PTT Group), which are engaged in upstream and downstream petroleum, coal, electricity business, and infrastructure business.		
Registered Capital	THB 28,562,996,250		
Issued and Fully Paid-up	THB 28,562,996,250		
Head Office	555 Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900, Thailand Telephone: 66 (0) 2537-2000 Fax: 66 (0) 2537-3498-9 Website: www.pttplc.com		
Corporate Communication	Telephone: 66 (0) 2537-2150-1 Fax: 66 (0) 2537-2572, 0-2537-2171 E-mail: corporate@pttplc.com		
Investor Relations	Telephone: 66 (0) 2537-3518-9 Fax: 66 (0) 2537-3948 E-mail: ptt-ir@pttplc.com		
Office of the President	Telephone: 66 (0) 2537-3885-6, (0) 2537-3855 Fax: 66 (0) 2537-3883, 66 (0) 2537-3887 E-mail: corporatesecretary@pttplc.com		

References

- Securities Registrar
Thailand Securities Depository
Company Limited
1st Floor, The Stock Exchange of Thailand Building,
93 Ratchadapisek Road, Dindaeng,
Bangkok 10400, Thailand
Telephone: 66 (0) 2009-9999
Fax: 66 (0) 2009-9991
- Auditor
Office of the Auditor General
Rama VI, Phayathai, Bangkok 10400, Thailand
Telephone: 66 (0) 2271-8000
Fax: 66 (0) 2618-5769
- Registrar
Siam Commercial Bank
Public Company Limited
Registration 1, Markets Operations Division,
15th Floor, North Wing, G Tower Grand Rama IX,
Huai Khwang, Bangkok 10310, Thailand
Telephone: 66 (0) 2128-2324-9
Fax: 66 (0) 2128-4625
Corporate Trust Sale,
Corporate Trust,
9th Ratchadapisek Road, Chatuchak,
Bangkok 10900, Thailand
Telephone: 66 (0) 2544-3937, 66 (0) 2544-2923
Fax: 66 (0) 2544-7475

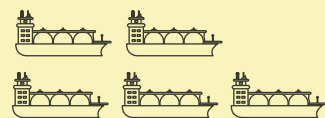
Key Achievements

Expanded the investment on energy infrastructure
Expanded natural gas transmission system
Procurement and Import of LNG

- Enlarged both major and distribution pipeline system
- In 2019, the natural gas distribution was at 4,796 MMSCFD, increased from 2018 which was 4,711 MMSCFD
- In 2019, more natural gas was supplied for the power sector from 2,698 MMSCFD in 2018, to 2,810 MMSCFD, with the number of SPP's, increased from 68 to 71, and IPP's, from 10 to 13
- Increased LNG procurement and import capacity

PROSPERITY

Started to trade LNG outside the country for the first time to expand energy trading network and to secure LNG supply sources for the country



around 500,000 tonnes

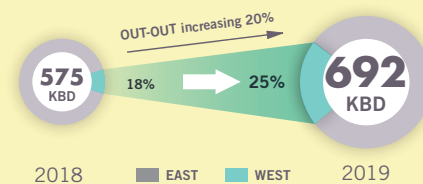


LNG terminal 2 with the capacity of 7.5 million tons/year under construction (Scheduled for completion in 2022)

The cold energy utilization from LNG

PTT had joint-ventured with Bangkok Industrial Gas Co., Ltd. (BIG), in the Air Separation Unit or ASU project. Hence, the Map Ta Phut Air Products Co., Ltd., or MAP was established. The founding stone of the project was laid in the Map Ta Phut industrial estate, Rayong province. MAP will utilize the cold energy which is a by-product from the regasification process of LNG, to separate industrial gases from air with expected production capacity of 450,000 tons/year.

Created more revenue from out-out trading by 20%, mainly from the trading in the west side of the globe, to step up from a regional player to **global player**



Map Ta Phut Air Products (MAP) JV for cold energy utilization.



MOU for collaboration between Chulabhorn Research Institute, Government Pharmaceutical Organization, and PTT in developing Biosimilar, with the objective to increase accessibility of the cancer medicines for the cancer patients in Thailand.



Co-invested with ADNOC, International Exchange (ICE), and other 8 leading energy companies, to establish ICE Futures Abu Dhabi (IFAD) market, the new crude oil trading market, Murban Futures, in Asia



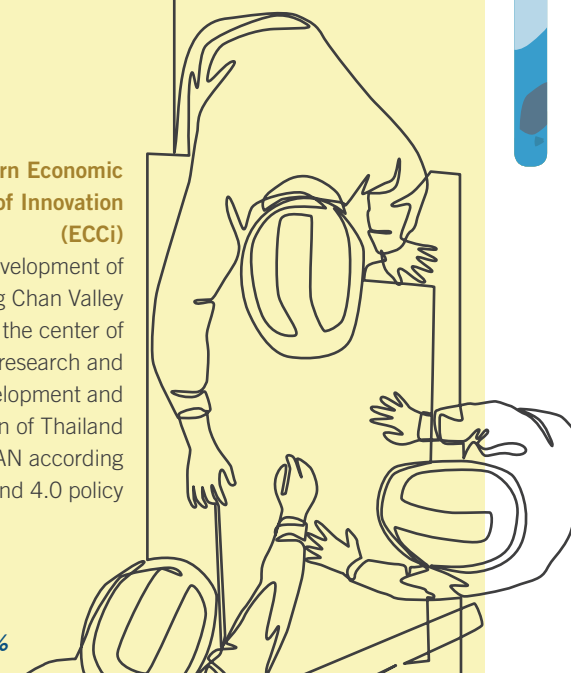
EV Wall Charger and development of 2nd Gen EV Wall Charger Prototype



PTT launched Smart Preventive Healthcare Units at 2 PTT service stations, one at Sa Khwan sub-district, Mueang district, Sa Kaeo province, and the other at San Udom Holdings (branch 2), Si Sut Tho sub-district, Ban Dung district, Udon Thani province

Eastern Economic Corridor of Innovation (ECCI)

The development of PTT's Wang Chan Valley to be the center of research and development and innovation of Thailand and ASEAN according to Thailand 4.0 policy



Project progress ~ 68%



Searched for new investments through venture capital

2017		2018	2019	
Future Energy	CLAR ENERGY VENTURES	SET	Dec 2018	Venture Platform
	CONGRUENT VENTURES	etf	Jul 2018	
Sustainability	G2 VP	Mar 2019		
Early Stage		Early to Growth Stage		
North America		Europe		Thailand

PTT launched prototype EV motorbike, which co-studied and developed with ETRAN, a Thai startup



ETRAN MOTORCYCLE



Her Royal Highness Princess Maha Chakri Sirindhorn had presided over the Commencement Ceremony for the 2019 graduates of KVIS.

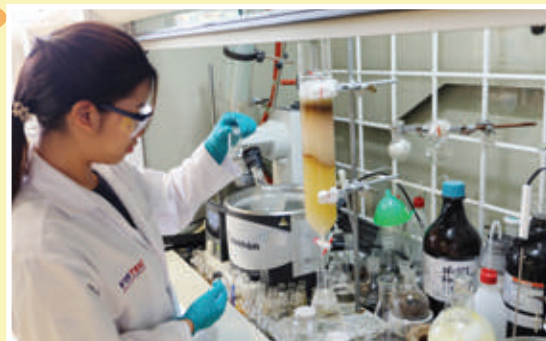
PEOPLE

Continuously provides sponsorship on researches and financial support for KVIS and VISTEC for another 10 years (2022 - 2031), with total donation of THB 3,800 million.



KVIS

- 70 high school students graduated (batch#2)
- 32 students awarded international scholarships



VISTEC

- 2 PhD's degree holders, and 6 master's degree holders
- 1 nano technology professor, school of energy science and engineering, awarded 2019 Thailand Outstanding Scientist Award

Ranking

VISTEC

#1

in Chemical Science from Nature Index

#3

in Chemistry in ASEAN country members

#12

rising star university under 30 years old

Improved the quality of educational personnels by advancing the capability of 3,600 teachers from Pracharath schools and network schools, while building 7 model schools

PTT Day Care, which nurtures pre-school children, created jobs for the housewives club, km. 11, of the State Railway of Thailand

3T Sports Strategy

Sports skill built-up for youths and underprivileged
Training: Train various sport in PTT
Tournament: Create a competition arena
Thai Cheer: Thai teams in international tournaments



Café Amazon for Chance

- 6 branches have been opened
- Hearing impaired baristas were trained to work in the café
- Increasing 50% of income for people with disabilities



Support community energy using alternative energy
Biogas: Pa Yup Nai sub-district, Rayong province, and Kham Khaen sub-district, Khon Kaen province

2019

Accessibility to biogas



195 households

Value creation for the community



THB 2.54 million

GHGs emission reduction



4,394 tCO₂eq

The development of renewable energy technology

Floating PV: the installation of floating PV in 6 more areas, with the accumulated production capacity of 15,345 units, which could lower electricity cost by THB 61,380.



Community Sourcing

- Outsourcing coffee bean from communities, while developing knowledge-base of coffee bean planting and processing.
- 2 areas in Phetchaburi province and Chum Phon province joined the program
- Household income rose by about THB 30,000/year/ household, accounting to a total of THB 1.2 million
- Helped purchase additional parchment coffee of 69.5 tons from farmers of 76 households



PLANET

Added up the knowledge of the Reforestation Institute and the Ecosystem Learning Center, linking and narrowing the gap between people and forests



Cultivate Green Mindset through #PlantforChange campaign



Added up to OUR Khung Bang Kachao Project To expand green area and enforce the collaborations among the natural resources conservation network



รักน้ำ รักป่า รักสิ่งแวดล้อม



ป่าวังจันทร์



ป่าในกรุง



โครงการปลูกป่าถาวรเฉลิมราช

Resulting from the success of the 1 million rai reforestation project



PTT Group, together with Department of National Parks, Wildlife and Plant Conservation, and Armed Forces Development Command, built the bicycle lane which leads to the 100,000,000th Pradu tree in FPT49 at Pak Thong Chai district, Nakhon Ratchasima province, to honored His Majesty King Rama X.



The support of clean energy for clean air
Clean energy: The first in Thailand to develop and distribute the PTT Ultra Force Diesel, a premium, EURO V-standard, diesel, with lower than 10 ppm sulfur. This premium diesel will also help lower PM2.5 pollution.

Financial Highlights

Statement of Income

(THB million)

Sales and Service Revenues
Earnings before Interest, Taxes,
Depreciation and Amortization (EBITDA)
Net Income (Loss)

Statement of Financial Position

(THB million)

Total Assets
Total Liabilities
Non-controlling Interests
Total Equity Attributable to Owners of the Parent

Shares or Information about Common Shares

Issued and Paid up Share Capital (Million Shares)
Book Value per Share (THB)
Earnings per Share (THB)
Dividend per Share (THB)
Dividend Payout Ratio (%)
Share Price at the End of the Period (THB)
Average Share Price for full year (THB)

2017 ^{1/}	2018 (Restated)	2019
1,995,722	2,336,155	2,219,739
345,395	351,396	288,972
135,180	119,647	92,951
2,230,529	2,353,682	2,484,439
982,869	1,036,117	1,183,399
429,713	443,240	422,436
817,947	874,325	878,604
28,563 ^{3/}	28,563 ^{3/}	28,563 ^{3/}
28.64 ^{3/}	30.61 ^{2/}	30.76 ^{3/}
4.67 ^{3/}	4.15 ^{2/}	3.20 ^{3/}
2.00 ^{3/}	2.00 ^{3/}	2.00 ^{3/}
42.83	48.19	62.50
44.00 ^{3/}	46.00 ^{3/}	44.00 ^{3/}
39.97	51.31	46.50

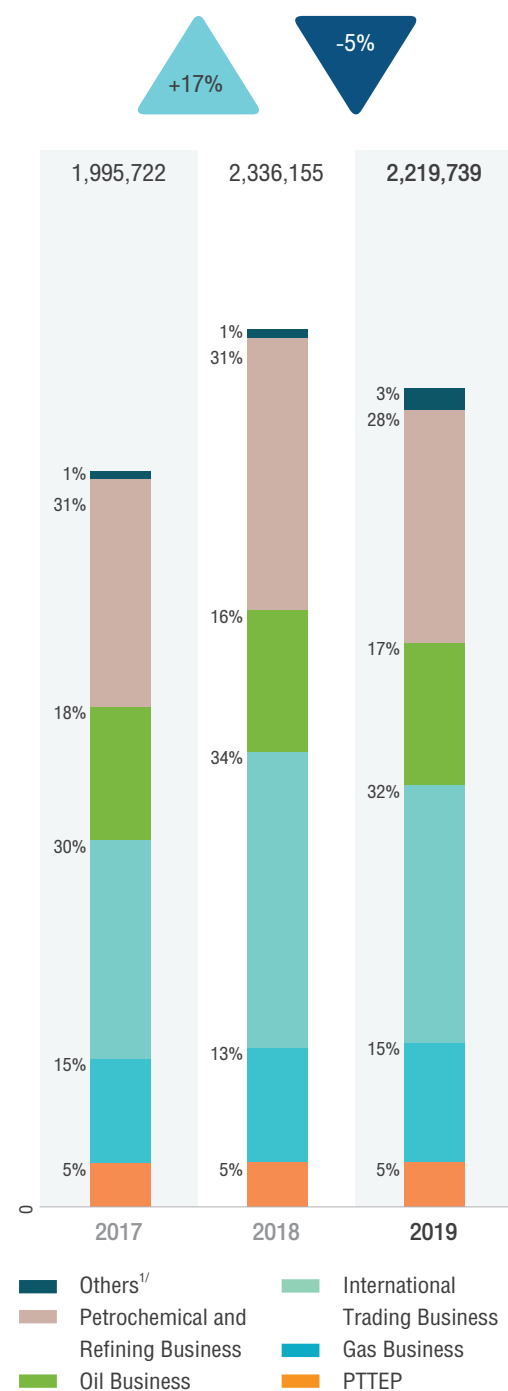
Remarks:

- 1/ As PTT Group companies have reclassified the financial presentation in which the financial statements are required to be presented by the financial statement at the beginning of the previous period, therefore, the updated information has been presented retroactively for the year 2017 only in the part of the statement of financial position.
- 2/ On April 24, 2018, PTT changed the par value from THB 10 per share to THB 1 per share.
- 3/ As if the par split has been implemented.

Financial Highlights

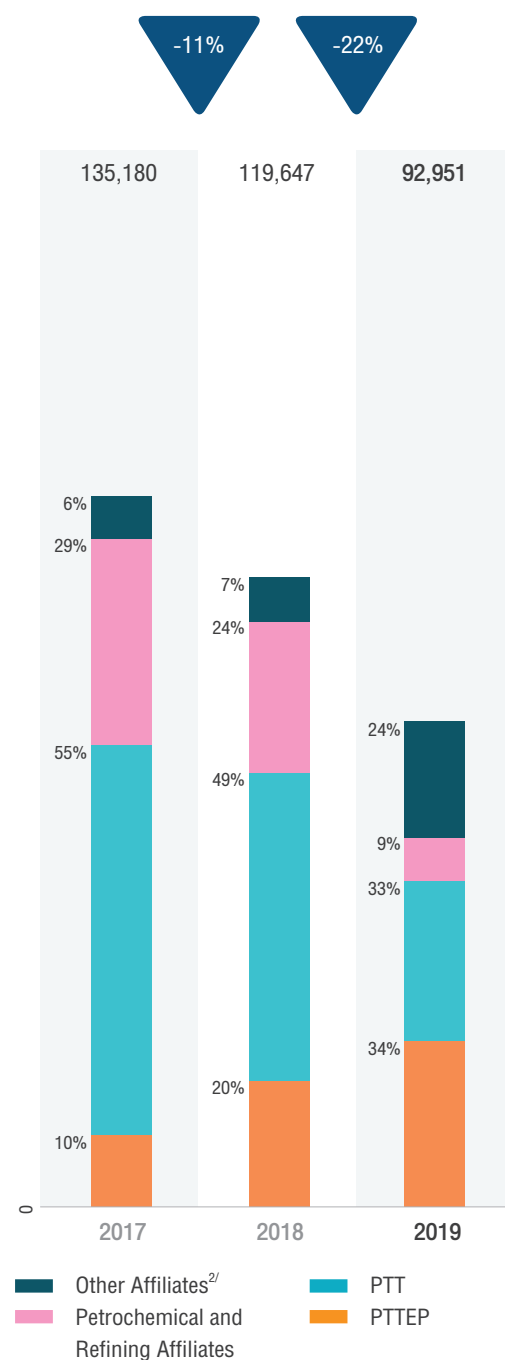
Sales and Service Revenue (THB million)

2,219,739



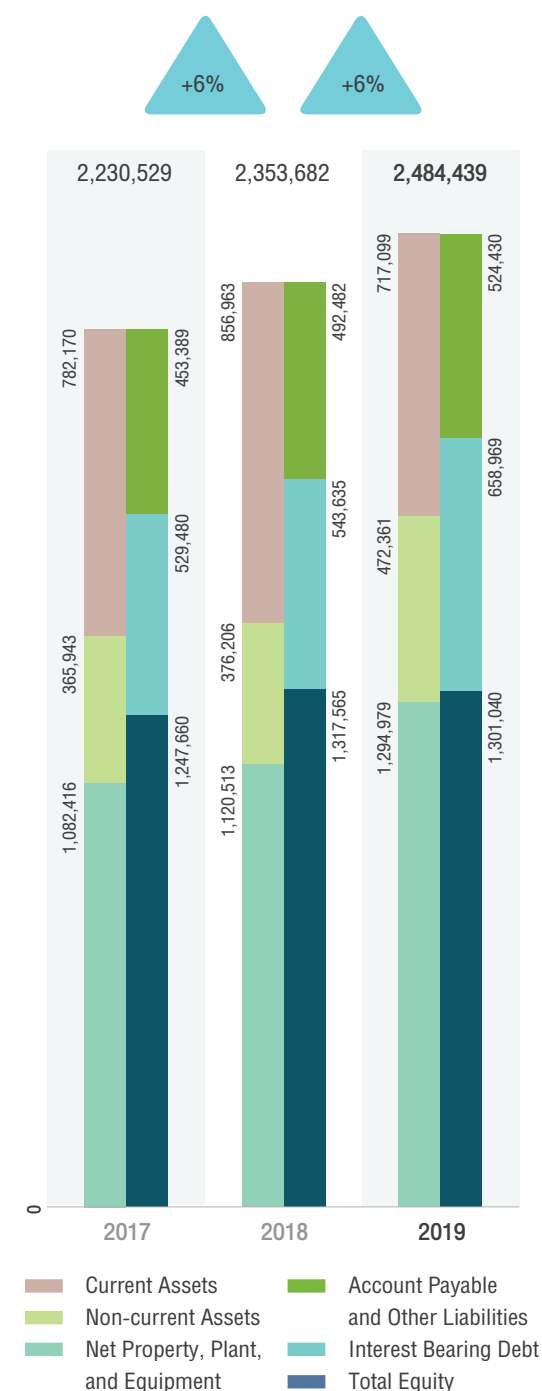
Net Income (THB million)

92,951

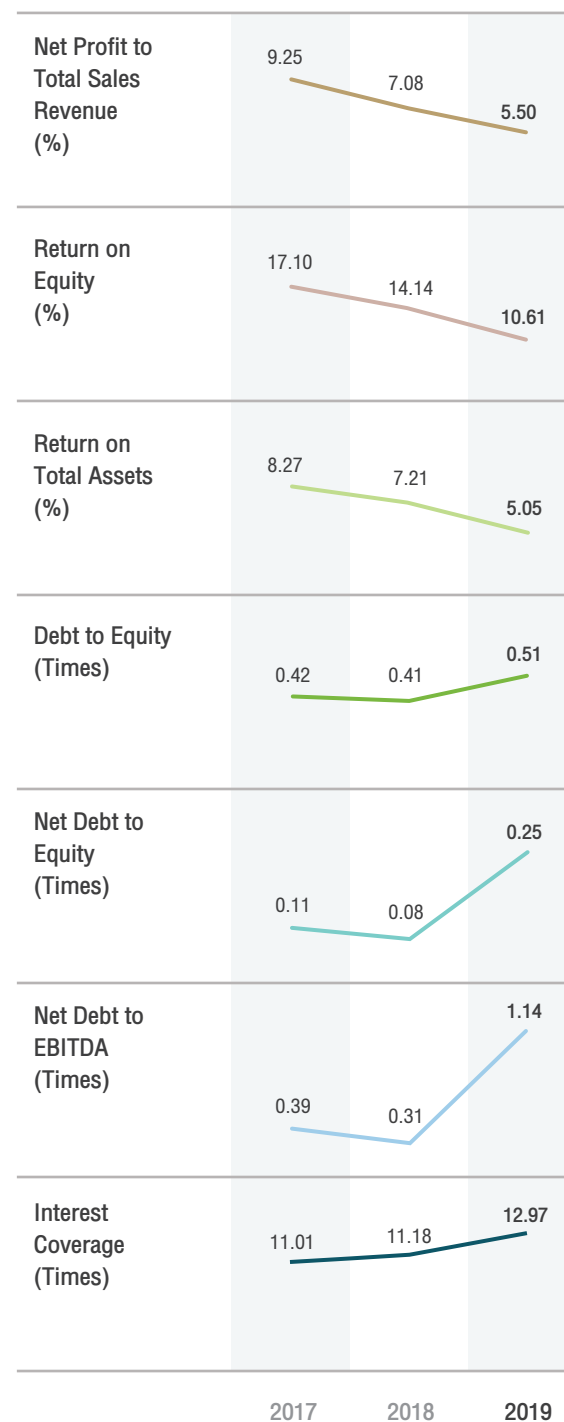


Statement of Financial Position (THB million)

2,484,439



Financial Ratios



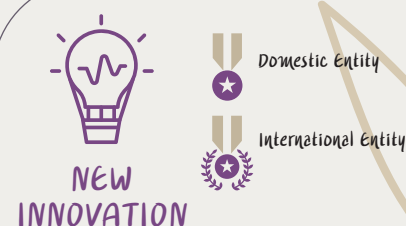
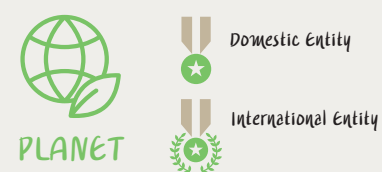
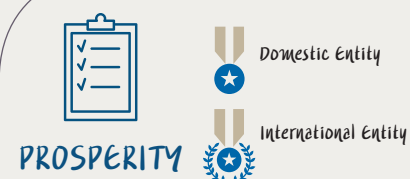
Remarks: 1/ Others including business such as power business and coal business
2/ Other affiliates, due to PTT transferred oil business to PTT Oil and Retail Business Company Limited (OR) on July 2018

Awards & Recognition

By striking a fine balance in management of Prosperity, People, and Planet PTT aspires to achieve sustainable growth in all business aspects. **Prosperity** is the integration of organizational strength, corporate governance, and stakeholder management at the same time as fostering innovation, digital technology, and streamlining work processes in line with present and future situations and challenges, known as the **New Innovation**. **People** involves the inclusive development of human resources, communities, and society to foster a sound economy and decent quality of life that contributes to national development. **Planet** aims at incorporating the conservation of natural resources and environmental throughout work processes.

As of December 31, 2019, PTT won a total of 51 awards, rankings, and accreditation for work at national and international levels, presented by 26 entities.

7 International Entities, 19 Domestic Entities,
Total 17 Awards Total 34 Awards



PROSPERITY

PTT was honoured with eight State Enterprise Awards (SOE)

1. Outstanding State Enterprise Board of Directors Award.
2. Outstanding Organizational Management Award.
3. Outstanding Information Disclosure and Transparency Award.
4. Outstanding Social and Environmental Responsibility Award.
5. Outstanding Creativity Award.
6. Outstanding Innovation Award.
7. Outstanding Development Cooperation in the category of Organizational Management Improvement Award.
8. State Enterprise Digital Development, honorary mention

- **Awarded by:**
State Enterprise Policy Office, Ministry of Finance.
- **Date received:**
December 23, 2019.



PTT won two prizes at the 2019 SET Award :

1. Best Sustainability Awards

in recognition of outstanding listed companies' sustainable business performance and application of environmental and social issues as mechanisms to effectively develop sustainable business.

2. Best Investor Relations Award

presented to listed companies with outstanding performance in investor relations activities with transparency and good governance.

- **Awarded by:**
the Stock Exchange of Thailand (SET)
- **Date received:**
November 26, 2019.

PTT won 5 TMA Excellence Awards in a Thailand Corporate Excellence Award 2019 event :

1. Leadership Excellence
2. Sustainable Development Excellence
3. Marketing Excellence
4. Financial Management Excellence
5. Human Resource Management Excellence

- **Awarded by:**
Thailand Management Association (TMA)
- **Date received:**
November 26, 2019.





PROSPERITY

PTT won NACC Integrity Award 2019

Awarded to organizations that manage business with integrity, upholding good corporate governance policies and with care for society, communities and the environment.

- **Awarded by:**
The Office of National Anti-Corruption Commission (NACC)
- **Date received:**
March 29, 2019.



PTT won two corporate governance awards:

- 1. Asia's Icon in Corporate Governance Award,**
given to listed companies with outstanding CG management, for the 14th consecutive year.
 - 2. Asian Corporate Director Recognition Award,**
given to Mr. Chansin Treenuchagron, President and CEO, for his leadership and vision in driving sustainable growth and good corporate governance.
- **Awarded by:**
Corporate Governance Asia Magazine
 - **Date received:**
February 26, 2019.



Board of the Year Award 2018 for the 7th consecutive year

in the category of listed companies with more than THB 100 billion in market capitalization. The prize is awarded to the boards of Thai listed companies that effectively undertake their duties in good corporate governance, increasing returns for shareholders and valuing stakeholders.

- **Awarded by:**
The Thai Institute of Directors Association (IOD)
- **Date received:**
July 24, 2019.



PTT garnered four ASEAN Excellence Awards 2019 from Corporate Governance Asia Magazine:

Individual Awards Level

1. Asia's Best CEO for
Mr. Chansin Treenuchagron
2. Asia's Best CFO for
Ms. Pannalin Mahawongtikul

Corporate Awards Level

1. Best Investor Relations Company
2. Best Environmental Responsibility

- **Awarded by:**
Corporate Governance Asia Magazine
The event honored leaders and enterprises that built sustainable businesses with social responsibility and care for the community and environment, continually upgrading their corporate governance and gaining trust from investors as well as stakeholders.
- **Date received:**
June 28, 2019.

PTT won the 2019 Most Popular Stock Award for the 7th consecutive year

Presented to model companies that continuously discloses clear information to investors on the company, investments, and CSR activities while creating outstanding innovations.

- **Awarded by:**
Kaohoon Turakit Newspaper, Stock Exchange of Thailand and University of the Thai Chamber of Commerce
- **Date received:**
March 30, 2019.



Top Business Strategies Award at the Thailand Top Company Awards 2019 event

The award symbolizes the pride of the organization with outstanding performance and business strategies. PTT received the award as the perennially leading energy importer in Thailand with effective risk management, and readiness in other business expansion.

- **Awarded by:**
ARIP Public Company Limited, publisher of the BUSINESS Plus Magazine, in collaboration with University of the Thai Chamber of Commerce
- **Date received:**
March 21, 2019.



Best Company of the Year 2019 Award in the Category of Resources at the Money & Banking Award Ceremony 2019

This award is presented to listed companies with outstanding and robust SET performance with good liquidity and popular with minor investors, which will assist in developing the capital market.

- **Awarded by:**
Money & Banking Magazine
- **Date received:**
July 10, 2019.

In 2019, PTT earned four Outstanding Awards from Alpha Southeast Asia Magazine:

1. Most Organized Investor Relations
2. Best Senior Management IR Support
3. Most Consistent Dividend Policy
4. Best Strategic Corporate Social Responsibility

- **Awarded by:**
Alpha Southeast Asia Magazine
- **Date received:**
September 26, 2019.



PEOPLE

PTT won Gold Star Award and “Happy PVD Company” Certificate

in honor of a program that promotes employees to provide a planned saving scheme for retiring employees, whereby the employer must contribute more than 10%, and at least half of the members contribute more than 10% to the provident fund.

- **Awarded by:**
The Securities Exchange Commission (SEC) jointly with 16 investment management partner agencies and companies.
- **Date received:**
October 16, 2019.



PTT won the “Outstanding New Fund Award”

in the category of Single Fund, featuring state-enterprise funds larger than THB 10,000 million, at the Announcement of the Winners of the 2018 Best Provident Fund Award (No. 7).

- **Awarded by:**
The Association of Provident Funds
- **Date received:**
February 22, 2019.



PTT Group's exhibition booth was awarded an honorary mention in the category of large state enterprises and private-sector booths at the 2019 Thai Red Cross Society Event at Lumpini Park.

- **Awarded by:**
Thai Red Cross
- **Date received:**
November 2019 Society

PLANET

MEMBER OF Dow Jones Sustainability Indices



In collaboration with a RobecoSAM brand

PTT was selected as member of the Dow Jones Sustainability Indices (DJSI) for the 8th consecutive year.

The prestigious selection reflected recognition of PTT's efficient management compared with other leading companies in the industry that are concerned about society and the environment while forging confidence for investors and stakeholders in the long term.

- **Awarded by:**
Dow Jones Sustainability Indices (DJSI)
- **Date announced:**
September 13, 2019.



PTT won two awards :

1. The Best of Drive Award 2019
2. Drive Award Excellence in the category of Resource Management

The awards recognized leading organizations with outstanding management styles, emphasizing sustainable development and environmental protection, with innovation as the main organization drive.

- **Awarded by:**
The MBA Chula Alumni Association and the Master of Business Administration Course, Faculty of Commerce and Accountancy, Chulalongkorn University
- **Date received:**
August 29, 2019.



PTT garnered three awards :

1. Excellence Level in Low-Carbon and Sustainable Business Index : LCSi
2. Low-Emission Support Scheme (LESS) Award from the Touch Green Project
3. Carbon-Offsetting Award from the Policy, Goal, and Operating Plan Meeting for QSHE Annual General Meeting of PTT and PTT Group, 2019

- **Awarded by:**
Thailand Greenhouse Gas Management Organization (TGO) at the “Hundred Hearts to Reduce Global Warming” event
- **Date received:**
September 19, 2019.



PTT's Group's Wang Chan Valley Development Project received the Thai Contractor Award 2019

presented at the Future Construction: BUILT TO LAST Exhibition. The award recognized the contribution of the project to advance the construction industry in project format, construction technology, efficient and effective management that results in safety and an excellent environment for the community and society together with sustainability for the country.

- **Awarded by:**
Thai Contractors Association under H.M. the King's Patronage
- **Date received:**
September 26, 2019.



PTT's Green in the city won the Thailand Tourism Award (Kinnari Award) in the Attraction Category, under Learning and Doing, in the 12th Thailand, Tourism Award 2019.

The Kinnari award is a symbol of quality and tourism product upscaling and is a mechanism to drive a sustainable tourism industry in Thailand.

- **Awarded by:**
Ministry of Tourism and Sports
- **Date announced:**
September 27, 2019.



PTT Group won an Award of Recognition for the Zero Accident Campaign.

Rayong and Khanom Gas Separation Plants took the Gold Level Awards at the 33rd National Safety and Occupational Health Exhibition: Thailand Safe@Work 2019

- **Awarded by:**
Thailand Institute of Occupational Safety and Health (Public Organization), Ministry of Labour, jointly with the Safety and Health at Work Promotion Association (Thailand)
- **Date received:**
July 4 - 6, 2019.



2019 National Outstanding Model Workplace Award for Safety, Occupational Health and Work Environment

presented to PTT and PTT Group at the Thailand Labour Management Excellence Award 2019 Event

- **Awarded by:**
Department of Labour Protection and Welfare, Ministry of Labour.
- **Date received:**
September 16, 2019.

PTT was honored with an award in recognition of assistance to the Royal Forest Department 2019 in the Forestry Resource Management category

PTT has provided strong support for reforestation by continuously planting forests for the past 25 years, and in 2016-2019 has participated in the development and rehabilitation of the "Khung Bang Kachao Commemorative Park on the Occasion of His Majesty the King's 80th Birthday Anniversary" Green Area in cooperation with the Royal Forestry Department, Kasetsart University, and the local community. The park serves as a learning center for natural ecology of the lower Chao Phraya Basin.

- **Awarded by:**
Royal Forest Department
- **Date announced:**
September 18, 2019.



PTT earned a commemorative plaque in recognition of assistance to the Department of Natural Parks, Wildlife and Plant Conservation (DNWP)

for its support and joint work with DNWP in continual reforestation work.

- **Awarded by:**
Department of Natural Parks, Wildlife and Plant Conservation.
- **Date received:**
October 2, 2019.

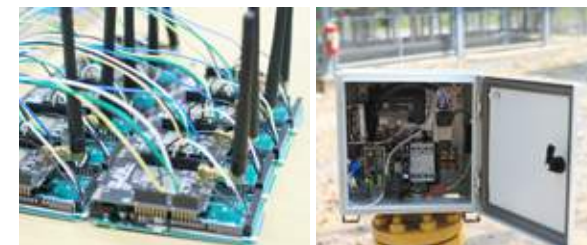


Integrated Pipeline Maintenance and Monitoring System (iPMMS) won two prizes:

1. Gold Medal in the 47th International Exhibition of Inventions, Palexo Hall, Geneva, Switzerland.

The award honored outstanding global innovation in truly beneficial creativity.

- **Awarded by:**
The Swiss Federal Government of the State, the City of Geneva, and the World Intellectual Property Organization (WIPO).
- **Date received:**
April 10 - 14, 2019.



2. The Asset ESG Award in the Category of Innovation Initiative

- **Awarded by:**
The Asset
- **Date received:**
December 2019.

PTT's 4 PIC Projects received an International Recognitions:

• 2 Awards in Gold level at the 2019 ICQCC Convention in Tokyo for

1. Reduce Mechanical Seal Leak at CO₂ Removal Unit GSP#1
2. One GC Three Methods

- **Awarded by:**
ICQCC Convention
- **Date received:**
September 23 - 26, 2019.



• 2 gold level from the Assessment by the Union of Japanese Scientist and Engineers (JUSE) in the Demning Prize 2019 event, Tokyo, Japan for

1. Debottlenecking GSP#5 to increase Feed gas
2. iRisk Business Application

- **Awarded by:**
Union of Japanese Scientist and Engineers (JUSE)
- **Date received:**
November 4 - 9, 2019.

Message from the Board of Directors



Mr. Krairit Euchukanonchai
Chairman



Mr. Chansin Treenuchagron
President & CEO

CIRCULAR
ECONOMY

For over four decades of PTT Group's businesses, our focus has been on strengthening national energy security and driving investment to supplement value and extend the core business (natural gas, petrochemical and refining, oil and retail, international trading, and power). In this regard, we have invested to improve the national economy while promoting a better quality of life for society and strengthening comprehensive business caliber to aid adaptation to swift challenged changes. These were achieved through corporate governance, ethical standard, code of business conduct, and sustainability management framework. All the while, PTT has been committed to becoming the national leader in the integrated petroleum and petrochemical businesses nationally and regionally.

In 2019, PTT faced challenges to our businesses amid volatile economic conditions, superpowers' trade war (notably between the US and China), shrinking growth in the world economy (from 3.6% in 2018 to 2.9% last year) and Thai economy (from 4.2% to 2.4%), resulting in lower consumers' demand. Pricewise, Dubai crude averaged USD 63.5 per barrel, down from last year, as did price spreads of petroleum products and petrochemicals. Besides, worries lingered about aggravating environmental woes, spawning requirements and campaigns with key implications on businesses, including the International Maritime Organization (IMO)'s requirement for mandatory usage of fuel oil with lower sulfur contents, and the public sector's policy to minimize or end domestic single-use plastics. Nevertheless, PTT Group has decided on the distribution of its investment portfolio to various businesses along the value chain to cope with the trends for clean energy and high-value chemicals; actively urged investment and business operation under public policy along with measures to improve performance outcomes via continuous improvement; trimmed expenses without unduly affecting the budgets for employee capability development; and optimized our asset management. As a result, this year PTT posted about THB 2.2 trillion in revenue along with THB 92,951 million in net profit (4% of the revenue). This net profit breaks down into 33% profit for PTT proper and 67% for PTT's subsidiaries. Such performance has enabled PTT Group to remit to treasury taxes and dividends for the development of the economy, society, and communities totaling THB 70 billion while generating a profit through dividends to over 130,000 minor shareholders.

Based strategies and plans enabled PTT to cope with such fluid circumstances and to the robust governance exerted by the Board of Directors, we are convinced that PTT will be making further strides along sustainable path under the three aspects of sustainable balance: People, Planet, and Prosperity.

PEOPLE

Create value for communities, promote grassroots economy, build educational capabilities and support national youth sports

PTT Group committed to promote grassroots economy, enhance community caliber, and develop society through wide-ranging projects like the Thai Det Project, operated by PTT Oil and Retail Public Company Limited (OR), which allocates space in PTT station space for merchandise distribution and jointly develops local product quality. Another instance is the support to public policy to ease the public's financial burdens and cost of living by subsidizing LPG costs to hawkers and street vendors with the State Welfare Card. PTT Group also relentlessly built on social enterprise coordination efforts, including the Café Amazon for Chance, Community Coffee Sourcing, PTT Group Lounge, Upcycling the Ocean by GC, Thailoil Haven for Community at Laem Chabang Hospital, and PTT Day Care Projects – all of these to develop human efficiency, lower social inequality, and spawn social equality.



PTT Group has also advocated human caliber development in various aspects. In sports, we valued sports skills among youths by cooperating with sports associations and clubs in teaching them sports skills through the PTT Swimming for Life Project to train children to swim and save their lives; building sports arenas to give youths opportunities to compete internationally, including PTT Tennis Championships, PTT Thailand Five 2019, and World Intercontinental Futsal Cup Thailand 2019 in addition to the development of a youth soccer team (PTT Academy) where youths were coached at a soccer training center to groom them to become professional soccer players and national-team soccer players. In education, PTT Group continuously provides sponsorship on researches and financial support for Vidyasirimedhi Institute of Science and Technology (VISTEC) and Kamnoetvidya Science Academy School (KVIS) for another 10 years (2022 - 2031) to turn out leading science and technology personnel and enhance Thailand's future competitiveness. Since their inception, as of academic year 2017 - 2018, a total of 141 have graduated from KVIS, 19 have received master's degrees, and 2 have earned their doctorates from VISTEC. Finally, PTT have cooperated with the public and private sectors in establishing a national platform known as InnoSpace (Thailand) Co., Ltd., in support of entrepreneurs and enterprises on startups.

PTT employees' capabilities has been continuously improved through lifelong learning via a variety of training for executives and employees. To elaborate, the Chansin Camp trained 489 new-age executives to cultivate the Smart and Conscientious Value for long-term organizational advantages. To promote the value of driving the corporation with digital technology, PTT amended its work-time administration system through the Digital Experience so that employees may work efficiently and report to work via a mobile application, add a flexi-time option for greater work flexibility, and add a Work@Home option to cut trips to the office and lower energy consumption as well as air pollution. Finally, the PTT TECH SAVVY AGENT Project is launched to advocate entrepreneurship and pursue new business models with digital innovation in the form of Internal Startup, a means to incubate and nurture ability and extend such business into new businesses.

A solid proof of PTT commitment as a public entity to supporting public policy and upgrading the quality of life of people lies in our Outstanding State Enterprise Award for 2019, covering 8 awards in several fields.

PLANET

Eliminate waste, supplement value to the environment with BCG Model, and cultivate "Forest in the Heart"

We are in full support of the public policy under the BCG Economy (B – Bio Economy, C – Circular Economy, G – Green Economy), which strives for optimal use of resources, reuse of items, and release of minimal waste to the surroundings. To date, we have speeded up the launch of service stations that distribute fuels made from agricultural produce, including PTT Ultra Force Diesel B10 and B20, which dilutes the PM2.5 particles due to combustion and aid domestic oil palm farmers. We also advocate garbage/waste processing into products of higher value, including products processed from garbage/waste obtained from Thailand's marine tourist destinations under the Upcycling the Oceans, Thailand Project; Café Amazon shop decor made from processed waste under the Circular Living concept; push for renewable-energy business development; construction of an industrial gas processing plant of Map Ta Phut Air Products Co., Ltd. (MAP) to apply the surplus frigid air derived from LNG gasification to processes, and trim power usage as well as carbon dioxide venting. Finally, we have invested in the bioplastics and green businesses, including investment in the Biocomplex Project, which produces bioplastics and green plastics from natural rubber.

As for forest conservation, PTT has carried out projects since 1994 and currently campaign for such conservation through three learning centers under the PTT Reforestation and Ecology Institute: Wang Chan Forest, Metro Forest, and the Sirinart Rajini Ecosystem Learning Center. We also cooperated with 33 entities and communities of 6 tambons on the "OUR Khung Bang Kachao" project, increasing some 6,000 rais of forest land to conserve and develop the famed Chao Phraya river bend into a lush, fertile area while upgrading the quality of life and surroundings of Bang Kachao communities. This year, PTT in conjunction with the public sector and networks promoted a tree-planting project under the "Plant to Change" theme, designed to urge the urban population to join in tree planting by leveraging PTT's reforestation knowledge as a role model for adding green space in urban areas under the "From Forest to Cities" strategy to in turn drive Bangkok into a green city through the implemented "Green Bangkok 2030" Project.

PROSPERITY

Forge synergy to extend core businesses and form new businesses

Our tasks for growth follow the 3D strategies (Do now, Decide Now and Design Now) with a focus on energy security, natural gas supply, continual infrastructural construction, and extension of past work for multiplication of successes.

For “Do now” strategy, we strive to enhance corporate caliber by raising business efficiency, lowering production costs by applying innovations, including a tool to predict potential equipment and machinery damage that leverages Big Data forecasting to plan preventive maintenance and the application of Artificial Intelligence (AI) & Robotics, including drones and robots, to survey gas transmission pipelines and inspect operation of assorted equipment. A move was also diminishing the number of companies which out of sync with PTT’s strategic direction or whose performances had fallen short of targets, for the sake of management flexibility and operating cost reduction.

Under “Decide Now” strategy, PTT’s reshaped the investment portfolio for compatibility with the global currents that accommodates future energy consumption while added value to current businesses, including the construction of a port and the second LNG terminal to accommodate 7.5 million tons/year of imports; the winning bid under the Map Ta Phut, industrial port project, phase 3 (period 1), in which PTT won the right to develop port infrastructure through PTT Tank Terminal Co., Ltd.; and international trading growth, which sees growth in global LNG trading, including the move to set up a company in Abu Dhabi, UAE, to engage in Middle Eastern trade and pursue full-fledged global trading.

For long-term growth, PTT Group has recently driven investment, including that in the petroleum exploration and production business by PTTEP Plc. which won the Bongkot and Erawan petroleum concession bidding, and acquired the entire businesses of Murphy Oil Corporation in Malaysia as well as Partex Holding B.V. Another instance is investment growth in the power sector, where Global Power Synergy Plc. (GPSC) acquired the business of Glow Energy Plc. Yet another, PTT Oil and Retail Plc. (OR) has expanded retails in several countries, specifically Café Amazon coffee shops in new countries such as Singapore, Malaysia, and China.

The third strategy, “Design Now”, concerns the pursuit of investment opportunities of emerging models and novel business development. Here PTT has developed EECi to turn Wang Chan Valley into an innovation city for the future of Thailand. We also supported concepts of innovation through investment in prototypes to push more research and development (R&D) to commercialization. The first instance is the development of sterile pads made from biocellulose composites to speed up wound healing (registered as proprietary technology of PTT Innovation Institute). Then on the automotive side, PTT has established platforms to raise industrial efficiency, including EV charger R&D (registered as an innovation merchandise of the National Innovation Agency) development of prototypes of electric tricycles and motorcycles to help conserve the environment, to also serve as prototypes for future vehicles; and

support to research on VISBAT, KVIS-developed high-quality batteries as a prototype energy storage for electric tuk-tuks. Finally, PTT is intent on developing a domestic drug for cancer with Chulabhorn Research Institute and the Government Pharmaceutical Organization to keep drug prices down so that more patients can access such drug and slash the public sector’s drug expenses.

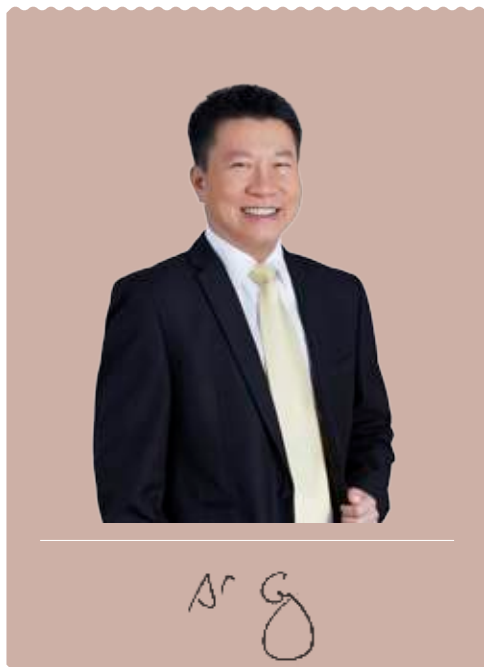
PTT strives to apply innovation and technology to the corporation for long-term competitiveness by introducing Robotic Process Automation (RPA) to shorten the time for repetitive work such as the procurement process to bank transfer payment; related party transaction inspection process; a bank payment inspection process; and a process to issue invoices to gas customers – which also encourage auditability to all procedures. Also, the Chatbot has been harnessed in business support for key procedures, including hiring and procurement. The promotion of innovation in the corporation to add value for stakeholders, particularly innovation for society and the environment. To illustrate, the project on Virtual Reality for All Platform (VR4ALL) that conveys multi-dimensional environmental impacts can serve as a prototype for all industries to identify pollution causes, remedies, and approaches to safeguard employees and neighbors of plants. This project won an Outstanding State Enterprise Award in 2019 in the category of Outstanding Creativity.

Such strategic implementation for sustainable growth has culminated in being selected as a member of Dow Jones Sustainability Indices (DJSI) for the 8th consecutive year. And to ensure its business transparency and accountability, PTT has amended its internal control policy for confidence among all stakeholders that PTT indeed commands efficient and effective business and its public reports are credible and align with applicable criteria. Such commitment to good practices has earned PTT an Integrity Award at the 8th event presented by the National Anti-Corruption Commission as well as an Asia’s Icon in Corporate Governance Award, presented by the Corporate Governance Asia magazine.

Our faith in virtue and moral principles is clear that PTT is ready to give it our best for sustainable growth in parallel with balanced development of society and the environment with good governance, transparency, and accountability. Our 51 accolades from all corners of the world speak volumes for our faith.

On behalf of the Board and the management of PTT, we wish to express our sincere appreciation to all who have faith in us and lent us full support over the years. PTT will remain dedicated to the task of producing quality people, social stewardship, and environmental preservation for sustainability through future years.

Report of the Audit Committee



Mr. Vichai Assarasakorn
Chairman of the Audit Committee

Serving as secretary to this committee is Mr. Chadil Chavanalikhorn, Executive Vice President, Office of Corporate Audit, replacing Mr. Chalot Boonlai since July 1st, 2019.

In 2019, the committee executed its Board-assigned duties and those under its own charter, which agreed with SEC's best practices. It reviewed and pushed for PTT's compliance with governance and applicable regulations in addition to adopting adequate risk management and internal control. It ensured PTT's emphasis on being a transparent organization with an efficient, effective internal audit activity, while elevating the quality of internal audit and transforming to be a trustworthy partner by aligning corporate goals for sustainable long-term value creation for PTT with due regard for satisfying stakeholders' expectations. The performances are highlighted below:

1. Advocated the establishment of a corporate culture with business integrity by encouraging the Office of Corporate Audit to play a part in proactively driving the culture through communication with PTT management and employees. Presented the best audited units called "STAR Award" to promote the importance of governance, risk management, internal control and compliance under the Three Lines of Defense model filled with virtue, ethics, transparency, accountability, and anti-corruption.

2. Supported the management to set up proactive strategies to raise efficiency and effectiveness in the risk management process with significant impacts on the business and enhances sustainable business in the aspects of business, law, technology, innovation, the environment, and personnel preparation to accommodate a business world of leapfrogging transformation.

3. Encouraged to use technology for the corporation's optimal benefit by raising performance efficiency and effectiveness, warding off incompliance, and deterring corrupt practices. All units abiding by the Three Lines of Defense model can duly exploit a common database, such as, development of an Investment Dashboard, and the application of the Robotic Process Automation (RPA) in domestic payment processes.

PTT Plc's present Audit Committee is made up of three knowledgeable independent directors, chaired by Mr. Vichai Assarasakorn, with Mrs. Nuntawan Sakuntanaga and Mr. Danucha Pichayanan serving as members. The individual terms this year are summarized below.

January 1st to April 10th 2019:

- Professor Dr. Kittipong Kittayarak
Chairman
- Mr. Vichai Assarasakorn
Member
- Mrs. Nuntawan Sakuntanaga
Member

April 11th to December 31st 2019:

- Mr. Vichai Assarasakorn
Chairman
- Mrs. Nuntawan Sakuntanaga
Member
- Mr. Danucha Pichayanan
Member



4. Developed PTT Group's audit committees' performance by conducted "PTT Group AC Forum" to better understanding in business, dynamic global transformation, and sharing views on their operations. Moreover, the committee visited PTT's Operation Center in Chon Buri to share knowledge and views on the natural gas transmission business.

5. Continually promoted a policy on elevating PTT Group's internal audit activity quality, leading to efficient, effective, credible, and professional practices by developing the internal audit's roadmap and an action plan aligning with the digital transformation of business to groom personnel, processes, and IT for such business transformation to keep pace with global digital-age businesses and trends.

6. Heightened resolution and prevention of issues detected by the Office of Corporate Audit in a systematic, sustainable way. To this end, the office analyzes such problems or issues, develops lessons learnt, and coordinates with the first and second lines of defenses to identify concrete, clear remedies and preventive actions.

During 2019, the committee held 16 meetings, with attendance detailed below:

January 1st to April 10th 2019: (5 meetings)

- Prof. Dr. Kittipong Kittayarak
5 times
- Mr. Vichai Assarasakorn
5 times
- Mrs. Nuntawan Sakuntanaga
5 times

April 11th to December 31st 2019: (11 meetings)

- Mr. Vichai Assarasakorn
11 times
- Mrs. Nuntawan Sakuntanaga
11 times
- Mr. Danucha Pichayanan
7 times

Summary of Performance

1. Review of financial statements: With the management, the Office of Corporate Audit, and the external auditor, the committee asked the external auditor about the accuracy and completeness of financial statements, related parties transaction, adjustment of key account entries and accounting projections affecting the statements, adequacy and suitability of account recording, audit scope, information disclosure that was accurate, complete, and adequate, as well as its own freedom. All these elements ensured that the preparation of financial statements abided by legal requirements as well as accounting standards under generally accepted accounting principles that are reliable and timely, and that adequate information was disclosed for users' benefit.

2. Review of risk management process: In conjunction with the management, the committee regularly reviewed the efficiency and effectiveness of the risk management process as well as the risk management policy, plans, and approach that affect PTT Group's operations. It provided recommendations for process improvement to deal with unforeseen events.

3. Review of internal control process effectiveness: The committee reviewed PTT's internal control with the Office of Corporate Audit by examining its operation, resource consumption, stewardship of properties, prevention or reduction of errors or damage, losses, waste, corrupt practices, and reliability of financial reports, including, compliance with laws, regulations, and Cabinet resolutions. No significant problems or material shortcomings were detected. This year's assessment outcomes of internal control under SET's best practices and the Ministry of Finance's Internal Audit Standards for Government Agencies, B.E. 2561 (2018), according to PTT management, were that PTT had indeed designed adequate and suitable control mechanisms, with fairly regular implementation. 100% cooperation was received from the management in filling out the internal control assessment form.



4. Review of governance process: The committee reviewed compliance with applicable laws and regulations, business protocols, related party transaction or those with potential conflicts of interests, and related parties transaction among PTT Group to ensure sensible conformance to normal business conditions. The committee also reviewed the whistleblowing process.

5. Governance of internal audit activity: The committee reviewed the Office of Corporate Audit's strategic, annual and long-term internal audit plans, including, conformance to the plans and audit findings. To this end, it advised and monitored corrective actions for significant aspects of good governance and adequate internal control. It approved an amendment of the internal audit charter and reviewed the annual budget, personnel development, recruitment, rotation, and training plans. Also reviewed were the office's adequacy and suitability of resources, KPIs, and the annual merit consideration for the Executive Vice President, Office of Corporate Audit. The committee also supervised the assessment of overall internal audit quality assurance.

6. Quality assurance of the Audit Committee: The committee not only reviewed its own charter, but also assessed its own performance as a group and individuals (self-assessment and cross-assessment) against SET's best practices to ensure efficient and fruitful performance. Assessment findings were regarded as excellent; guidelines for improving its own performance were set. Finally, the committee reported its performance to the Board every quarter, with remarks and comments noted for process improvement of governance, risk management, internal control and compliance.

7. Appointment of the external auditor for 2020:

The committee endorsed Ms. Rungnapa Lertsuwankul CPA License No. 3516, Mrs. Saifon Inkaew CPA License No. 4434, and/or Ms Waraporn Prapasirikul CPA License No. 4579, all of the EY Office Co., Ltd., as PTT's external auditors for 2020 for the Board's concurrence and the shareholders' approval at the 2020 AGM, together with its audit fees. The committee also met exclusively with the external auditor on one occasion in the absence of the PTT management for counsel on the audit scope, approach, and plans together with its performance freedom and its comments, with a focus on accurate, complete, and adequate presentation of data.

In summary, the Audit Committee executed its charter duties and responsibilities with due competence, care, prudence, and freedom, while providing views and recommendations for the equitable benefit of all stakeholders. Its opinion is that PTT's financial statements are accurate, reliable, and align with generally accepted accounting standards. In addition, PTT practiced compliance with applicable laws and business obligations, together with good governance, conformance to rules, adequate risk management with efficient and effective internal audit activity.

Report of the Nominating Committee



Mr. Don Wasantapruerk
Chairman of the Nominating Committee

The present Nominating Committee consists of three independent directors, chaired by Mr. Don Wasantapruerk, together with Professor Dr. Supot Teachavorasinskun and Professor Dr. Surapon Nitikraipot as members. The Company Secretary or the Executive Vice President, Company Secretary and Corporate Relation, serves as its secretary. This year, the committee performed Board-assigned duties with due prudence, transparency, and fairness including amended its scope to align with PTT's business strategies and current circumstance with due regard for shareholders' and stakeholders' best interests. This year, the committee held five meetings as below:

- Nominated directors to replace those who were due to retire by rotation, based on diverse information, from various professions with suitable qualifications required by applicable laws and regulations, PTT's Articles of Association, and corporate governance principles. Nominated candidates must be duly competent and qualified for PTT's business strategies, based on an analysis of the PTT Board Skill Matrix and the Director's Pool of the Ministry of Finance and Thai Institute of Directors (IOD). Their track records as well as past and present roles were also taken into account to ensure

Stakeholders' confidence. The nominated candidates must be free of tarnished background without conflicts of interest with PTT. The names of qualified candidates were tabled for the Board's approval to be appointed by the shareholder at AGM. Those names must also have the approval of the State Enterprise Policy Committee, according to the 2014 Regulations of the Office of the Prime Minister on Policy and Supervision of State Enterprises.

- Nominated directors to replace those who had resigned during the year. To this end, the committee tabled qualified candidates with suitable profiles to the Board for appointment. The names of nominated directors must also secure prior concurrence from the State Enterprise Policy Committee.

- Nominated directors to perform duties on specific Board committees, based on their compositions, qualifications, expertise, competencies, related skills and suitability, for the Board's appointment, with the exception of the Nominating Committee itself, which is to be appointed by the Board.

- Reviewed and amended the PTT Board Skill Matrix and KPI determination to measure the Board's performance outcomes (beside from the Board assessment) and tabled the revision to the Board for its comments. The Skill Matrix was diversified, modernized, and suitable for PTT's businesses. The committee added essential skills, knowledge, and proficiency that cover both educational background and experiences in line with PTT's business strategies in the short and long terms, together with the state enterprise strategic plan, with a primary objective of driving PTT toward its goals under its defined mission and strategies.

- Consulted each other on the driving/supervision of the Board's performance guidelines for sustainable development.

- Improved its own performance to be more thorough, suitable, timely, and compatible with PTT's corporate governance principles.

Finally, this year the Board gave minor shareholders the opportunity to nominate directors, but no such nomination was put forward for the 2020 AGM. For transparency, other details appear in this annual report.

Report of the Remuneration Committee



Mr. Vichai Assarasakorn
Chairman of the Remuneration Committee
(February 20, 2018 - April 11, 2019)



General Teerawat Boonyawat
Chairman of the Remuneration Committee
(April 11, 2019 - Present)

This year the Board of Directors appointed the current Remuneration Committee, which consists of independent directors in the majority. For the period of January 1 to April 11, 2019 Chaired by Mr. Vichai Assarasakorn, an independent director. Then since April 11, 2019 - present chaired by, General Teerawat Boonyawat, an independent director together with Mr. Chumpol Rimsakorn and Professor Dr. Supot Teachavorasinskun as members. The Company Secretary or the Executive Vice President, Company Secretary and Corporate Relation serves as secretary of the committee.

The committee performed its duties with prudence and care to consider and provide with critical comments on key issues for the Board's consideration. This year, the committee held three meetings as below:

- Considered the 2019 compensation for the Board and its committees, based on PTT's performance outcomes and business size, guidelines of peer-industry listed companies and leading ones worldwide, along with Board responsibilities and the outcomes of Board assessment under various topics defined in the annual assessment forms. The compensation was tabled for the Board's concurrence and subsequent appointment at the 2019 AGM.

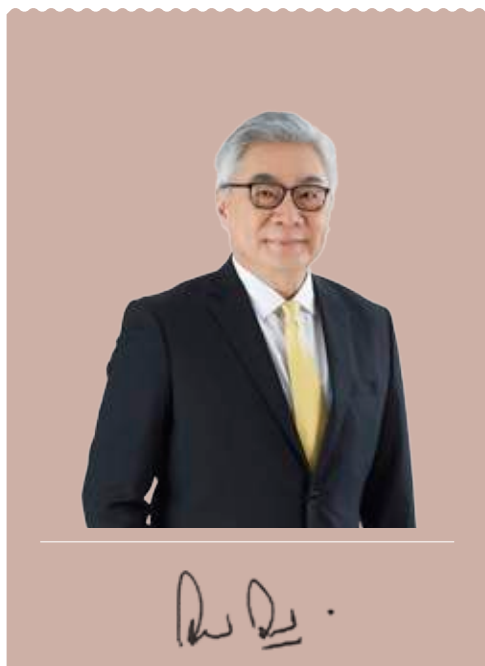
- Reviewed assessment guidelines of the President & CEO's performance to define his new compensation, based on factors linked to the agreement of the annual performance assessment for state enterprises mutually agreed by the State Enterprise Policy Office and PTT, his performance outcomes against the corporate vision, together with his managerial ability, leadership, self-assessment, and assessment by the Board. All these served as a basis for the committee's consideration before tabling its views to the Board for approval.

- Acknowledged and commented on the assessment of senior executive vice presidents.

- Reviewed the methodology of director bonus calculation that is suitable and abides by the endorsed scope given at the 2019 AGM of April 11, 2019, based on directors' responsibility.

For transparency, the Remuneration Committee has disclosed the compensation of all directors and committee members together with the management's compensation in this annual report.

Report of the Corporate Governance Committee



Professor Dr. Kittipong Kittayarak
Chairman of the Corporate
Governance Committee

The current Corporate Governance Committee is made up of three independent directors, namely Professor Dr. Kittipong Kittayarak (Chairman), Professor Dr. Surapon Nitikraipot (member, replacing Mr. Don Wasantapruet from December 23, 2018), and Mr. Thon Thamrongnawasawat (member since October 1, 2019). The Senior Executive Vice President, Corporate Governance and Regulatory Affairs, and the Senior Executive Vice President, Office of General Counsel, serve as secretaries.

Highly valuing business conduct with integrity, accountability, and resistance to all forms of fraud and corruption, the Board stresses PTT's firm commitment to becoming a corporation of transparency and morality under Corporate Governance (CG), a high ethical standard, a Code of Business Conduct, and PTT Group's scope of sustainability development to upgrade PTT's CG system for relentless efficiency to in turn boost fairness and confidence among all its stakeholders and lead to PTT's sustainable growth.

To this end, the Board has assigned this committee to propose CG guidelines and oversee the conduct of the directors and the management to ensure conformance to CG principles, SEC's and SET's CG principles, IOD's recommendations from the Corporate Governance Assessment Report, and the international principles of the Organization for Economic Cooperation and Development (OECD) together with the ASEAN Corporate Governance Scorecard (ACGS), the Ten Principles of the United Nations Global Compact (UNGC), and the DJSI Corporate Sustainability Assessment, as well as sustainability management and scope formulation for the oversight of PTT's applicable anti-fraud and corruption tasks.

In 2019 the committee held five meetings as planned to track and assess CG and anti-fraud and corruption tasks, corporate communications and corporate image plans as well as social, community, and environmental responsibility together with sustainable development plans, as highlighted below:

Information disclosure and transparency

- Completed the annual information disclosure form (Form 56-1) and the annual report, and disclosed PTT's quarterly performances and material information for shareholders, investors, and the public, complete with material, adequate, credible, and timely details through assorted channels, including SET's publicity channels and www.pttplc.com. The core units taking charge of information distribution were Investor Relations and Corporate Communications.
- Developed the 2019 annual sustainability report for the 12th consecutive year to disclose economic, social, and environmental data under the applied Global Reporting Initiative (GRI) Sustainability Reporting Standard 2016 and Oil and Gas Sector Disclosure (OGSD). It presented performance data under Integrated Reporting (IR) formats, provided updates in compliance with the elements of the United Nations Global Compact (UNGC), and reported operating outcomes that confirmed PTT's staunch support for sustainable development goals in line with the scope of the UN Sustainable Development Goals (SDGs) with the applied Recommendations of The Task Force on Climate-related Financial Disclosure (TCFD) in reporting business outcomes related to climate change. Also, a third party was commissioned to constantly review the report, with disclosure of this and previous years' reports on PTT's websites, GRI's websites, and UNGC's websites. In addition, PTT advocated preparation

of this report by PTT Group companies, namely PTTEP, GC, Thaioil, IRPC, GPSC, and OR, in compliance with SET's direction of convincing listed companies to disclose performance data on the economic, social, environmental, and CG sides on a par with international practices.

Rights of the shareholders

- Held the 2019 AGM and provided in advance adequate and timely information on the date, time, venue, and agenda as well as all information relevant to matters needing decisions at the AGM. Informed the shareholders about meeting rules and distributed such information on PTT's website before sending out meeting notices to give shareholders adequate time to study details. Facilitated their full exercising of meeting and voting rights. As a result, PTT achieved an "outstanding" score on the AGM Checklist assessment.

Equitable treatment of shareholders

- Allowed shareholders to propose additional agenda items and nominate directors for election in advance from September 1 to November 30, 2019, as required by PTT.
- Required directors with potential vested interests on any meeting agenda items to abstain, refrain from commenting, and skip such agenda items. Required all directors and executives to disclose vested interests about themselves and related parties for 2019 so that the Board might review PTT's transactions with potential conflicts of interest and decide to the utmost benefit of PTT.
- Required all directors, executives, and employees to electronically report their conflicts of interest for 2019 on the PTT intranet. No significant conflict was reported this year.
- Required all directors and executives to report their securities portfolios as required by law and assigned the Company Secretary to compile and report these to the Board every quarter.
- Ensured enforcement of the Insider Trading Guidelines by asking the directors and the management to refrain from PTT Group companies' securities trading. If such trading is necessary, for transparency they must notify the Company Secretary ahead of time.

Responsibilities of the Board

- Assessed Board performance (overall, self-assessment, cross-assessment, specific committee assessment and Chairman's Role & Duties and Performance Assessment, Work Satisfaction survey of the Committees and Chairman of each), with "outstanding" outcomes for the year.
- Attended training courses to develop competencies in directorship, such as courses hosted by the Thai Institute of Directors (IOD).
- Studied business management practices in PTT Group and matters related to energy and related businesses.
- Held one meeting among the independent directors.
- Held one non-executive meeting.

Recognition of stakeholders

- Endorsed an action plan on PTT's CG and anti-fraud and corruption for 2019 together with the annual goals before cascading to implementation, followed by constant monitoring, with recommendations provided to upgrade PTT's CG to conform with international standards.
- Provided oversight for the review of "PTT Corporate Governance, Ethical Standards and Code of Business Ethics Handbook" regarding the amendment of duties and responsibilities of the Enterprise Risk Management Committee to embrace the screening of and comments on agenda items related to investment, modification of the PTT and PTT Group anti-fraud and corruption policy, and the Fraud and Corruption risk assessment manual for inclusive contents and guidelines.
- Assigned policies and provided recommendations to the management on the definition of a PTT Group governance policy. To this end, a PTT Group Way of Conduct was developed to house guidelines, code of practice, and business processes of various aspects of PTT and PTT Group that align and harmonize with one another. PTT Group Way of Conduct then aids the oversight of PTT-invested companies through the implementation and driving of all PTT Group companies to adopt the same standard.
- Assigned the Corporate Governance Policy and advised the Governance, Risk and Compliance Management Committee (GRCMC), in charged with steering CG, operational risk management, internal control, and compliance management. GRCMC also serves as PTT's Anti-Corruption Operation Center for State Enterprises.
- Advocated and urged PTT's business allies to declare their intention to join Private Sector Collective Action Coalition against Corruption (CAC).

CSR and sustainable development

- Defined a Corporate Social Responsibility (CSR) approach and PTT Group Sustainable Framework by committing to corporate citizenship that values the stewardship of society and communities, which forms PTT's major groups of stakeholders at all operating sites whose wellbeing PTT aims to raise. PTT's stewardship also covers social network communities across the country under the two-dimensional sustainable development goal - People and Planet - in line with PTT's business direction. PTT applies PTT group's expertise to the driving of community self-development, particularly support for creating inclusive businesses which stress inclusion of the underprivileged and low-income earners as part of PTT's business.

People (development of human resources, communities, and society) - promotes items 4, 7, and 8 of the UN Sustainable Development Goals (SDGs) involving access to quality education, clean energy, decent vocational skills, and income generation opportunities.

Planet (conservation of natural resources and the environment) - promotes items 13, 14, and 15 of the UN SDGs involving expansion of green areas, life below water, life on land, and absorption of greenhouse gases.

- Passed assessment by RobecoSAM Corporate Sustainability Assessment and qualified as a member of Dow Jones Sustainability Emerging Market Index (DJSI Emerging Markets) in the Oil and Gas Upstream & Integrated Industry (OGX) category for the 8th consecutive year among the eight out of 63 companies invited to join DJSI Sustainability World Index (DJSI World) and among the 2 out of 17 companies on Dow Jones Sustainability Emerging Markets Index (DJSI Emerging Markets). PTT achieved an industry-best score on Materiality, Code of Business Conduct, Policy Influence, Tax Strategy, Energy Mix, Environmental Policy & Management Systems, Social Reporting, and Human Rights.

Awards of pride

Thanks to its firm commitment to operating businesses with CG and social responsibility, coupled with constant sustainability management and improvement, in 2019 PTT earned extensive acclaim from domestic and international entities alike. The awards included:

- NACC Integrity Award presented by the Office of the National Anti-Corruption Commission (NACC).
- Passed NACC Integrity & Transparency Assessment (ITA) at the "very high" level for the fifth consecutive year; the assessment outcome for 2019 was in the "A" range.
- Received "Excellent" ranking based on the 2019 survey of listed companies (Corporate Governance Report of Thai Listed Companies 2019) for the 11th consecutive year.
- Received a Corporate Governance Asian ESG Recognition Award 2019: Icon on Corporate Governance for the 15th consecutive year.
- Received The Asset Corporate Award 2019 (Platinum level) in its 11th consecutive year of assessment.

Report of the Enterprise Risk Management Committee



Mr. Thon Thamrongnawasawat
Chairman of the Enterprise Risk
Management Committee
(April 25, 2018 - September 30, 2019)



Mr. Supattanapong Punmeechaow
Chairman of the Enterprise Risk
Management Committee
(October 1, 2019 - Present)

PTT Plc. values corporate risk management as an essential tool for coping with risk factors from outside and inside the corporation, including the volatile world economy, assorted uncertainty, and emerging risks that are increasingly complex and severe. Since all these could jeopardize PTT's business outcomes, risk management plays such a critical role in mitigating these impacts so as to steer PTT toward its business goals.

The Enterprise Risk Management Committee (ERMC) has supported the Board's performance under corporate governance principles to keep PTT's risk management efficient and effective for successful goal achievement while aligning with the corporate vision and direction, as well as mitigating impacts of uncertain business environment. The key is to ensure shareholders and stakeholders that PTT's risk management system can indeed handle all these risks.

This year ERMC held a total of nine meetings, highlighted as follows:

1. Steered risk management to ease business impacts:

Defined proactive measures with a focus on lowering the probability of all risk events while commanding passive measures should risk events actually happen so as to ease impacts on corporate goals. Defined comprehensive risk management plans for all situations. This year, our risk management process has been aligned with the COSO:ERM 2017, as recommended by SET for listed companies, including a process of integration with strategy and performance and a declaration of the risk appetite statement to set appetite for each risk perspective for the corporation. Continual monitoring and management will then follow to ensure that the corporation can proceed to achieve objectives, strategic direction, and corporate goals. In addition, the Board has endorsed ERMC's additional authority to comment and provide recommendations on risks related to large-scale investments or contract administration with significant obligations and business complexity.

2. Oversight corporate stakeholder management:

This was intended to make such management complete and embrace comprehensive management of all stakeholders. To this end, key business plans were taken into consideration to reduce impacts on each group of stakeholders. The findings were then used for planning stakeholder management that suited each circumstance. Monitoring and assessment of such management were laid down along with an ongoing review of stakeholder management plans. ERMC gave its comments and recommendations for goal achievement.

3. Closely monitored risk management every quarter in 2019:

Instituted leading KRIs (key risk indicators) and lagging KRIs. Counseled the management on the improvement of its business practices by revising risk management plans in line with prevailing business strategies and circumstances. Finally, reported ERMC's performance to the Board. This year ERMC gave its comments and recommendations on risks of product prices and their spreads with feedstock prices for price hedging improvement.

4. Screened the list of 2020 corporate risks and sought endorsement of the Board:

To this end, a list of corporate risk items and risk management plans was integrated with the preparation of the 2020 enterprise plans. As a result, risk management plans have become more explicit and in line with the corporate direction, business strategies, and goals. Implementation was cascaded across the corporation to efficiently address risks and promptly handle them.

On the whole, the Enterprise Risk Management Committee and PTT's risk management taskforce are committed to maintaining and developing risk management efficiency for effective and proper risk management, as well as manageable risk control. Ultimately, this would sustainably support business goal achievement in the long term amid challenging circumstances.

Business Achievements



With PTT's responsibility to ensure national energy security amid unceasingly and rapidly changing challenges in the current global environment, the key success factor is to balance between continuous creation of business acumen enhancing competitive advantage through uninterrupted learning and development of technology and innovation and being responsibility to the community, society, and the environment to strive for sustainable growth of the organization.

External Factors Affecting PTT's Business

The changing context of economics, society, technology, and the environment in 2019

Rising protectionism and nationalism posed major threats to international trade order and multilateralism. Specifically, the US-China trade conflict which entered its second year in 2019 before a phase one trade deal was reached in December 2019, President Donald Trump's America First policy, and prolonged Brexit impasse in 2019 adversely affected global trade and investment, as well as raising geopolitical tensions.

The high tide of populism, amid diversifying inequalities and corruption of the governing elites, led many to take to the streets in protests around the world, including the ongoing anti-government protests in Hong Kong.

A wave of planning, construction, and operation of large-scale refining and petrochemical complexes, especially the rise of new petrochemical plants as additions to upstream refineries in China, has kept global petrochemical prices down.

Increasingly serious environmental problems due to rapid urbanization – such as extreme weather events caused by global warming, overflow of plastic trash, and health effects of PM2.5 – have resulted in the implementation of several measures to safeguard the environment including:

- International Maritime Organization (IMO) lowering of global limit for sulfur in fuel oil used on board ships to 0.5% from 3.5% mass by mass from January 1, 2020
- National campaigns in many countries to combat single-use plastics

- Promotion of B10 biodiesel to help increase the share of bioenergy in Thailand, support local oil palm growers, and reduce PM2.5 emissions – with the government keeping B10 biodiesel selling price THB 2 per liter cheaper than B7 biodiesel from October 1, 2019, as well as planning to adopt B10 biodiesel as standard diesel from January 1, 2020.

2019 Economic, Petroleum, and Petrochemical Review

Global Economic Review

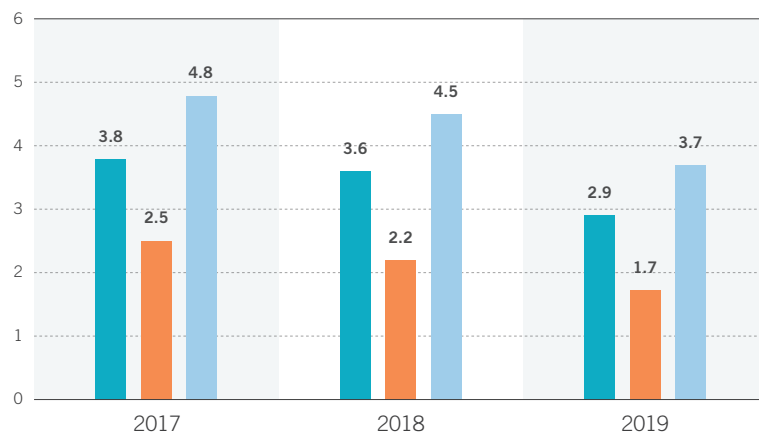
The global economy in 2019 expanded at a sharply slower pace than in 2018. It was a synchronized slowdown mainly brought about by elevated uncertainty surrounding US-China trade conflict, despite a notable shift towards increased monetary policy accommodation among major central banks. The International Monetary Fund (IMF) in January 2020 estimated global economic growth for 2019 at 2.9%, compared with a 3.6% growth in 2018 (Figure 1).

Figure 1

Global Economic Growth, 2017–2019

Unit: % yoy
Source: IMF, January 2020

■ World
■ Advanced Economies
■ Emerging Market and Developing Economies



Petroleum and Petrochemical Review

World oil demand in 2019 increased 0.9 million barrels per day, a slightly slower pace than in 2018, amid significantly weaker global economic growth and lower oil prices. The International Energy Agency (IEA) in February 2020 estimated world oil demand growth for 2019 at 100.2 million barrels per day (Figure 2).

Weaker world oil demand – together with rising non-OPEC supply, particularly US crude oil production continuing at record highs through 2019 – resulted in Dubai crude oil price averaging USD 63.5 per barrel, compared with a USD 69.4 per barrel average in 2018 (Figure 3).

Figure 2

World Oil
Demand,
2017 - 2019

Unit: Million barrels/Day
Source: IEA as of February 2020

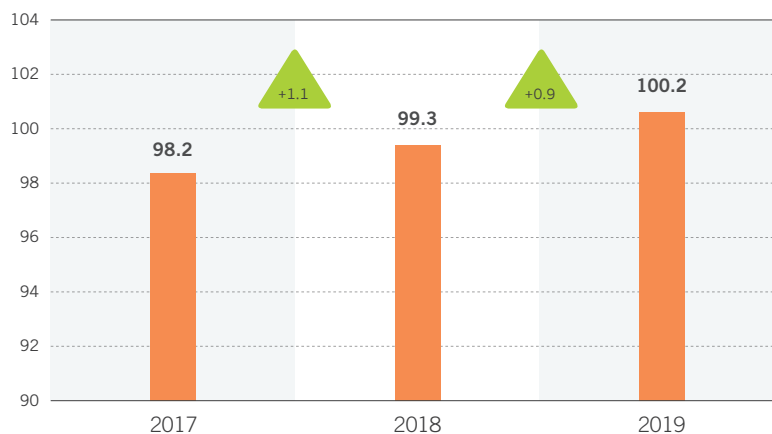


Figure 3

Dubai and
Petroleum
Product Prices,
2017 - 2019

Unit: USD/barrel
Source: Reuters

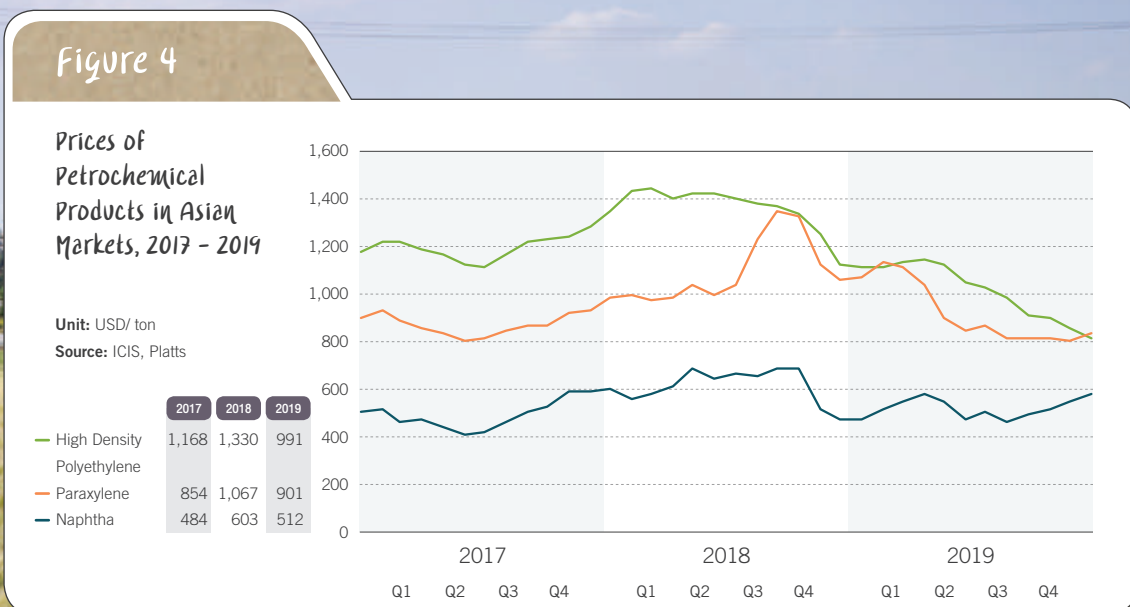
	2017	2018	2019
Dubai	53.2	69.4	63.5
Gasoline 95 Octane	68.0	79.9	72.5
Diesel	65.7	84.1	77.2
Fuel Oil 3.5%S	50.8	66.8	58.7



As for the prices of refined petroleum products in 2019, the price of gasoline 95 octane averaged USD 72.5 per barrel, decreased from 2018 amid lower crude oil prices and China's increased refinery output. All these led to a fall in gasoline crack spreads in 2019. Diesel price in 2019 averaged USD 77.2 per barrel, decreased from 2018 amid lower crude oil prices and increased export supply from China; while diesel demand did not benefit much from the ocean shipping industry making preparations for IMO 2020, as some ship operators switched to very low sulfur fuel oil 0.5%S (VLSFO 0.5%S). All these led to a fall in diesel crack spreads in 2019. High sulfur fuel oil 3.5%S (HSFO 3.5%S) price in 2019 averaged USD 58.7 per barrel, a decrease from 2018 amid lower crude oil prices and a drastic fall in HSFO 3.5%S demand as preparations for IMO 2020 intensified. All these led to a fall in HSFO 3.5%S crack spreads in 2019.

The Singapore cracking margin against Dubai crude in 2019 averaged USD 3.7 per barrel, compared with a USD 5.8 per barrel average in 2018.

Asian petrochemical markets overall saw sharply lower prices in 2019, a drop from 2018 high level as the positive impact of China's ban on plastic waste faded and demand fell following weaker global trade and faltering manufacturing sector. All these, together with higher supply from the USA, resulted in high density polyethylene (HDPE) price averaging USD 991 per ton in 2019. As for paraxylene (PX), key price drivers also included large production units coming online in China, with the price in 2019 averaging USD 901 per ton (Figure 4).





Thailand Economic Review

Thai economy in 2019 expanded at a sharply slower pace than in 2018, mainly due to a decline in goods exports following weaker global trade in a more protectionist environment and a trade diversion loss to China in the ASEAN market, despite government stimulus measures to spur growth and foreign tourism. The Office of the National Economic and Social Development Council (NESDC) reported the economy expanded 2.4% in 2019, compared with a 4.2% growth in 2018. As for the stronger baht in 2019, Thailand's current-account surplus was still have amid sharply lower imports of raw materials and intermediate goods, resulted in exchange rates between THB and USD averaging THB 31.0 per USD in 2019 (Figure 5).



Domestic Petroleum Review

The 2019 domestic primary commercial energy consumption, excluding renewables, was 2.15 million barrels of oil equivalent per day, 0.2% down from 2018, as shown in Figure 6. Consumption of oil and natural gas edged up 1.7% and 2.1%, while consumption of coal fell 10.9% mainly because of contracted demand in the industry sector.

The 2019 domestic consumption of refined products, however, went up 1.7% from 2018, including a 3.7% rise in gasoline consumption due to lower retail prices driving LPG and NGV consumers to switch to gasoline and a 4.2% increase in diesel consumption, measured by the new reporting procedure enforced by the Department of Energy Business. The consumption of high-speed diesel (HSD B7-20, HSD Premium) was 1.8% increase, about the same as in 2018 and with stable growth. Consumption of other fuels, including 0.8% growth of aviation fuel, was in line with the rise in foreign tourist arrivals, a 5.3% drop in LPG consumption following declines in nearly all business sectors, and a drop in fuel oil consumption by 10.3% from 2018, an exceptional year with frequent visits by international marine vessels.

Figure 6

Thailand's Primary Commercial Energy Consumption, 2017 - 2019

Unit: MBOED

Source: Energy Policy and Planning Office

- Hydro/ Imported Power
- Coal/ Lignite
- Oil
- Natural Gas

Remark: Excluding renewable energy

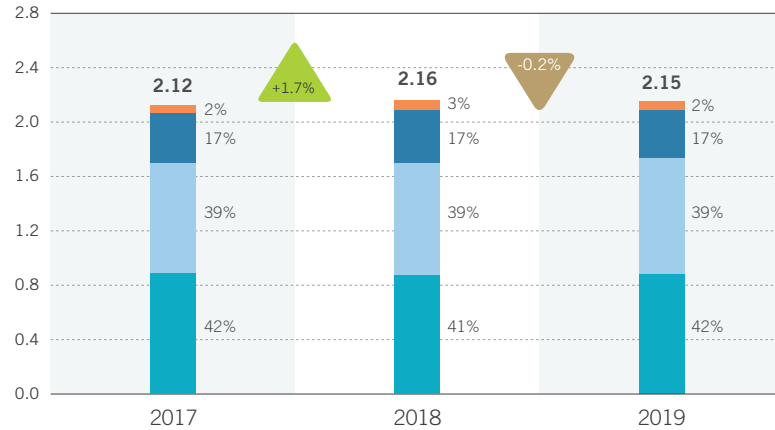


Figure 7

Thailand's Petroleum Product Consumption, 2017 - 2019

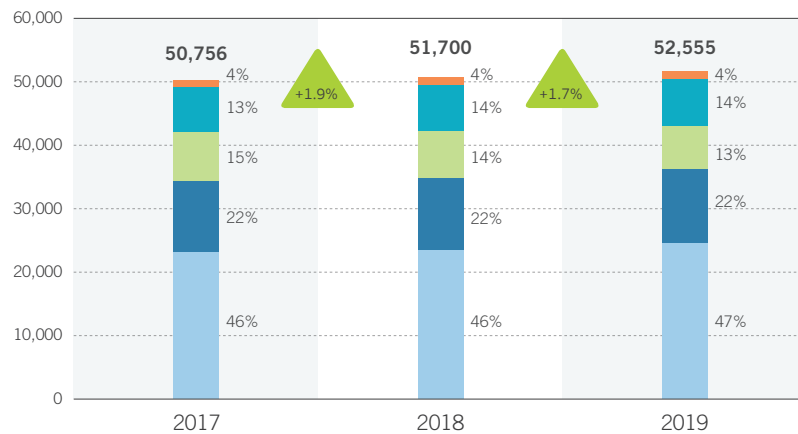
Unit: Million liters

Source: Department to Energy Business

- Fuel Oil
- Jet/ IK
- LPG*
- Gasoline
- Diesel

Remark:

* Excluding LPG used as Feedstock in Petrochemical Industries



The overall 2019 domestic petroleum balance is shown in Figure 8. Procurement volume was at 2,013.6 kilo barrels per day, 1.97% down from 2018 of which are the procurement of oil and natural gas accounted for 59% and 41% accordingly. Out of the total, 86% of crude oil and 29% of natural gas were imported. Total domestic sales averaged 1,821.29 kilo barrels per day, increasing 1.35%; out of these, 55% was refined oil products and 45% was natural gas. Total exports plummeted 20.27% from 2018 to 193.38 kilo barrels per day.

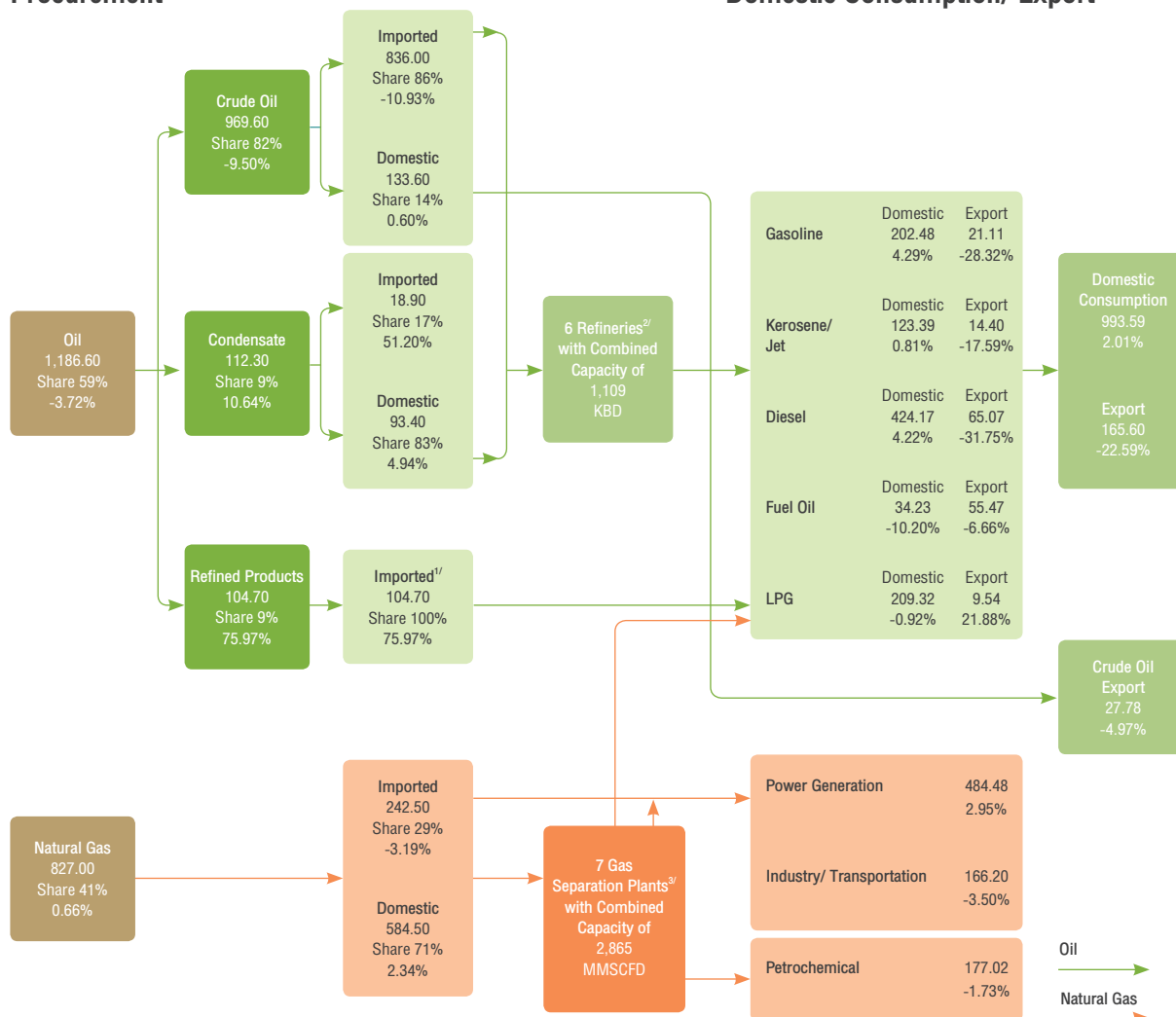
Figure 8

Thailand Petroleum Balance 2019

Unit: KBD

Procurement

Domestic Consumption/ Export



Total

Procurement

2,013.60
-1.97%

Domestic Consumption

1,821.29
1.35%

Refined Products

993.59
2.01%

Natural Gas

827.70
0.57%

Export

193.38
-20.27%

Refined Products

165.60
-22.59%

Crude Oil

27.78
-4.97%

Source: Energy Policy and Planning Office, Department of Energy Business, Department of Mineral Fuels, and PTT

Notes:

1/ Including LPG

2/ Capacity includes those of BCP, ESSO, IRPC, PTTGC, SPRC, THAI OIL and excludes PTTGC's condensate splitters & Fang refinery.

3/ Capacity includes those of PTT/GSP 1 - 6, PTT/ESP and PTTEP Siam/ Phalang Phet. Petroleum procurement and domestic consumption/ export exclude bitumen.

2020 Economic, Petroleum, and Petrochemical Outlook

Global Economic Outlook

Global economic growth is projected to strengthen in 2020, with support coming from improved business and investment climate following the signing of US-China phase one trade deal in January 2020 coupled with the effects of monetary easing and increased government spending especially in countries with fiscal space. However, the projected recovery for global economic growth remains uncertain, as COVID-19 and its disruption of global tourism and transport sectors continues in the first half of 2020, amid several downside risks including rising geopolitical tensions and intensifying social unrest, return of US-China trade tensions, abrupt shift in risk sentiment and tighter financial conditions, and weather-related disasters. The IMF in February 2020 lowered its global growth projection for 2020 to 3.2%, from its previous projection of 3.3% in January 2020.

Petroleum and Petrochemical Outlook

According to IEA estimates in February 2020, world oil demand is projected to increase 0.8 million barrels per day to average 101.0 million barrels per day in 2020, the lowest growth since 2011 due to COVID-19 and the widespread shutdown of China's economy. As for oil prices in 2019, factors exerting upward pressure on the prices include further OPEC+ supply curb and rising tensions in the Middle East; whereas factors exerting downward pressure on the price include uncertain global economic recovery (especially due to COVID-19) and a continued rise in US crude oil production. Dubai crude oil price is expected to average USD 55 - 65 per barrel in 2020, while the Singapore cracking margin against Dubai crude is expected to average USD 3 - 5 per barrel.

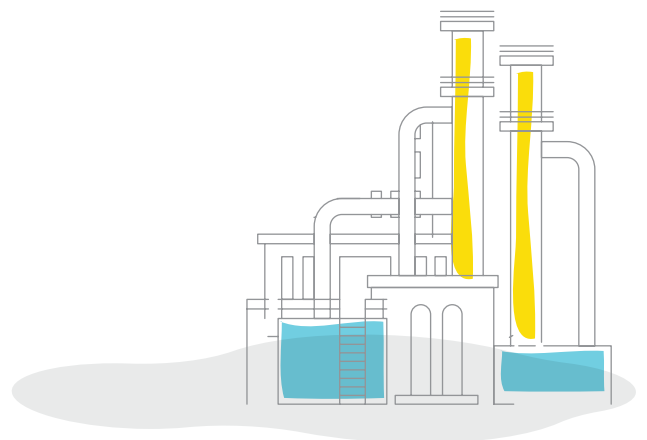
As for petrochemical products, a further price decline is foreseen in 2020 – with HDPE price expected to average USD 845 per ton on the back of rising US supply, and PX price expected to average USD 816 per ton amid capacity additions in China.

Thailand Economic Outlook

Thailand economic growth is expected to slow further in 2020, mainly due to the downfall in tourism revenue over COVID-19; while budget disbursement is expected to accelerate following delayed adoption of the FY2020 budget and as more public infrastructure projects including the Thai-Chinese high-speed rail project enter construction. Downside risks to Thai economy include highly volatile global economic and financial conditions, possible delays in public investment and budget disbursement, divisive politics, and more severe drought. The NESDC in February 2020 projected Thai economy to grow 2.0% in 2020. As for the value of baht, analysts foresee a slight appreciation in 2020 amid continuous current account surplus, with exchange rates between THB and USD averaging THB 30.51 per USD.

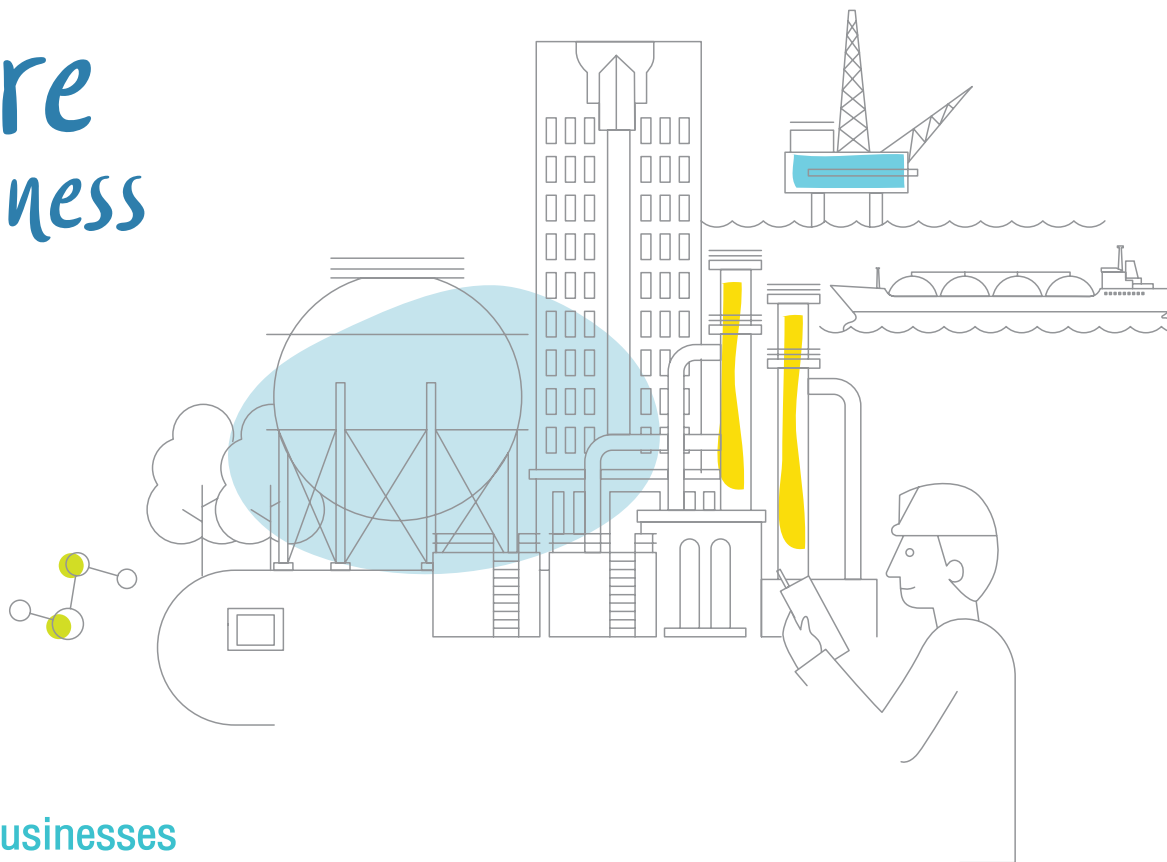
Domestic Petroleum Outlook

The domestic primary commercial energy consumption is set to grow at a lower rate than the expected economic growth in 2020. The refined petroleum product consumption is projected to grow despite the volatile global oil price and domestic political instability. Besides, the consumption pattern of diesel and gasohol requires more time for tracking how the state policy to promote the use of diesel B10 and gasohol E20 will affect consumers' behavior.





Nature of Business



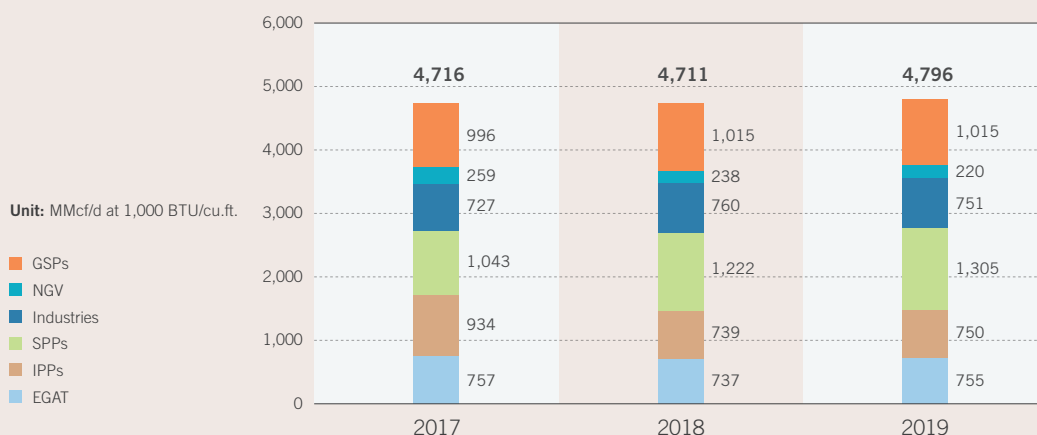
PTT-operated businesses

042 Gas Business

PTT engages in natural gas supply, wholesale and retail gas sale, distribution of products from gas separation plants (GSPs), and gas-related value-added businesses through PTT Group companies. Supply includes indigenous gas, imports from neighboring countries, and liquefied natural gas (LNG) imports of sufficient volumes to meet the demand of major power producers, industrial users through distribution pipelines, and distribution to the transport sector through NGV service stations. PTT sells products derived from its GSPs to supplement business value to the gas obtained from the Gulf of Thailand for petrochemical feedstock and sells LPG for households, industry, and transport.

The structuring of wholesale and retail gas sales prices comes under the Energy Industry Act, B.E. 2550. As a rule, the natural gas supply and wholesale business sets sales prices for power producers together with gas transmission management with a constant return set by the public sector, whereas the gas distribution business, which normally sells it to industrial customers, generally sells it at prices tied to global fuel oil prices so as to be competitive with rival fuels, namely domestic retail fuel oil prices. For GSPs, products are sold as petrochemical feedstock, based on petroleum and petrochemical prices of global markets. As for the LPG sold domestically as fuel, the National Energy Policy Council (NEPC) on July 31, 2017, endorsed full liberalization of the LPG business. To elaborate, announced ex-refinery prices are based on imported prices from world markets and import expenses for the benefit of overseeing retail LPG prices. Currently, LPG exports require permission from the public sector, which collects contributions to the Oil Fund at THB 0.70/kilogram; also, a rate was set for contribution to the fund (or compensation for LPG derived from GSPs for fuel purposes). In addition, the public sector requested PTT to continue its subsidy to ease impacts of LPG price rises for the household sector, specifically vendors, street hawkers, and food stalls.

Natural Gas Sales



This year the business unit's performance outcomes slow down due to the lower prices of world crude oil and petrochemicals whereas the costs of domestic natural gas, referenced to retroactive crude oil prices, were higher – despite rises in sales of gas and GSP products, continuing efficiency improvement in GSP processes to trim operating costs, increases in business models focusing on service to external customers, adjusted strategies for machinery and material purchases, a cost reduction policy and deferral of expenses, designed to add revenue while trimming expenses. Below are the highlights of the Gas Business Unit in 2019.

Gas procurement

Supply procurement totaled 4,792 MMscf/d, a 2% rise from last year at 4,708 MMscf/d, consisting of 3,340 MMscf/d from indigenous sources and 1,452 MMscf/d from imports, an equivalent indigenous/import ratio of 70 : 30.

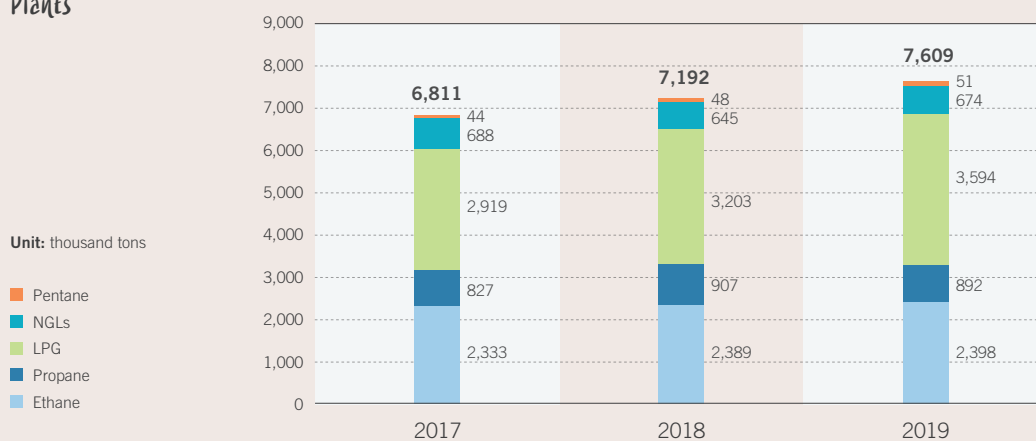
Gas sales

Gas sales amounted to 4,796 MMscf/d this year, a 2% rise from last year (4,711 MMscf/d). PTT sells it to the power sector, industrial sector, transport sector, and as GSP products.

Sales to the power sector

Sales to this sector totaled 2,810 MMscf/d, about 59% of the total sales, representing a 4% rise from last year (2,698 MMscf/d) due to an increase in domestic power demand. Sales were completed to EGAT at 755 MMscf/d, or 16%; to 13 independent power producers (IPPs) at 750 MMscf/d, or 16%; and to 71 small power producers (SPPs) at 1,305 MMscf/d, or 27% of the total.

Products from Gas Separation Plants



Sales to the industrial sector

Sales to this sector totaled 751 MMscf/d, equivalent to 16% of the total, a drop of 1% from last year (760 MMscf/d). A total of 373 entities used industrial gases this year: 334 in the industrial group, 33 in the independent power supplier group, one in the commercial group, and five in the industrial sector featuring truck transport. Accounting for the fall in sales was the economic slowdown.

Sales to the transport sector

Sales to the transport sector averaged 220 MMscf/d (5%) of the total, recording a 7% drop from last year (238 MMscf/d) due to the decline in world oil prices. In the meantime, NGV sales prices in this sector rise this year with the natural gas prices, thus lowering its competitiveness with other fuels.

Sales of products from GSPs

GSPs processed 1,015 MMscf/d of value-adding natural gas this year, or 21% of total sales, the same level as last year. This year GSP sales generated a 6% rise in revenue from last year due to efficient raw-material procurement and GSP's improved marketing and sales.

Gas Transmission Business

This business consists of services, operation, and maintenance of gas transmission pipelines together with the compliance with laws applicable to the business of gas transmission pipelines. As of year-end 2019, PTT's transmission pipelines totaled 4,252 kilometers in length: 2,119 kilometers of onshore pipelines, including those belonging to private entities and those laid to power plants but excluding distribution pipelines and offshore gas transmission pipelines of about 2,133 kilometers.

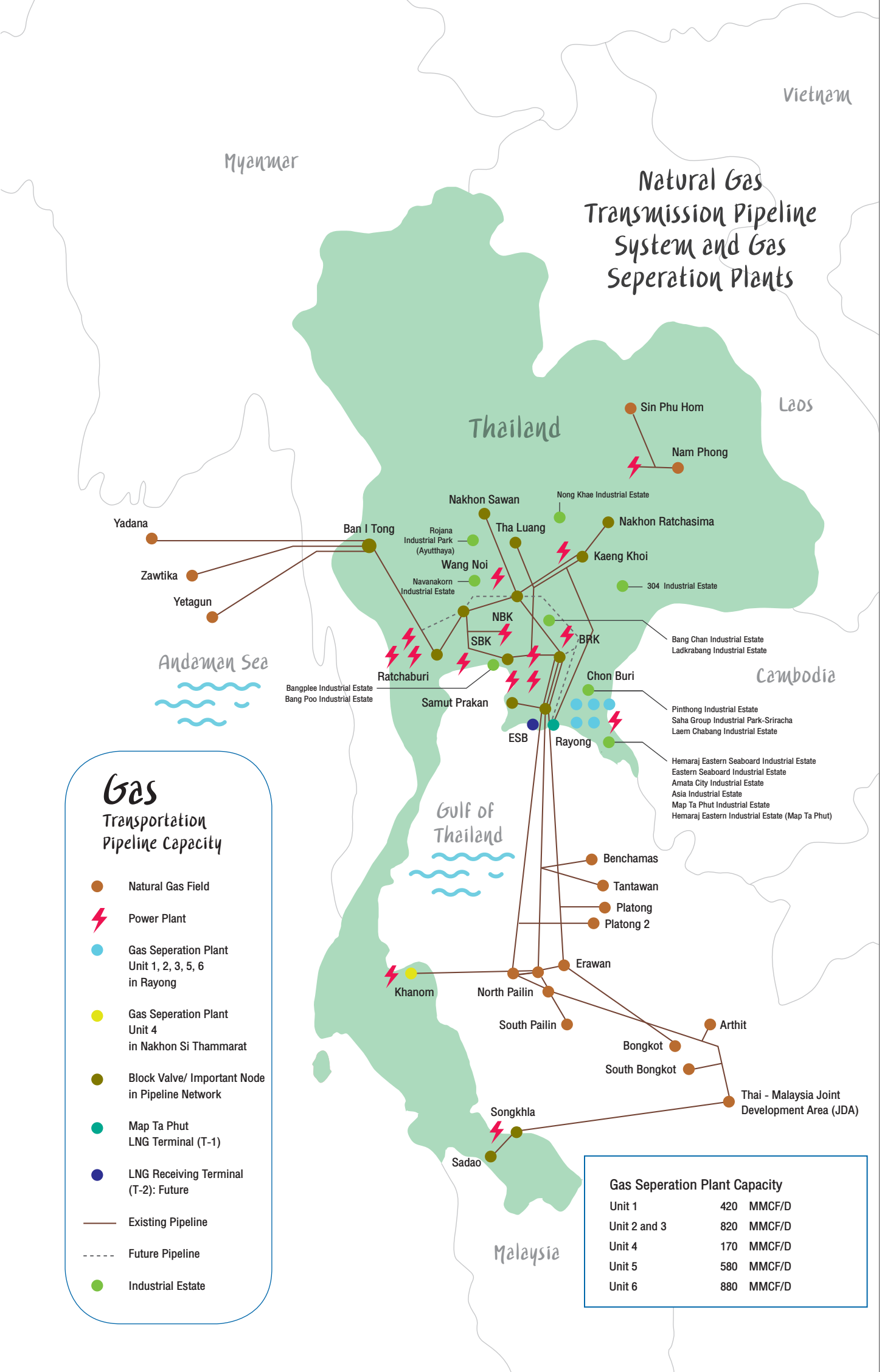


Natural Gas Transmission Pipeline System and Gas Separation Plants

Gas Transportation Pipeline Capacity

- Natural Gas Field
- Power Plant
- Gas Separation Plant Unit 1, 2, 3, 5, 6 in Rayong
- Gas Separation Plant Unit 4 in Nakhon Si Thammarat
- Block Valve/ Important Node in Pipeline Network
- Map Ta Phut LNG Terminal (T-1)
- LNG Receiving Terminal (T-2): Future
- Existing Pipeline
- Future Pipeline
- Industrial Estate

Gas Separation Plant Capacity		
Unit 1	420	MMCF/D
Unit 2 and 3	820	MMCF/D
Unit 4	170	MMCF/D
Unit 5	580	MMCF/D
Unit 6	880	MMCF/D





International Trading Business

PTT operates fully integrated international trading businesses, covering supply procurement, import and export of crude oil, condensate, LNG, LPG, petroleum and petrochemical products, solvents and chemicals. The company is also in charge of price risk management (hedging) and international shipment primarily to foster energy security and add value to Thailand's surplus products in parallel with trading base expansion to all regions around the world while adding PTT Group's international market competitiveness.

Performance is subject to the pursuit of opportunities for growing international commercial trading. The business unit has therefore appointed affiliates and representative offices in commercial hubs around the world, including Singapore; Dubai, United Arab Emirates; Shanghai, China; Jakarta, Indonesia; and London, UK. As a result, today PTT is managing business transactions around the world. Since international trading transactions are high in value, it applies risk-control best practices adopted by leading international trading houses. To elaborate, panels set policies and steer assorted risk management tasks and clearly divide work structure and roles (Front-Mid-Back) for checks and balances; PTT also applies digital technology to develop systems for transaction control, operation, and risk control for transactions to enable quick and transparent transactions and efficient audit.

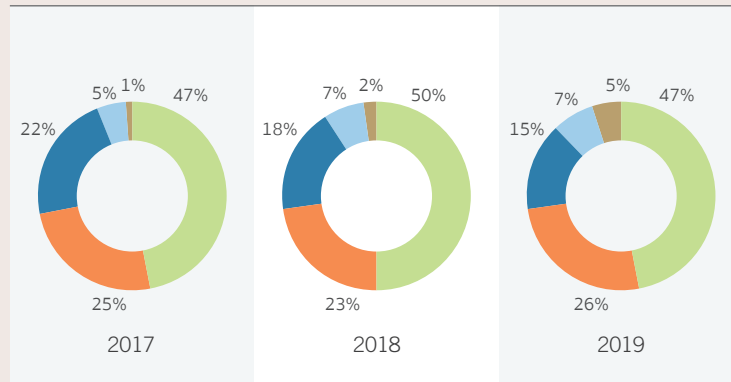
This year's success of the international trading business unit stemmed from the expansion in international trade volumes via the operation of PTT and affiliates located in strategic trading points across all regions to enable constant tracking of information and movements as well as close coordination with PTT's customers and business partners in various regions for opportunities to add value and extend trade in new regions. Another aim was to achieve the Global Book Portfolio management model, which allows efficient trading transaction management in parallel with the application of expertise, proficiency, and experience in an international transport service and efficient risk management. Below are this year's highlights.

1) National energy supply security

The International Trading Business Unit served PTT Group's refineries and petrochemical complexes for enhanced energy security by sourcing domestic and overseas energy and allocating them in suitable proportions and quality. This year it procured 10,626 million liters from domestic sources (84% of the total domestic output) and crude oil and condensate totaling 30,456 million liters (61% of imports) from international sources, focusing on diverse ones. Particularly, PTT secured crude from the USA as a refinery option due to similar properties to the traditional grades previously fed to domestic refineries, but with lower sulfur contents. This move accommodated the International Maritime Organization (IMO) Regulation, which requires no more than 0.5% sulfur content versus 3.5% currently, with effect from January 1, 2020.

Top Crude Oil Importing by Region

Middle East
 Domestic
 Asia-Pacific
 Africa
 US



Also, the business unit imports petroleum products to meet national energy demand, including imports of GBASE for gasohol production, LPG for the industrial, transport, and household sectors, and fuel products to meet demand in certain periods, such as during refinery turnarounds that called for diesel imports, and fuel oil imports for power generation reserve. This year a total of 729 million liters (21% of Thailand's total) was imported.

2) Added value to surplus products

The business unit's instrumental role is also to maintain a balance of energy and create economic prosperity for Thailand, achieved through collaboration among refineries, petrochemical complexes, and domestic GSPs in exporting surplus petroleum and petrochemical products, including

fuel oil, low-grade diesel, LPG, NGL, olefins and aromatics products. The aim is to add value and remit export revenue to treasury. This year the business unit was responsible for exporting 2,827 million liters of petroleum products or about 29% of Thailand's total exports along with 1,542 million liters of petrochemicals.

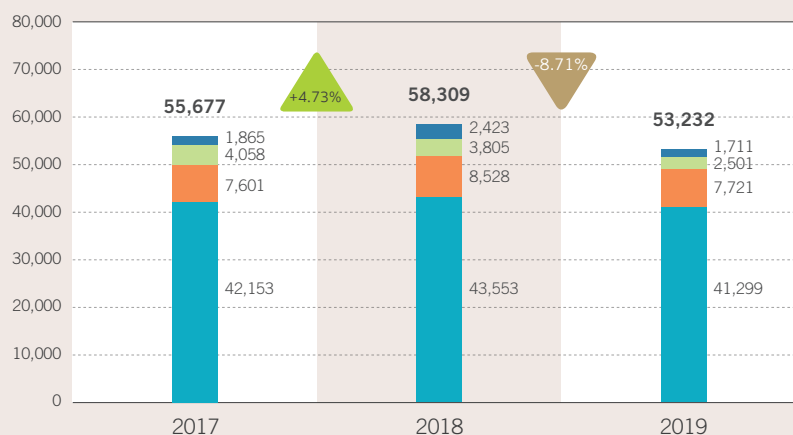
3) Expansion of trading bases worldwide

The focus was on expanding international trading in response to PTT's vision as a leading multinational energy company. This year the out-out trade volume amounted to 40,166 million liters, a 20% rise over last year, due to the greater outreach to all regions of the world and the inaugural international LNG trade of 767 million liters (503,121 tons).

International Trading Volumes

Unit: million liters
Note: Excluding trading through PTT's affiliates

■ Petrochemicals
■ Petroleum products
■ Condensate
■ Crude oil



This year, the business unit posted a trade total of 53,232 million liters, a drop of 5,077 million liters (8.71%) from last year, mainly due to falling import volumes of crude oil and condensate for domestic refineries and lower exports of petrochemicals. Trading was composed of 41,299 million liters of crude oil, 7,721 million liters of condensate, 2,501 million liters of petroleum products and LPG, and 1,711 million liters of petrochemicals and solvents.

The total trade volume of affiliates amounted to 32,817 million liters, a 34% rise from last year. Incorporating transactions undertaken by international trading units and also those of the affiliated companies, the trading volume was 82,854 billion liters, a 3% rise from last year (increased 2,372 billion liters) – a result of PTT's commitment to expand trading bases abroad for greater national energy security and being a pride of Thais in the international arena.

Technology and Engineering Business

This business engages in engineering, real estate, digital, and technology in support of PTT's business. It links the management of PTT's core business groups, asset management, pursuit of excellence in real-estate development and integrated engineering services, R&D (technical and innovation), development of prototypes, and pursuit of new business opportunities associated with the New Business S-Curve to accommodate domestic and international growth. The Technology and Engineering Business consists of:

1) Innovation and Digital

is made up of the Innovation Institute, which engages in R&D with a focus on strengthening technological aspects, grooming researchers' capability to become experts in various fields, extension and development of digital knowhow into digital transformation. Additionally, in response to megatrends, it focuses on a new s-curve business development, including electricity value chains, robotics, and artificial intelligence (AI).

2) Engineering and Project Management

is made up of engineering and construction project management, project assessment of safety, environment, society, and communities, and development of specification in support of PTT's projects for objective and goal achievement. Also, including the task of asset management, such as land, facilities, and structures to promote new business opportunities arising from PTT's assets for added value.

3) Wang Chan Valley Development Project for EECi

in support of the government's EEC. The business designs public utilities infrastructure and develops the area for commercial purposes as a smart city to accommodate national research and innovation under Thailand 4.0 policy.

Businesses Invested through PTT Group Companies

Petroleum Exploration and Production (E&P) Business

PTT Exploration and Production Plc. (PTTEP) operates domestic and international petroleum E&P and invests in related businesses to find petroleum deposits of crude oil and natural gas that are competitively priced in order to ensure Thailand's energy security. It sells petroleum outputs from domestic and regional projects, mostly natural gas, primarily to the domestic market.

LNG Business

PTT LNG Co., Ltd. (PTTLNG), wholly owned by PTT, serves Thailand's LNG import business by accommodating LNG vessels as well as storing and converting LNG into the gaseous form. Today the company operates the 11.5-million-tons/year Map Ta Phut LNG Receiving Terminal (T-1) and is constructing the Nong Fab LNG Receiving Terminal (T-2) with a capacity of 7.5 million tons/year. In all, the company will command a capacity of 19 million tons/year.

PTT Global LNG Co., Ltd. (PTTGL), is a 50 : 50 joint venture between PTT and PTTEP, represented by PTTEP Business Center Co., Ltd. for cooperation among PTT Group on investment expansion and an integrated LNG business across the value chain. Today the company has invested in the MLNG Train 9 Project, an LNG liquefaction facility in Malaysia, in collaboration with Petronas.

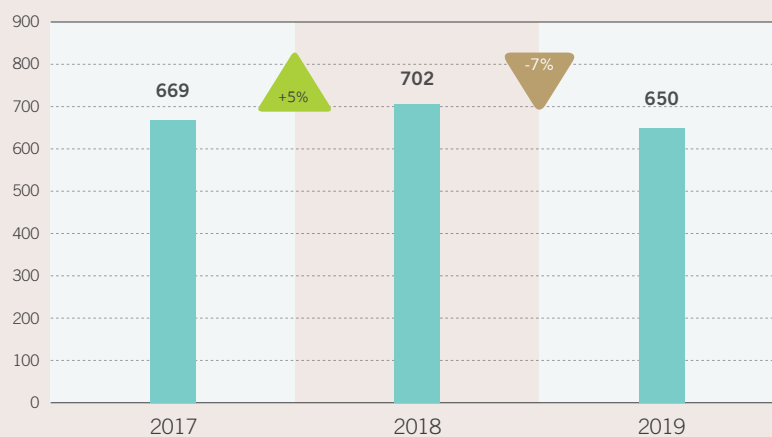
Petrochemical, Refining, Oil and Retail Businesses

PTT invests through **PTT Global Chemical Plc. (GC)**, **IRPC Plc. (IRPC)**, **Thai Oil Plc. (TOP)**, **PTT Oil and Retail Plc. (OR)**, and **PTT Tank Terminal Co., Ltd. (PTT Tank)**. The scope of business ranges from the production and sale of fuels, upstream, intermediate, and downstream petrochemicals together with various polymers (olefins and aromatics), green chemicals, to marine terminal and tank services. PTT is responsible for procuring crude oil and buying fuels and petrochemicals partly from PTT Group companies for distribution in domestic and international markets. PTT Group also focuses on development of goods and services to ensure good customer experiences. It supports and nurtures SMEs through oil, and retail businesses in addition to participation in the development of the quality of life in the society and communities.

The performance of these businesses is primarily subject to the state of world economy together with feedstock and product price margins in the world market, which vary with global supply and demand as well as year-end inventories (stocks). This year the petrochemical, refining and oil business netted a profit of THB 27,993 million (100% equity), dropping from last year's THB 39,824 million due to the falling average price spreads caused by the sluggish world economy, the ongoing trade war, and the falling outputs and sales due to planned maintenance turnarounds. Nevertheless, PTT Group relentlessly proceeded with efficiency improvement, specifically by adding value and reducing costs through PTT Group's productivity improvement and synergy value management under the PRISM (Petrochemical and Refining Integrated Synergy Management) Project and PTT Group Operational Excellence Project, which saw the application of best practices, group logistics management, and value chain optimization.

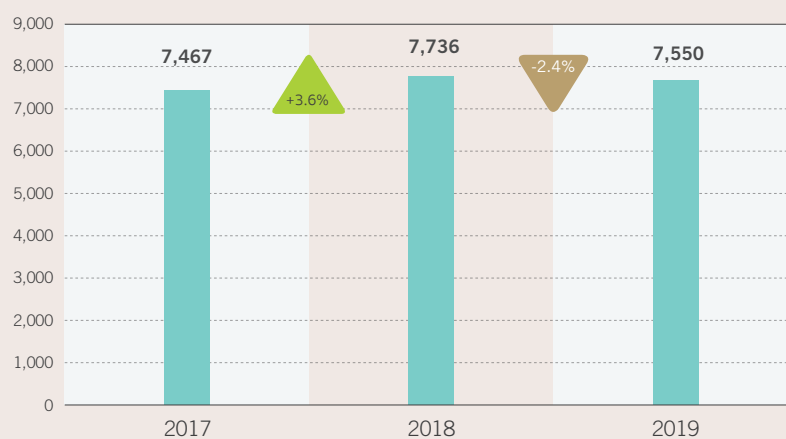
Total Feedstock for Refineries in PTT Group

Unit: Kbpd



PTT Group's Total Sales Volume of Petrochemical Products (Olefins, Aromatics, and Polymers)

Unit: KT/year



This year's feedstock for PTT Group's oil refining totaled 650 KBD (thousand barrels per day), a 7% drop from last year, mainly due to IRPC's planned major turnaround of RDCC in the first quarter and ADU-1 in the third quarter; TOP's turnaround of CDU-3 in the second and third quarters; and GC's turnaround in the fourth quarter. Sales of petrochemicals amounted to 7,550 thousand tons, a 2% fall from last year due to GC's planned major turnaround of the aromatics complex unit 1 in the second quarter and TOP (TPX)'s planned turnaround in the second and third quarters.

OR sold a total of 27,923 million liters (481,180 barrels /day), 398 million liters or 1.4% up from last year. Mainly accounting for this were rising sales of diesel and gasoline, more domestic service stations (141 stations) and overseas (48 stations), and remarkable performance of non-oil businesses, notably the Café Amazon business, with growth in domestic outlets and abroad (463 domestic and 54 abroad). OR signed a joint-venture agreement with Central Restaurant Group Co., Ltd. (CRG), to run Café Amazon business in Vietnam. OR Group invested through PTT OR International Holdings (Singapore) Pte. Ltd., a 60 : 40 subsidiary of OR and CRG Group. The first outlet was launched in Guangxi, representing the tenth country in Café Amazon's Asian market foray. In addition, OR launched the "Thai Ded Project" to support of product sales and channels for the community enterprise groups in various parts of the country in keeping with OR's concept of business execution in parallel with social and community stewardship. It launched a Café Amazon Circular Living outlet under the theme of Environmental Conservation and Care by featuring chic furniture and decorative items processed from recycled waste.

Note that asset management supporting public-sector activities, including service stations, oil and gas terminals, and petroleum product procurement for government and state enterprise customers (fuels, LPG, lubricants, and other lubrication products) is conducted by PTT.

Power and Public Utility Business

Global Power Synergy Plc. (GPSC), PTT Group's power flagship, conducts power generation business as well as produce public utilities i.e. steam and demineralized water for industrial users and operates an IPP with EGAT. District Cooling System and Power Plant Co., Ltd. (DCAP), generates power and chilled water for Suvarnabhumi Airport. Thailoil Power Co., Ltd. (TP), generates power for EGAT while distributing power and steam to Thailoil and Subsidiaries' customers.

Coal Business

PTT invested in the coal business in Indonesia through **Sakari Resources Limited (SAR)** through the shares of PTT Global Management Co., Ltd. (PTTGM), the investment holding flagship of PTT, and those of **PTT Mining Limited (PTTML)**, which acquired SAR shares from minor shareholders, eventually enabling PTMML to hold 95.82% shares from the previous shares of 95.45%.

This year the business sold a total of 7.8 million tons of coal, down from last year's 8.2 million tons, selling to Asia, including Hong Kong SAR, Taiwan, Korea, Japan, China, India, Malaysia, Indonesia, and Thailand. Its net profit amounted to USD 59 million, a decline from last year (USD 90 million) due to falls in the sales volume and the world NEWC (Newcastle reference price) from last year because of the policy on reduction in coal combustion to curb greenhouse gas emissions. This year SAR constantly focused on business expense control, adjusting production, sales, and marketing plans to accommodate market demand and supply, and undertook coal blending to better respond to customers' needs while relentlessly maintaining business competitiveness.

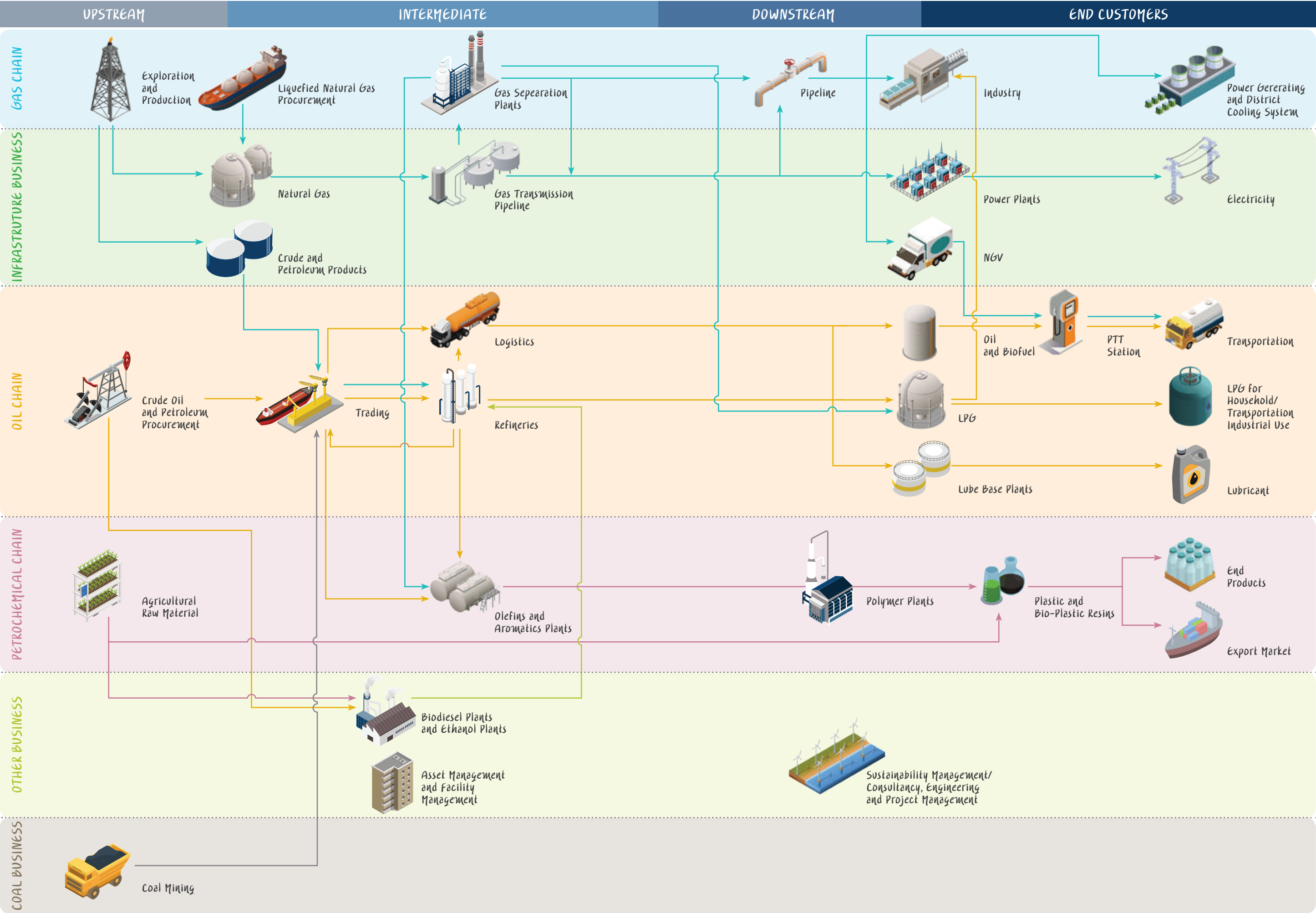
Service Business

Energy Complex Co., Ltd. (EnCo), which provides office space, physical resource management services, and supports integrated property business development for PTT Group.

PTT Energy Solutions Co., Ltd. (PTTES), which provides engineering technical advice

PTT Digital Solutions Co., Ltd., which provides ICT services.

Create Value through Business Chain



Driving Organization with Digital Technology and Innovation for Sustainable Future

With today's challenges arising from digital technology, disruptive technology in businesses is inevitable. PTT has therefore applied such technology to its operations by stimulating its workforce's extension of innovations skill to add value to businesses and drive the corporation in an efficient, swift, and more competitive way.



Digital Technology Application

Robotic Process Automation (RPA) technology has been applied to PTT due to its proficiency of performing redundant work with automatic and explicit procedures. RPA can be set to work around the clock, seven days a week, thus raising work efficiency and employees' satisfaction. The technology can be inspected in every step of the procedure. It accommodates fast-changing volumes of work and shortens work time by some 50%. Today PTT has harnessed RPA in the Procure to Pay process, intercompany reconciliation, bank reconciliation, and invoice issuance for gas customers, among others.

In addition, Chatbot has been developed to provide responses to queries and personnel data to employees, who can inquire at any time via Workplace Chat (a common platform prepared by PTT for employees, leveraging advanced technology to support material procurement and non-hydrocarbon procurement, including RPA Analytic and Chatbot). PTT focuses on hiring and procurement under GRC (Governance, Risk, and Compliance), which means standardization of hiring and procurement practices that enables it to administer procurement costs efficiently with "anywhere, anytime, any device" concept. It also means Green Procurement implemented by PTT Group in cooperation with BCI (Thailand) Co., Ltd. (Thailand Blockchain Community Initiative), representing collaboration among Thailand's 22 commercial banks that leverages technology in issuing letters of guarantee on Blockchain. This means simplification of document delivery, a pioneering effort by Thai banks, foreign banks, and service users jointly using Blockchain on the same platform.



PTT TECH SAVVY AGENT Season 2

Corporate Promotion of Digital and Innovation

PTT values the advocacy of employees' application of creativity, learning, and knowledge extension into innovations to supplement value to the corporation. This results in an ambience of ongoing innovation among the workforce. To elaborate, employees now have a channel for publicizing the fruits of their creativity and innovation – that is, the annual PTT Innovation Award contest designed to reward, inspire, and provide role models. In addition, there are PR and communication, distribution of assorted work, and relentless internal and external knowledge sharing to PTT via diverse channels, including exposition of outstanding innovation at PTT We Can Corner booths, authoring of innovation articles in SPIRIT internal bulletin, communication

of activities through PTT What's News, e-mail, and posters. This year PTT continually ran the PTT TECH Savvy Agent Project for the second consecutive year (Season 2) to develop personnel, foster a corporate culture and values on digitalization (SPIRIT+D) to be prepared for new businesses or business value supplementation into startups by leveraging digital technology in management through learning activities coaching and pitching session, talk and panel discussion with digital and startup idols, and taped group contests in the form of reality shows which are shown via corporate media as well as the YouTube Channel "PTT People Plus" account.

Innovation Achievements

PTT has formed a new organization unit named Innovation and Digital Development and Booster Project under the Technology and Engineering Business Unit to drive PTT's strategy of actively mobilizing new businesses toward goal achievement. The function serves as a catalyst linking PTT's innovation development to spawn new businesses and pursuing technology and innovation business opportunities in and outside PTT.

Below is an example of outstanding innovations derived from employees' creativity that supplements value to the corporation and stakeholders alike, with extensive external acclaim.



External Award:
Outstanding State
Enterprise, Outstanding
Creativity, 2019

Research on NO₂
concentration in
industrial zones, showing
3D VR of air quality

Innovation for society and environment: Virtual reality conveying multi-dimensional analysis of environmental impacts

The innovation project is to forecast air quality for operation planning, including process startups and shutdowns, by indicating date and time of least environmental impacts. Besides, it incorporates PTT's outstanding air pollution simulation technology (PTT-NLCD92) with high-tech virtual reality (VR) to explain various social and environmental problems, including PM2.5, noise pollution, odor, ignition, and explosion – thus leading to proper and efficient environmental management.

This could also serve as a model for all industrial groups, notably those prone to get into conflict with communities. To illustrate, it could clearly show the relationship between pollution sources and those impacted, and identify pollution causes, leading to more efficient environmental management. It could also safeguard the health of employees and communities living around plants, yield findings as a condition for EIA monitoring, or serve as a tool to monitor and control air pollution at the provincial or national level more comprehensively.



Social Responsibility

PTT is committed to drive the country through greater energy security and economic growth in parallel with balanced stewardship of the society and environment. Social engagement is conducted in 2 aspects:

- Development of human resources, communities, and society (People): The focus is on development of children and youths into a crucial national development force through STEM skill development, and founding of and constant support to the long-term operation of KVIS, and VISTEC. Also, PTT strives to develop sports caliber with the 3Ts strategies to bring Thailand fame on the international arena, as well as leveraging its expertise and skills in upgrading the quality of life of communities to become sustainably self-reliant. PTT promotes human resources development and use of renewables for community energy.
- Conservation and rehabilitation of natural resources and the environment (Planet): This is possible by fostering awareness of and cooperation in the conservation of nature and ecology, restoration of environmental conditions (urban and rural), and extension of reforestation and forest stewardship, carried over from the One Million Rai Reforestation Project, to achieve fertile forests and take part in easing climate change impacts.

PTT's Social Responsibility Aspects

PEOPLE

+

PLANET

Social Wealth



Green Environment



Details of this topic appear under “Corporate Citizenship” in the Corporate Sustainability Report 2019.



Risk Management and Risk Factors

Risk Management

Valuing risk management under the changing environment and its possible effects on business operations through internal and external factors, PTT has continuously carried out risk management based on the guidelines of the Committee of Sponsoring Organisations of the Treadway Commission (COSO-ERM) – an international standard for risk management, which is recognized as a vital component of all business processes that interconnects at all levels. PTT devised a policy on enterprise risk management, which all staff must implement. The Enterprise Risk Management Committee (ERMC) and the Corporate Plan and Risk Management Committee (CPRC) have been established to oversee risk management for maximum efficiency.

Risk Management Structure

PTT systematically manages risks using various management committees and integrates risk management into the formulation of enterprise plans so that risk management can be carried out efficiently, effectively, and catering to corporate goals and strategies. Operational risks fall under the supervision of the management of each operation. It is deemed the responsibility of each business unit to manage and keep their respective risks acceptable, as clearly stated in each unit's duties and responsibilities.

Risk Management Tools

PTT conducted studies on risk management tools and applied them, including declaration of risk appetite, risk assessment and risk prioritization using a risk map, mitigation plan, and key risk indicators (KRIs). The Monte Carlo Simulation technique has also been adopted to identify possible impacts on business results, known as Value at Risk (VaR). PTT follows up changes in key external factors and emerging risks to be able to draw up a proactive risk management plan.

Risk Management Culture

PTT nurtures risk management awareness among all staff. An atmosphere and a corporate culture that value risk management have been created with a focus on suitable resource management while giving a proper support. Awareness of risk management has also been implanted into key work processes for effective risk management.

Risk Factors

In addition to internal and external environments, PTT considers economic, social, political, technological, and industrial trends, as well as competitors and other relevant factors. Findings are used for defining risk factors at the corporate level, which are divided into 3 categories:

1. Strategic Risks

Risk of strategic business direction	<p>PTT formulated a strategy on pursuing the New S-Curve industry to seek business opportunities and develop new forms of business in response to technological changes, which show rapid advancement, thus becoming disruptive. To this end, PTT reviewed its business vision, direction, and strategies in support of future businesses.</p>
Diminishing natural gas outputs and continuity of gas production	<p>Depleting gas reserves in Thailand and Myanmar may affect the continuity of gas supply from both sources and consequently harm PTT's business operations. To cope with the expected diminishing gas supply, it has secured more long-term supply of liquefied natural gas (LNG) and is currently constructing the second LNG receiving terminal in Rayong province together with a fifth transmission pipeline to accommodate the rising demand for LNG. The search for new natural gas sources is also ongoing.</p>
Investment risk	<p>In business expansion, PTT may not receive project return on investment while some projects may encounter a delay and investment costs may escalate. PTT has laid down regulations to assist decision-making, monitoring, and investment oversight under PTT and PTT Group. In handling strategic investment, it assigns the Investment Management Committee to consider, monitor, and make reports on its investment.</p>
Human resource development to accommodate business growth	<p>While the business has been expanded, and digital systems and innovations have been embraced to drive the business, a workforce that is not well prepared and properly developed may not be competent enough for PTT's long-term goal attainment. Therefore, PTT needs to adjust employee core competency to accommodate the organization's strategies. An evaluation is made of employee competency while development is given in core and functional competency development. Employee development programs will enhance their knowledge, understanding, and required in-depth skills for each business with support of real work practices.</p>
Reputation risks	<p>By nature of its business, PTT operations involve various stakeholders. To prevent issue that may harm its reputation, it defined a mission for balanced stewardship of stakeholders. The Company also peruses business plans and future investments to minimize possible impacts on stakeholders. It established a work unit to take charge of stakeholder engagement and to closely and continuously follow up with stakeholder management.</p>



2. Operational Risks

Volatility of petroleum and petrochemical prices

Raw material (feedstock), sales prices, and the spread between raw material and product prices both in Thailand and overseas, are vary with the world market. This may influence operations and returns on investment in future projects under PTT and PTT Group. To minimize the risk of price volatility, PTT has laid down measures to cushion possible impacts of energy prices and formulated scenario planning for various oil price levels. A Price Strategy and Risk Management team was appointed to analyze oil price movement in the world market and jointly carry out price hedging management among companies in PTT Group. Currently, PTT uses derivatives for price risk management in both petroleum and petrochemical businesses.

Compliance with applicable policies, laws, and regulations

The complexity of current laws and changes in policies and legal regulations, as well as problems caused by legal misinterpretation and misunderstanding, may jeopardize business operations, resulting in legal liability. Even worse, PTT's corporate image and reputation may also be affected. To deal with risks of legal non-compliance, PTT closely follows up newly issued laws and regulations to analyze and identify problems and obstacles. Discussions will be held to clear up questionable points to ensure full compliance with new laws and regulations. PTT also commands procedures for monitoring compliance. Moreover, business processes involving corporate governance have now been integrated according to Governance Risk and Compliance (GRC) to ensure its good governance and adequate internal control, thorough consideration of risks, and compliance with laws and regulations.

Disruption of production and business operations

With its several sites worldwide, PTT is exposed to disruptions of production and business operations, which may bring about massive impacts and damage to PTT's key infrastructure. To limit the risks and impacts of such threats, PTT has put in place PTT Group Security, Safety, Health and Environmental Management Standard (PTT Group SSHE MS) and PTT Group Business Continuity Management System Standard (BCMS) for business units, support units, and PTT Group, to leverage in developing their systems and making them interconnected. The systems also keep activities that create value throughout its business chain uninterrupted.

Cyber Security

Rising cyber security threats could cause various business impacts. Greater awareness of these threats, PTT has focused on proactive prevention to mitigate cyber attack incidents. PTT has applied ISO/IEC 27001 Information Security Management Framework in order to improve the efficiency of cyber security. Key activities of the improvements are information system auditing and vulnerability assessing, including enhancement of employees' knowledge and awareness in this aspect. Moreover, PTT has also prepared BCM plan to cope with the threats.

3. Financial Risks

Volatility of baht	<p>Changes in the exchange rate between THB and USD dollars can affect the bulk of PTT's revenue because prices of natural gas, petroleum, and petrochemical products are tied to the world (USD-linked) market prices. In other words, PTT's revenue varies with the value of baht, which consequently shapes its profits and losses. Since PTT and subsidiaries still carry some remaining loans in foreign currencies, to ease risks of baht fluctuation, PTT has balanced its foreign-currency loans with foreign-currency revenue (natural hedge). PTT also manages its foreign-currency deposits, and purchases forward foreign currencies for smart repayment.</p>
Financial support to affiliated companies	<p>To maintain relentless growth, PTT keeps investing in new projects, which may invest in a newly established company or entry into a joint venture or investment through one of PTT's affiliates. For those projects which are still in their initial stages or those with weak financial status, financial support is needed from shareholders and PTT, particularly during the construction period. For those encountering lack of liquidity in their commercial stages, financial assistance is also needed from shareholders. PTT will consider granting financial aid only to projects in need and those considered with long-term benefit for PTT and PTT Group. Such policy and practice are believed to bring about sustainable strength for PTT Group.</p>
Funding for plan execution	<p>PTT's business operations normally require high investment costs and pre-paid capital investment. In practice, even though PTT closely monitors and manages risks, the use of funds could deviate from the plan. Due to the normal business practice that focuses on fostering long-term growth and corporate governance, PTT plans to prudently invest in business expansion with due regard for sources of fund. PTT particularly values capital structuring that enables it to maintain crucial financial ratios at suitable levels on a par with peer companies.</p>



Key Achievements

Competitiveness Enhancement and Business Expansion

Natural Gas and Liquefied Natural Gas (LNG) Business

- The Committee on Energy Policy Administration (CEPA) decided to subsidize the retail price of NGV for transportations. The price will rise by THB 3/kg from THB 10.62/kg to THB 13.62/kg with increase by THB 1 every 4 months from May 16, 2019 onward. PTT agreed to cooperate by absorbing the differences for public transportations compare to regular vehicles, which is currently THB 16.01/kg.
- PTT held a foundation stone-laying ceremony for the construction of an LNG Terminal 2 at Nong Fab sub-district, Rayong province, to support the import of LNG at 7.5 million tons. The construction will be completed and ready for operation in 2022, resulting in an increased capacity to supply natural gas to meet energy demand for national energy security and stability.



Foundation stone-laying ceremony marking the beginning of LNG Terminal 2 at Nong Fab



Foundation stone-laying ceremony for Thailand's maiden Air Separation Unit (ASU) construction project from cold energy

- Establishing Map Ta Phut Air Products Co., Ltd., on January 14, 2019, PTT entered into a 51 : 49 joint venture with Bangkok Industrial Gas Co., Ltd. (BIG), under the Air Separation Unit (ASU) project to produce industrial gases by using excess cold energy from LNG regasification process. The project is located in Map Ta Phut Industrial Estate, Rayong province, with a capacity of 450,000 tons/year and planned for commercial operation by 2021.



Signing Ceremony of the MOC on NGV Marketplace Project

- Following the national strategic plan to advance agriculture (Agriculture 4.0), PTT signed a memorandum of cooperation (MOC) on NGV Marketplace Project with the Ministry of Agriculture and Cooperatives to develop a safe distribution channel for agricultural products through PTT NGV stations and leverage digital technology in production process to upgrade Thai farmers and support the drive of the national Digital Economy.

- PTT signed an MOC with OR and Sahaviriya Steel Industries PLC to study the feasibility and cost-effectiveness of LNG as an energy source for Sahaviriya Group.
- PTT signed an MOC with the Fish Marketing Organization and CUIYC Private Limited (Singapore) to conduct a feasibility study on the use of cold energy from LNG to develop a cold storage business for fishing ports and fish markets.
- PTT signed an MOC with PEA Encom International Co., Ltd., a subsidiary of the Provincial Electricity Authority, to study the use of LNG for the production of electricity and fresh water for communities in remote areas.
- PTT inaugurated GSM Shipper Control Center on January 22, 2019, honored by the visit from Minister of Energy and the Permanent Secretary of Ministry of Energy. The center was designed to ensure fairness, transparency, and non-discrimination in the event that another shipper wishes to use gas transmission service.
- PTT and JOVO China signed an MOU to procure LNG to support the LNG Regional Hub policy.

- PTT signed an MOC with Liaoning Yuzhuo Energy Co., Ltd., to study and develop LNG ISO Container to expand the market into China by agreeing to study opportunities to sell LNG to China. The scope includes loading and shipping LNG using ISO containers from the Map Ta Phut LNG Terminal to Laem Chabang Port and other ports. This initiative increases the competitiveness and investment of PTT to develop Thailand's potential as the Regional LNG Trading Hub in accordance with the national energy reform policy.



Signing ceremony of the MOC between PTT and Liaoning Yuzhuo Energy Co., Ltd.

- PTT was selected for the Energy Regulatory Commission Sandbox (ERC Sandbox), an innovation testing program that uses technology to support energy services. The projects are Regional LNG Hub Project which is an experiment to load LNG from LNG Terminal into a ship for distribution to domestic customers and further leveraging the project for the international market.
- PTT signed an MOC with Chulabhorn Royal Academy on Cryotherapy Project. Gas Business Unit initiated this project to study opportunities to use cold energy from liquid nitrogen, which is one of the new products of PTT Group, to treat diseases and support rehabilitation. This project will represent modern medical technology that enhance the quality of life for Thais to access treatment at a reasonable price.



Signing ceremony for the MOC in Cryotherapy Project between Chulabhorn Royal Academy and PTT

- PTT launched premium-grade NGV, called “PTT NGV Plus”, at Nam Phong PTT NGV station, Khon Kaen province, and Khao Khan Song PTT NGV station, Chon Buri province. The PTT NGV Plus featured improved driving performance of NGV cars with good acceleration, longer range, and fuel saving. It has been widely accepted by car users. There are currently 4 PTT NGV Plus service stations: Pannee Power in Pathum Thani province, Sook Somkiet Transport (2004) in Sara Buri province, PTT Nam Phong in Khon Kaen province, and Khao Khan Song in Chon Buri province. PTT would actively pursue expansion of PTT NGV Plus sales in other areas.
- In order to align with CEPA's resolution of August 30, 2019, PTT and EGAT jointly engaged in negotiation and reached an agreement on the new global gas purchase agreement (Global DCQ) in December 2019. The agreement, covering the Bang Pakong, South Bangkok, Wang Noi, North Bangkok, and Chana Power Plants, resulted in increased energy security and more efficient natural gas management in Thailand by both contract parties.
- PTT signed an MOU on natural gas services with Pinthong Industrial Park Plc. to jointly study the layout of natural gas distribution network for potential gas customers in Pin Thong 5 Industrial Estate, located in Khao Khan Song sub-district, Si Racha district, Chon Buri province. In addition, PTT worked with IRPC Clean Power Co., Ltd., to jointly study the feasibility of developing a combined-cycle power plant to provide electricity and thermal energy services for Pinthong 5 Industrial Estate. These efforts would expand natural gas usage as a clean and green energy source and to promote the Gas to Power business, a new strategy of PTT Group under the concept of Energy Solutions Provider for industrial customers.

International Trading Business

- PTT signed a contract with Kuwait Petroleum Corporation (KPC), the national oil company of Kuwait, to purchase crude oil and LPG to enhance national energy security, enabling the expansion of international trade and promotion of long-standing cordial relations between the two companies.



*Signing ceremony
for crude oil and
LPG purchase
agreement between
KPC and PTT*



- PTT entered into a contract with Brunei Shell Petroleum to purchase the Seria Light Export Blend and Champion grades for the ninth consecutive year.
- PTT began its LNG out-out trading operation for the first time positioning in the international LNG trade network to enhance national energy security. In addition, the move became an important step in creating additional value throughout PTT's LNG supply chain on the world trade arena.



*Signing ceremony for crude oil contract
between Brunei Shell Petroleum and PTT*



PTT in partnership with ADNOC, Intercontinental Exchange (ICE) and the world's leading energy companies established ICE Futures Abu Dhabi (IFAD) market



- PTT invested with National Abu Dhabi Oil Company (ADNOC), Intercontinental Exchange (ICE), one of the largest futures oil markets in the world, and 8 leading energy companies of the world established the ICE Futures Abu Dhabi (IFAD) market. This investment will increase international trade opportunities, improve relations with world-class companies, and increase corporate capability for long-term growth.

Infrastructure and Logistics Business

- PTT Group Companies by PTT Tank Co., Ltd. (30%) jointly invested with Gulf Energy Development Co., Ltd. (GULF) by Gulf MTP LNG Terminal Co., Ltd. (70%) to develop the Development Industrial Port, Phase 3 (Section 1). The joint venture signed a contract (a Public-Private Partnership: PPP) with the Industrial Estate Authority of Thailand (IEAT) on October 1, 2019.



Signing ceremony of the project investment agreement in Industrial Port Development Phase 3 (Section 1) Project



Signing ceremony for collaboration between Chulabhorn Research Institute, Government Pharmaceutical Organization, and PTT in developing Biosimilar.

Innovation Development and New Ventures

EECi

- PTT signed a land leasing contract with PTTEP for the construction of PTTEP Technology and Innovation Center (PTIC) in EECi.
- PTT signed an MOU with GE Thailand to study the establishment of PTT - GE Solution Center in EECi.
- PTT signed an MOU with Huawei to study the establishment of PTT - Huawei Innovation Campus in EECi.

Pharmaceutical Business

- PTT signed an MOU with the Government Pharmaceutical Organization on the construction of a cancer medication plant and cooperation on caliber development of business, including sharing knowledge and operating experience between the organizations.
- PTT signed an MOU with Chulabhorn Research Institute and the Governmental Pharmaceutical Organization in the development of the Biosimilar drug, with an aim to provide cancer medication for domestic cancer patients.



Signing ceremony of an MOC for research and development of biosimilar among Chulabhorn Research Institute, Government Pharmaceutical Organization, and PTT

Robotics and Artificial Intelligence Business (Robotics & AI)

- PTT in collaboration with government and private agencies launched the Industrial Transformation Platform (ITP) to support the robotics industry, encouraging SMEs to transform and digitalize their production systems.
- PTT signed an MOU with Siam Agro-Food Industry Plc. to carry out the Robotics Solution Provider Project.
- PTT Board of Directors approved the establishment of a joint venture with Mitsui to conduct digital, robotic services, and artificial intelligence to drive economic development with innovation.

Electricity Value Chain Business

- PTT signed an MOU with Envision Energy International Limited on the New Energy and Digital Transformation Cooperation Project in Shanghai, China.
- PTT launched an electric motorcycle prototype which had studied and developed with ETRAN, a Thai startup.
- PTT signed a contract with GPSC for a Battery Pilot Plant research project using Semi-Solid technology, a lithium-ion battery innovation of 24M. The project will increase PTT Group's efficiency of competition in battery and other electricity storage businesses and opportunities to commercialize this innovation between the two in the future.
- PTT EV Wall Charger was registered as an innovation by the Bureau of the Budget, Office of the Prime Minister.

Digitalization and Other Innovation

- PTT signed an investment cooperation agreement on promoting and developing innovation by entrepreneurs and start-up companies by investing in Innospace (Thailand) Co., Ltd., for the development of an innovation-driven economy as well as promoting competitiveness for Thailand in the long term.
- PTT launched Pandora Hunter Games X Treasure Hunters on mobile phones. The game application was developed by Thai people that fully supports Thai language with features that highlight the adventurous game through the perfect combination of Thai art and culture, based on the concept of "True Thai Heart, Thai Game" for the first time. PTT also launched the New Horizons game that provides energy literacy at the Thailand Game Show 2019, the largest game exhibition in Thailand, at Royal Paragon Hall.
- PTT opened 2 Sai Jai stations, a center for Smart Preventive Healthcare unit at PTT stations in Sa Khwan sub-district, Mueang district, Sa Kaeo province, and Saen Udom Limited Partnership (Branch 2), Si Suttho sub-district, Ban Dung district, Udon Thani province.



Sai Jai station



PTT joins hands with the Ministry of Industry and partners from 12 joint ventures in Innospace (Thailand).



PTT and Subsidiaries' Performance

PTT and Subsidiaries' Performance

Unit: THB million

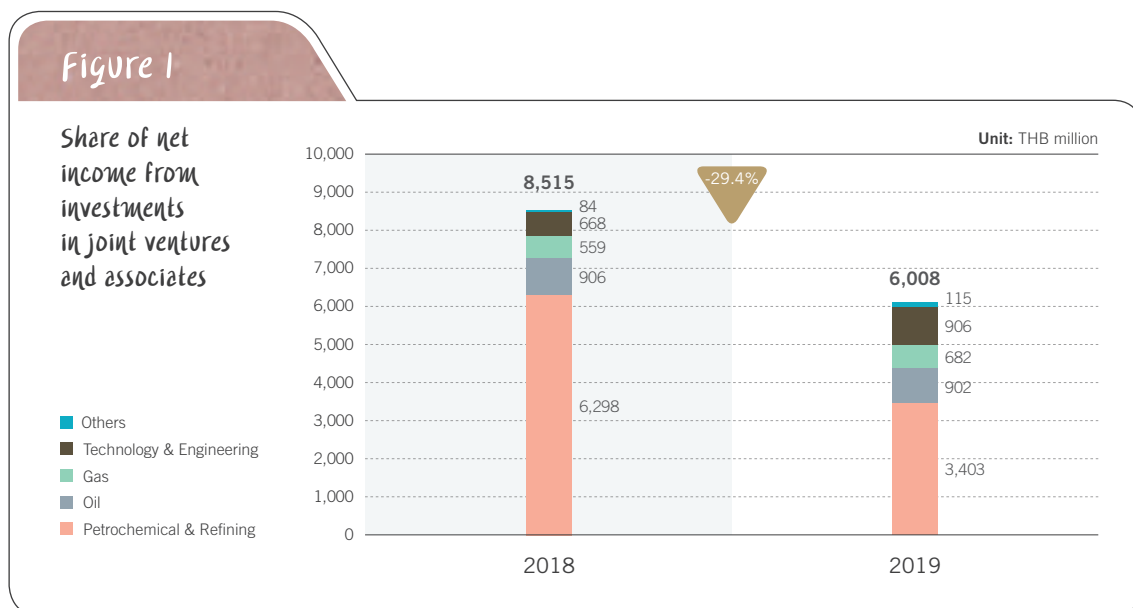
	2018	2019	% Increase/ (Decrease) (%)
Sales and Service revenues	2,336,155	2,219,739	(5.0%)
Earnings before interests, income tax, depreciation and amortization (EBITDA)	351,396	288,972	(17.8%)
Operating Income	227,803	155,768	(31.6%)
Share of net income (loss) from investments in joint ventures and associates	8,515	6,008	(29.4%)
Gain (loss) on foreign exchange	6,354	15,313	>100%
Income taxes	53,647	32,989	(38.5%)
Net income	119,647	92,951	(22.3%)

PTT Group recorded sales and service revenue amounting to THB 2,219,739 million in 2019, decreasing by THB 116,416 million or 5.0% from 2018 mainly from Petrochemical and Refining businesses, International Trading business and Oil business according to declined Petroleum and Petrochemical selling prices according to lower crude oil prices. Although, there were increase in sales revenue of the Technology and Engineering business (GPSC's acquisition of GLOW), Exploration and Production business (higher average sales volumes according to an additional participating interests in the Bongkot field, the acquisition of MURPHY's business in Malaysia (Malaysia project) and the Partex Holding B.V. (Partex) and the higher average selling prices) and the Gas business mainly from PTT's sales and marketing business (higher sales volumes).

EBITDA in 2019 was THB 288,972 million, dropped by THB 62,424 million or 17.8% from THB 351,396 million in 2018. This resulted from the lower performance of Petrochemical and Refining businesses from the declining of all petroleum and petrochemical product spreads. Despite the stock gain in 2019 approximately of THB 2,800 million compare to the stock loss in 2018 of approximately THB 6,900 million which resulted from less fluctuation of crude oil price in 2019 than to 2018. Likewise, the Gas business group recorded lower performance mainly due to Gas Separation Plant's (GSP) lower gross profit from significantly lower petrochemical referenced selling prices while higher natural gas cost.

Nevertheless, EBITDA of Technology and Engineering businesses increased mainly from GPSC's acquisition of GLOW since March 2019 and Petroleum Exploration and Production Business improved from higher sales revenues as aforementioned.

In 2019, depreciation and amortization expenses of THB 133,204 million, increased by THB 9,611 million or 7.8% from THB 123,593 million in 2018 mainly from Technology and Engineering business due to GPSC's acquisition of GLOW and PTTEP's additional interest of Bongkot field (increased by 22.2%) and PTTEP's acquisition of Malaysia Project and the acquisition of Partex.



In 2019, share of net income from investments in joint ventures and associates was THB 6,008 million, decreasing by THB 2,507 million or 29.4% from THB 8,515 million in 2018 mainly from lower performance of PTT Asahi Chemical Company Limited following the drop in product spreads, together with a decrease in HMC Polymers Company Limited performance due to lower dividend income and Polypropylene product spread.

Gain on foreign exchange, increased by THB 8,959 million from THB 6,354 million in 2018 to THB 15,313 million in 2019 mainly due to PTTEP's realized and unrealized gain on foreign exchange of accounts receivables and the increase in unrealized gain on foreign exchange from USD loan and account payables of GC and PTT according to higher appreciation of THB in 2019 compared with 2018. (Baht appreciation THB 2.28 per USD in 2019 compared to the end of 2018, Baht appreciation THB 0.24 per USD in 2018 compared to the end of 2017).

Non-recurring items in 2019 consisted of PTT Group's additional labour compensation expenses according to the announcement of the State Enterprise Labour Relations Committee and new Labour Protection Act totalling THB 4,219 million, PTT's expense in accordance with the Civil Court's judgment amounting to THB 2,105 million, the allowance for impairment of the pipelines transmission amounting to THB 498 million and IRPC's recognition on reversal of assets impairment and warranty claim on UHV's project construction amounting to THB 770 million and 271 million, respectively. While there were recognition of the expenses from raw material derogation of Global Green Chemicals Public Co., Ltd. (GGC) amounting to THB 2,004 million, loss on Montara field divestment amounting to THB 1,886 million and gain on business acquisition of GC by THB 1,355 million in 2018.

The corporate income taxes in 2019 decreased by THB 20,658 million, 38.5% from THB 53,647 million in 2018 to THB 32,989 million in 2019 mainly from the overall performance of PTT group decreased and lower tax expense of PTTEP due to higher THB appreciation. Also in 2018, there was PTT's income taxes expenses related to oil business unit transfer amounting to THB 6,033 million.

Therefore, PTT Group reported net income of THB 92,951 million in 2019, decreasing by THB 26,696 million or 22.3% from 2018 of THB 119,647 million.

The Analysis of PTT and Subsidiaries' Consolidated Financial Position

As of December 31, 2019 compared with December 31, 2018

Figure 2

The Analysis of PTT and Subsidiaries' Consolidated Financial Position





Assets

As of December 31, 2019, total assets of PTT Group were THB 2,484,439 million, increasing by THB 130,757 million or 5.6% compared with December 31, 2018 mainly from the net effect of the followings:

- Current assets decreased by THB 139,864 million or 16.3% mainly from the followings:
 - Current investments decreased by THB 104,157 million mainly from the decrease in fixed deposits of TOP, PTTEP, GC, and PTT.
 - Other accounts receivable decreased by THB 29,215 million primarily due to decreases in PTTEP's advance payment of the acquisition of additional stakes in the Bongkot project, PTTT's advance payment, as well as, a decrease in PTT's received from oil stabilization fund and excise tax and OR's input VAT refund from the payment for business acquisition.
- Property, plant and equipment increased by THB 174,466 million or 15.6% mainly from GPSC's acquisition of GLOW and PTTEP's acquisition of Malaysia Project and the Partex resulted in asset recognition in PTT Group by THB 139,682 million. Additionally, there were the additional construction in progress of PTT Group, for instance, LNG terminal phase 2 of PTTLNG Company Limited (PTT's subsidiary), TOP's Clean Fuel Project, GC's Olefins Reconfiguration and Propylene Oxide Projects, as well as PTT's the 5th transmission pipeline project, Ratchaburi – Wangnoi transmission pipeline (RA#6), and utilities and infrastructure project in EECi.
- Other non-current assets increased by THB 99,885 million or 36.6% mainly from the increase in goodwill and intangible assets according to GPSC's acquisition of GLOW.

Liabilities

As of December 31, 2019, PTT Group had total liabilities of THB 1,183,399 million, increasing by THB 147,282 million or 14.2% from December 31, 2018, mainly from higher interest bearing debt by THB 115,334 million or 21.2% primarily from GPSC's loan according to the acquisition of GLOW as well as the loans and debentures of PTTEP, GC and TOP.

Equity

As of December 31, 2019, PTT Group had total shareholders' equity of THB 1,301,040 million, decreasing by THB 16,525 million or 1.3% from the end of 2018. PTT Group reported 2019 net income amounting to THB 92,951 million. Additionally, PTT's dividend payment from the performance of the second half of year 2018 at THB 1.2 per share and from the performance of the first half of year 2019 at THB 0.9 per share were totalling of THB 59,979 million. However, there were the decreases in other components of equity by THB 19,569 million and non-controlling interests by THB 20,804 million from currency translation differences and PTTEP's subordinated capital debentures redemption.

Liquidity

For the year ended December 31, 2019, PTT Group had net increase in cash and cash equivalents amounting to THB 358 million, cash and cash equivalents at the beginning of the period was THB 292,184 million. As a result, cash and cash equivalents at the end of the period was THB 292,542 million. Details of cash flow by activities are as follows:

	2019	Unit: THB million
	PTT Group	PTT
Net cash provided by operating activities	265,107	46,833
Net cash provided by (used in) investing activities	(188,218)	6,212
Net cash used in financing activities	(70,226)	(93,171)
Effects of exchange rates on cash and cash equivalents	(3,075)	403
Currency translation differences	(3,230)	-
Net increase (decrease) in cash and cash equivalents during the period	358	(39,723)
Cash and cash equivalents at the beginning of the period	292,184	86,204
Cash and cash equivalents at the end of the period	292,542	46,481

Net cash provided by operating activities of THB 265,107 million was derived from THB 92,951 million of net profit attributable to owners of the parent, adjusted by net profit to net cash provided by (used in) operating activities. The increase in net cash flow from operating activities mainly resulted from THB 133,204 million of depreciation and amortization expenses, THB 32,989 million of income taxes, THB 29,141 million of net profit attributable to non-controlling interests, THB 27,971 million of finance costs, together with the increase in net operating assets of THB 26,663 million and income taxes paid of THB 65,259 million.

Net cash used in investing activities was THB 188,218 million mainly resulted from the followings:

- The cash outflow of business acquisition amounting to THB 164,378 million, mainly from the PTTEP's acquisition of 100.00% stake in Malaysia Project and the Partex and GPSC's acquisition of 69.11% stake in GLOW.
- The cash outflow of investments in property, plant and equipment, investment property, intangible assets, and exploration and evaluation assets amounting to THB 149,951 million, mainly due to additional investment of GC's projects; Olefins Reconfiguration and Propylene Oxide, additional investment in exploration and production assets in S1 and Zawtika projects of PTTEP, TOP's Clean Fuel Project (CFP project) and PTT's 5th transmission pipeline project, Ratchaburi – Wangnoi transmission pipeline (RA#6) and the extension of the 1st transmission pipeline projects.
- The cash inflow from current investments amounting to THB 108,719 million, from TOP, PTT, PTTEP and GC amounting to THB 72,609 million, THB 17,761 million, THB 15,259 million and THB 4,277 million, respectively mainly from the maturity of fixed deposits.

Net cash used in financing activities was THB 70,226 million, mainly from the followings:

- The cash outflow of long-term loans repayment of THB 102,876 million principally from the repayment of loans of PTT, GC, PTTEP, GPSC, IRPC and TOP.
- Dividend paid amounting to THB 81,351 million mainly from PTT, GC, PTTEP, TOP and GPSC.
- The cash outflow for change in ownership in subsidiaries from the GPSC's acquisition of 30.72% stake in GLOW (Tender Offer) amounting to THB 40,806 million.
- The cash outflow for redemption of PTTEP's subordinated capital debentures amounting to THB 30,751 million.
- The cash inflow from long-term loans was THB 174,649 million mainly from PTTEP, GPSC, GC, PTT TCC, TOP and IRPC.

For the year ended December 31, 2019, PTT had net decrease in cash and cash equivalents amounting to THB 39,723 million mainly from dividend paid and bond redemption, and cash and cash equivalents at the beginning of the period was THB 86,204 million. As a result, cash and cash equivalents at the end of the period was THB 46,481 million.

PTT and Affiliates

(As of December 31, 2019)

E&P Business Group

Percentage

PTT Exploration and Production Public Co., Ltd.	PTTEP	65.29
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Gas Business Group

Percentage

Trans Thai-Malaysia (Thailand) Co., Ltd.	TTM(T)	50.00
Trans Thai-Malaysia (Malaysia) Sdn.Bhd.	TTM(M)	50.00
PTT Natural Gas Distribution Co., Ltd.	PTTNGD	58.00
PTT LNG Co., Ltd.	PTTLNG	100.00
PTT Global LNG Co., Ltd.	PTTGL	50.00
Map Ta Phut Air Products Co., Ltd.	MAP	49.00

Oil Business Group

Percentage

PTT Oil and Retail Business Public Co., Ltd.	OR	100.00
Petro Asia (Maoming) Co., Ltd.	PA (Maoming)	20.00
Petro Asia (Sanshui) Co., Ltd.	PA (Sanshui)	25.00

International Investment Business Group

Percentage

PTT Energy Resources Co., Ltd.	PTTER	100.00
PTT Green Energy Pte. Ltd.	PTTGE	100.00
PTT Global Management Co., Ltd.	PTTGM	100.00

International Trading Business Group

Percentage

PTT International Trading Pte. Ltd.	PTTT	100.00
PTT International Trading London Limited	PTTT LDN	100.00

Petrochemical and Refining Business Group

Percentage

PTT Global Chemical Public Co., Ltd.	GC	47.92
Thai Oil Public Co., Ltd.	TOP	47.53
IRPC Public Co., Ltd.	IRPC	47.55
PTT Tank Terminal Co., Ltd.	PTT TANK	100.00

Technology and Engineering Business Group

Percentage

PTT Energy Solutions Co., Ltd.	PTTES	40.00
District Cooling System and Power Plant Co., Ltd.	DCAP	35.00
Thai Oil Power Co., Ltd.	TP	26.00
Global Power Synergy Public Co., Ltd.	GPSC	22.81
Energy Complex Co., Ltd.	EnCo	50.00
PTT Digital Solutions Co., Ltd.	PTT DIGITAL	20.00
Baania (Thailand) Co., Ltd.	Baania	2.89
HG Robotics Co., Ltd.	HG Robotics	9.49
InnoSpace (Thailand) Co., Ltd.	InnoSpace	19.42

Other Business Group

Percentage

Business Services Alliance Co., Ltd.	BSA*	25.00
Dhipaya Insurance Public Co., Ltd.	TIP	13.33
PTT Regional Treasury Center Pte. Ltd.	PTTRTC	100.00
Sarn Palung Social Enterprise Co., Ltd.	SPSE	20.00
PTT Treasury Center Co., Ltd.	PTT TCC	100.00

Notes:

Shareholding proportion of affiliates is PTT's direct shareholding proportion.

* PTT holds 100% of BSA's ordinary shares. Thus, PTT's ownership interest in BSA is 100%.

Revenue Structure of PTT and Subsidiaries by Product Line

Product/ Service	Operated by	% Share holding	2017 (Audited) ^{3/}		2018 (Restated)		2019 (Audited)	
			THB million	%	THB million	%	THB million	%
1. Gas Products	PTT Plc.		356,916.23	17.45	360,419.76	15.22	339,829.09	15.03
	PTT Exploration and Production Plc. (PTTEP)	65.29	9,527.70	0.47	11,277.30	0.48	14,981.18	0.66
	PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	58.00	9,815.40	0.48	12,238.71	0.52	10,594.01	0.47
	Global Power Synergy Plc. (GPSC ^{1/})	22.81	62.24	-	62.56	-	65.81	-
	PTT Oil and Retail Business Plc. (OR)	100.00	-	-	21,645.76	0.91	40,706.59	1.80
Total Revenue from Gas Products			376,321.57	18.40	405,644.09	17.13	406,176.68	17.96
2. Oil Products	PTT Plc.		604,353.66	29.55	489,636.41	20.68	208,126.33	9.21
	PTT Exploration and Production Plc. (PTTEP)	65.29	8,727.69	0.43	10,089.96	0.43	17,730.00	0.78
	PTT International Trading Pte Ltd (PTTT)	100.00	202,561.27	9.91	287,626.36	12.15	295,588.44	13.07
	PTT International Trading London Limited (PTTT LDN)	100.00	31,462.80	1.54	56,813.20	2.40	46,564.97	2.06
	PTT Global Chemical Plc (GC ^{1/})	47.92	25,501.09	1.25	32,993.95	1.39	26,439.16	1.17
	Thai Oil Plc. (TOP ^{1/})	47.53	149,568.69	7.31	167,123.39	7.06	161,166.08	7.13
	IRPC Plc. (IRPC ^{1/})	47.55	100,292.75	4.90	130,874.04	5.53	116,648.57	5.16
	PTT (Cambodia) Limited (PTTCL)	-	9,104.02	0.45	-	-	-	-
	PTT Oil and Retail Business Plc. (OR)	100.00	45,251.57	2.21	265,059.12	11.19	489,995.09	21.67
Total Revenue from Oil Products			1,176,823.54	57.55	1,440,216.43	60.83	1,362,258.64	60.25
3. Petrochemical Products	PTT Plc.		22,486.43	1.10	36,788.07	1.55	16,857.93	0.75
	PTT Global Chemical Plc (GC ^{1/})	47.92	218,118.80	10.67	232,641.11	9.82	197,309.85	8.73
	Thai Oil Plc. (TOP ^{1/})	47.53	26,835.75	1.31	30,368.45	1.28	23,010.77	1.02
	IRPC Plc. (IRPC ^{1/})	47.55	57,607.06	2.82	68,614.71	2.90	57,088.60	2.52
	PTT International Trading Pte Ltd (PTTT)	100.00	59,722.95	2.92	54,941.35	2.32	53,466.69	2.36
	PTT Oil and Retail Business Plc. (OR)	100.00	-	-	391.05	0.02	516.97	0.02
Total Revenue from Petrochemical Products			384,770.99	18.82	423,744.74	17.89	348,250.81	15.40
4. Mining Products	PTT Global Management Co., Ltd. (PTTGM)	100.00	19,250.09	0.94	20,527.20	0.87	15,078.02	0.67
Total Revenue from Mining Products			19,250.09	0.94	20,527.20	0.87	15,078.02	0.67
5. Utilities Products	PTT Plc.		1.32	-	0.75	-	-	-
	Thai Oil Plc. (TOP ^{1/})	47.53	4,557.83	0.22	4,834.71	0.20	4,968.71	0.22
	IRPC Plc. (IRPC ^{1/})	47.55	2,716.64	0.13	3,179.71	0.13	3,427.80	0.15
	Global Power Synergy Plc. (GPSC ^{1/})	22.81	8,884.50	0.43	13,348.58	0.56	51,679.34	2.29
	PTT Tank Terminal Co., Ltd. (PTT TANK)	100.00	-	-	49.51	-	45.51	-
Total Revenue from Utilities Products			16,160.29	0.78	21,413.26	0.89	60,121.36	2.66



Product/ Service	Operated by	% Share holding	2017 (Audited) ^{3/}		2018 (Restated)		2019 (Audited)	
			THB million	%	THB million	%	THB million	%
6. Non-oil Businesses	PTT Plc.		7,896.21	0.39	5,009.52	0.21	380.89	0.02
	PTT Oil and Retail Business Plc. (OR)	100.00	5,120.13	0.25	10,905.08	0.46	16,891.85	0.75
	PTT (Cambodia) Limited (PTTCL)	-	623.20	0.03	-	-	-	-
Total Revenue from Non-oil Businesses			13,639.54	0.67	15,914.60	0.67	17,272.74	0.77
7. Revenue from Services	PTT Plc.		32.16	-	11.50	-	19.19	-
	PTT Exploration and Production Plc. (PTTEP)	65.29	2,626.92	0.13	3,481.65	0.15	3,618.48	0.16
	PTT Global Chemical Plc. (GC ^{1/})	47.92	1,614.36	0.08	1,682.54	0.07	2,797.47	0.13
	Thai Oil Plc. (TOP ^{1/})	47.53	387.95	0.02	236.04	0.01	289.89	0.01
	IRPC Plc. (IRPC ^{1/})	47.55	543.36	0.03	574.57	0.02	524.63	0.02
	PTT Oil and Retail Business Plc. (OR)	100.00	464.30	0.02	492.05	0.02	509.68	0.02
	PTT Digital Solutions Co., Ltd. (PTT DIGITAL)	20.00	84.31	-	189.47	0.01	111.24	0.01
	PTT Tank Terminal Co., Ltd. (PTT TANK)	100.00	727.46	0.04	643.85	0.03	676.92	0.03
	PTT Energy Solutions Co., Ltd. (PTTES)	40.00	14.94	-	28.68	-	16.76	-
	Energy Complex Co., Ltd. (EnCo)	50.00	282.13	0.01	261.68	0.01	273.53	0.01
	Business Services Alliance Co., Ltd. (BSA ^{2/})	25.00	114.39	0.01	130.29	0.01	193.68	0.01
	PTT Oil Myanmar Co., Ltd. (PTTOM)	-	6.28	-	-	-	-	-
	Global Power Synergy Plc. (GPSC ^{1/})	22.81	-	-	-	-	18.74	-
	PTT LNG Co., Ltd. (PTTLNG)	100.00	-	-	-	-	60.79	-
	PTT Natural Gas Distribution Co., Ltd. (PTTNGD)	58.00	-	-	-	-	48.22	-
Total Revenue from Services			6,898.56	0.34	7,732.32	0.33	9,159.22	0.40
8. Other Products	PTT Plc.		146.15	0.01	93.43	-	757.15	0.03
	Business Services Alliance Co., Ltd. (BSA ^{2/})	25.00	5.58	-	4.90	-	9.11	-
	Global Power Synergy Plc. (GPSC ^{1/})	22.81	591.73	0.03	4.58	-	7.06	-
	PTT International Trading Pte. Ltd. (PTTT)	100.00	988.45	0.05	744.39	0.03	436.73	0.02
	IRPC Plc. (IRPC ^{3/})	47.55	125.49	0.01	114.98	-	201.89	0.01
	PTT Oil Myanmar Co., Ltd. (PTTOM ^{2/})	-	0.09	-	-	-	-	-
	PTT Oil and Retail Business Plc. (PTTOR ^{1/})	100.00	-	-	-	-	9.26	-
Total Revenue from Other Products			1,857.49	0.10	962.28	0.03	1,421.20	0.06
Total Revenue from Products and Services			1,995,722.07	97.60	2,336,154.92	98.64	2,219,738.67	98.17
9. Others								
9.1 Other Revenue			28,268.51	1.38	16,935.10	0.72	19,979.95	0.88
9.2 Gain from foreign exchange			13,650.64	0.66	6,353.51	0.28	15,312.83	0.68
Total Other Revenue			41,919.15	2.04	23,288.61	1.00	35,292.78	1.56
10. Share of profit from investments in joint ventures and associates			7,310.42	0.36	8,515.02	0.36	6,007.99	0.27
Grand Total			2,044,951.64	100.00	2,367,958.55	100.00	2,261,039.44	100.00

Remarks:

Revenue structure of PTT and Subsidiaries by product line are PTT's net revenues that derived from PTT Subsidiaries and external parties.

1/ During 2019, PTT changed its shareholder portion in GC, TOP, IRPC and GPSC

2/ PTT holds 100.00% of BSA's ordinary shares. Thus, PTT's ownership interest in BSA is 100.00%

3/ As PTT Group companies has reclassified the financial presentation in which the financial statements are required to be presented by the financial statement at the beginning of the previous period, therefore, the updated information has been presented retroactively for the year 2017 only in the part of statement of financial position.



Connected Transactions

PTT's Connected Transactions Resulted from the Following Agreements with Key Conditions being Summarized Below:

1. Transactions Between PTT and the State Enterprises

Transactions

Sales of Natural Gas to the State Enterprises

PTT signed gas sales agreements (GSAs) with the state enterprise, which is the Electricity Generating of Thailand (EGAT). Currently, there are 3 GSAs as follows:

1. GSA between PTT and EGAT, dated November 7, 1996
2. GSA for Nam Phong Power Plant between PTT and EGAT, dated February 2, 2006
3. GSA for Chana Power Plant between PTT and EGAT, dated November 2, 2007.

However, PTT and EGAT have agreed on settled terms and conditions of the new GSA to replace GSAs no.1 and no.3 which both PTT and EGAT are in process of the approval to proceed.

Sales of Fuels and Petroleum Products to the State Enterprises

The ministerial regulation prescribing state-promoted or state-supported supply and procurement procedures thru the selection and specific procurement B.E. 2560, Division 7, requires central and provincial government agencies and state enterprises (excluding EGAT) purchase energy and natural resource for national security of supply at the amount of more than 10,000 liters thru the specific procurement from PTT. If these agencies or state enterprises do not procure thru the specific procurement, they can procure thru the invitation announcement or the selection. Currently, PTT provides fuels and petroleum products to the state enterprises such as Bangkok Mass Transit Authority (BMTA), State Railway of Thailand (SRT), EGAT, and the Transport Company Limited. In the case of state enterprises having due payment, PTT could charge the interest at the rate according to the contractual conditions.

2. Transactions Between PTT and PTTEP and its Subsidiaries

Transactions

PTTEP and its subsidiaries products are natural gas, crude oil , condensate, and LPG. PTT is PTTEP's major customer ;81% of PTTEP sales volume in 2019 was sold to PTT. PTT and PTTEP have 25 - 30 year natural gas sell and purchase agreements with annual minimum contractual quantities. Additionally, PTT engaged in an agreement with PTTEP for the supply of crude oil and condensate. Whereas PTTEP has fuel (Natural gas) supply agreement with PTT. The selling prices of petroleum products aforementioned are referenced to global market prices, the joint venture partner selling price to PTT or the competitive and standardized benchmarked prices under reasonable conditions.

Normal Business Transactions or Normal Business Support Transactions

Item				Value as of December 31, 2019 (Baht billion)	Necessity and Sensibility
1.1	The sale of petroleum products			152,647	Selling prices of petroleum products are referenced to global market prices and joint venture partner selling prices to PTT.
	Natural gas	475,592.43	MMscfd		
	Crude oil	13.65	million barrels		
	Condensate	12.99	million barrels		
	LPG	72,980.15	metric tons		
1.2	The purchase of fuels;			14.25	PTTEP's Board approved a five-year (2019-2023) fuel supply agreement with PTT. The prices under the agreement are the competitive and standardized benchmarked prices under reasonable conditions.
	Natural gas	54.00	MMscfd		

3. Transactions between PTT and Petrochemical and Refining Affiliates

Transactions

PTT signed crude oil supply agreements, petrochemical-product purchase agreements and the natural gas sell and purchase agreement as fuel used in the production process with its petrochemical and refining affiliates. The key conditions are summarized below.

Agreements with Thai Oil Plc (TOP)

- PTT procures crude oil supply to TOP equivalent to a minimum of 49.99% of TOP's refining capacity at market prices under a 10-year minimum contract starting from 2014. After the 10th year, either party may end the agreement through a written notice of at least 12 months in advance according to terms and conditions under the Product Offtake and Crude Supply Agreement (POCSA).
- PTT procures natural gas supply to TOP using in the refining process in a contractual amount and at normal market prices under a 10 - year contract (January 1, 2014 – December 31, 2023).

Transactions and agreements with IRPC Plc. (IRPC)

- PTT procures crude oil supply to IRPC in accordance with both term and spot procurement equivalent to 100% of IRPC's capacity at market prices under a 3 year agreement (effective from 2018).
- PTT signed a 10-year Natural gas sell and purchase agreement for power generation and combined cycle power plant (January 14, 2011 - January 13, 2021) and a 5 - year Natural gas sell and purchase agreements as fuels used in the production process (November 10, 2015 - December 31, 2020) at the market prices.

Transactions and Agreements with PTT Global Chemical Plc (GC)

Petrochemical and Chemical Business

- PTT procures key feedstock supply to GC's production process, namely ethane, propane, LPG, and NGL under Sell and Purchase Agreements of Petrochemical Natural Gas Feedstock. The price structure of ethane is linked to Polyethylene price in Southeast Asian markets – reflecting the entire petrochemical chain and the polymer market. The price structures of propane, LPG, and NGL are the agreed prices referenced to the global market.
- PTT supplies 4.6 - 6.1 million tons per year of condensate to GC under a long-term agreement at the basket of crude oil referenced prices.
- PTT entered into a long-term purchase agreement of GC's aromatics products and naphtha from GC aromatics plants for export effective from 2001.

Refining and Petroleum Product Supply Business

- PTT procures crude oil supply and other feedstocks from both imported and domestic crude oil according to agreed grades and volume with market prices under a feedstock supply agreement effective from February 1, 2009.
- PTT purchases LPG at domestic market prices under a 18 - year agreement effective from February 9, 2006. After the 18th year, the contract remain valid unless otherwise notified at least 12 months in advance under the terms and conditions of the Product Offtake Agreement.
- PTT signed a Natural gas sell and purchase agreements for fuel used in refined, petrochemical, and electricity production processes and for other commercial purposes. This agreement will be expired in 2029.

4. Transactions Between PTT and Technology and Engineering Group Affiliates

Transactions and Agreements with Global Power Synergy Plc (GPSC)

PTT and GPSC signed a Natural gas sell and purchase agreement as raw material of power generation for distribution. The purchase conforms terms and competitive and standardized benchmarked prices.

Reasonability of Connected Transactions

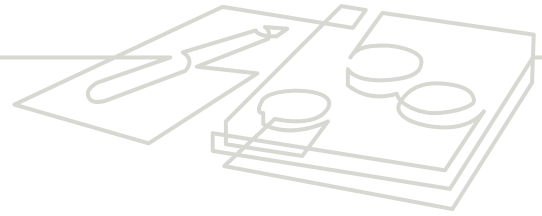
The purchase of goods, raw materials, and/or services (or all of them) from related companies is to maximize PTT Group benefit and support national energy security. Such transactions are regarded as normal business transactions. The volumes of goods or raw materials purchased or sold by PTT or services provided or received by related parties are satisfied with the requirement and business operation of both parties. Such prices are as agreed on commercial benefits to both PTT and related parties without transfer of benefits or irregular items.

Policy on Future Connected Transactions

PTT connected transactions in the future are normal business transactions; none of irregular items, and benefit transferred among PTT, subsidiaries, associated companies, related companies, and shareholders. Pricing structures of PTT and related parties are the reasonable prices conform to others purchasing prices from non-related parties as market referenced prices. Disclosure of connected transactions conform to SEC's and SET's rules and the accounting standard for related parties/businesses disclosures as stated by the Federation of Accounting Professions.



Review of Business Asset



As of December 31, 2019,
the core assets employed
by PTT and its subsidiaries
in their businesses

commanded a net value
after accumulated
depreciation and allowance
for impairment of
THB 1,294,979 million,

with THB 79,968 million
in net intangible assets,

and THB 80,268 million
in net exploration and
evaluation assets.



For details, please see the Notes
to the Financial Statements for PTT
and its subsidiaries ended December 31, 2019:
item 18 (land property, plants, and equipment),
item 20 (intangible assets), and items 21
(exploration and evaluation assets,) accordingly.

Capital Structure



Securities and Shareholders

PTT's Securities

Common Shares

As of December 31, 2019, PTT's registered capital totaled THB 28,562,996,250 consisting of 28,562,996,250 common shares at THB 1 per share. These shares represented THB 28,562,996,250 of issued and paid-up capital, or 28,562,996,250 common shares.

Bonds and Debentures

As of December 31, 2019, PTT had THB 1,000 million of domestic loans in PTT bonds with the Ministry of Finance's guarantee and THB 83,702 million of PTT non-government guaranteed debentures, for a total of THB 84,702 million. Foreign loans were in PTT debentures of US Dollar denominations which not guaranteed by the Ministry of Finance, equivalent to THB 8,807 million. A summary appears below.

Bonds and Debentures	Amount (THB Million)	Redemption Date	Guarantee
PTT bonds guaranteed by the Ministry of Finance <ul style="list-style-type: none">Domestic bonds	1,000	2020	None
PTT debentures not guaranteed by the Ministry of Finance <ul style="list-style-type: none">Domestic debentures^{1/}Foreign debentures^{2/ 3/}	83,702 8,807	2020 - 2110 2035 - 2042	None None
Total	92,509		
Grand Total	93,509		

Note:

1/ Fitch Rating's national rating of long-term PTT debentures at 'AAA (tha)'

2/ Moody's international rating of foreign PTT debentures at 'Baa1'

3/ S&P's international rating of foreign PTT debentures at 'BBB+'

Unsecured, Unsubordinated Domestic Debentures (Unit: THB Million)

Symbol	Amount (THB Million)	Annual Coupon Rate (%) (Payment Frequency)	Maturity (Years)/ Redemption Schedule
PTTC20NA	22,000	4.75 (every six months)	6 years, 11 months and 19 days/ 2020
PTTC208A	4,118	5.95 (every six months)	15 years/ 2020
PTTC215A	1,030	6.53 (every six months)	15 years/ 2021
PTTC21NA	10,000 ^{1/}	4.00 (every six months)	6 years, 11 months/ 2021
PTTC21NB	4,200	3.50 (every six months)	6 years, and 27 days/ 2021
PTTC222A	4,000 ^{2/}	4.50 (every six months)	12 years/ 2022
PTTC239A	10,000 ^{3/}	6.58 (once at the end of redemption period)	10 years/ 2023
PTTC243A	14,967 ^{4/}	(Year 1 - 5) 5.00 (Year 6 - 8) 6.20 (Year 9 - 15) 6.80 (every six months)	15 years/ 2024 (redeemable after Year 8)
PTTC247A	9,387 ^{5/}	(Year 1 - 5) 4.25 (Year 6 - 10) 5.50 (Year 11 - 15) 5.75 (every six months)	15 years/ 2024 (redeemable after Year 10)
PTTC10DA	4,000 ^{6/}	5.90 (every six months)	100 years/ 2110 (redeemable after Year 50 and Year 75, and as defined in the terms on rights and duties of the issuers and the holders)
Total	83,702		

Unsecured, Unsubordinated Foreign Debentures (Unit: THB Million)

Symbol	Amount (THB Million)	Annual Coupon Rate (%)	Maturity (Years)/ Redemption Schedule
USD Bond 2005	1,585	5.875 (every six months)	30 years/ 2035
USD Bond 2012	7,222	4.50 (every six months)	30 years/ 2042
Total	8,807		

Note:

- 1/ PTT engaged in an interest rate swap from THB-denominated debentures worth THB 6 billion at a fixed rate to THBFIX + a fixed rate per year on the THB-denominated principal. The swap will end on November 15, 2021.
- 2/ PTT engaged in a cross-currency swap from THB-denominated debentures worth THB 4 billion to dollar-denominated ones worth USD 120.55 million at LIBOR + a fixed interest rate per year on the dollar-denominated principal. The swap will end on February 25, 2022.
- 3/ PTT engaged in an interest rate swap from THB-denominated debentures worth THB 10 billion at a fixed rate to a lower rate. The swap will end on September 13, 2023.
- 4/ PTT engaged in an interest rate swap from THB-denominated debentures worth THB 2 billion at a fixed rate to THBFIX + a fixed rate per year on the THB-denominated principal. The swap will end on March 6, 2024.
- 5/ PTT engaged in an interest rate swap from THB-denominated debentures worth THB 6 billion at a fixed rate to a floating rate based on long-term USD reference rate. The swap will end on August 15, 2024.
- 6/ PTT engaged in an interest rate swap from THB-denominated debentures worth THB 4 billion: THB 2 billion at a fixed rate to a lower rate, to end on December 2, 2027, and the other THB 2 billion at a fixed rate to THBFIX floating rate + a fixed rate per year on the THB-denominated principal, to end on June 2, 2028.

PTT Warrants

PTT has issued and offered 60,000,000 warrants to the President, the management, PTT employees, and employees of PTT Group companies seconded to PTT, consisting of two batches: PTT-W1 (40,000,000 units), offered in 2005 with the last exercise date on August 31, 2010, and PTT-W2 (20,000,000 units), offered in 2006 with the last exercise date on September 28, 2011. All warrants have been exercised, and no new ones have been issued.

Short-term Bill of Exchange

As of December 31, 2019, none was outstanding.

Shareholders

Below was PTT's shareholding structure as of October 11, 2019, the Record date for the 2019 interim dividend payment.

Item	Shares (in Million)	Value (THB Million)	%
Registered Capital	28,562.9	28,562.9	-
Paid-up Capital (as of October 11, 2019)	28,562.9	28,562.9	100.00
• Ministry of Finance	14,598.9	14,598.9	51.111
• Vayupak Fund 1 by MFC Asset Management Plc	1,736.9	1,736.9	6.081
• Vayupak Fund 1 by Krung Thai Asset Management Plc	1,736.9	1,736.9	6.081
• Institutional and public investors	10,490.2	10,490.2	36.727
Unpaid Capital	-	-	-

PTT's top 11 shareholders (as of October 11, 2019):

No.	Name	Shares	%
1.	Ministry of Finance	14,598,855,750	51.111
2.	Thai NVDR Co., Ltd.	1,753,600,996	6.139
3.	Vayupak Fund 1 by MFC Asset Management Plc	1,736,895,500	6.081
4.	Vayupak Fund 1 by Krung Thai Asset Management Plc	1,736,895,500	6.081
5.	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	571,786,270	2.002
6.	STATE STREET EUROPE LIMITED	427,539,774	1.497
7.	Social Security Office	379,125,700	1.327
8.	GIC PRIVATE LIMITED	255,514,200	0.895

No.	Name	Shares	%
9.	THE BANK OF NEW YORK MELLON	230,588,552	0.807
10.	THE BANK OF NEW YORK (NOMINEES) LIMITED	222,130,500	0.778
11.	Electricity Generating Authority of Thailand Saving and Credit Cooperative Limited	152,629,500	0.534
Total		22,065,562,242	77.252

Note:

1. Number 5 and 10 were nominee accounts. PTT's investigation at Thailand Securities Depository Co., Ltd. (TSD), found that the ultimate shareholder's names could not be disclosed. However, the Ministry of Finance remained the sole majority shareholder on behalf of the State, which in part dictated PTT's management policy. The ministry nominated directors to the Board for approval by the shareholders. Other substantial shareholders, including Number 5 and 10, exercised no influence over PTT's management policy formulation, including director nomination.
2. Shareholders of Thai NVDR Co., Ltd., who held non-voting depository receipts (NVDR) in Number 2, were ineligible for voting at shareholders' meetings except when exercising their voting rights on delisting the shares from SET.

Dividend Policy

PTT

PTT pays out as dividends no less than 25% of its net income after deducting all provisional reserves required by law and PTT. While the net income is based on the consolidated financial statements, dividend payment is subject to future investment plans, necessities and suitability. Once the Board has decided on annual dividend payment, it seeks approval from the shareholders' meeting. An exception is for interim dividend payment, which can be approved by the Board and Reported to the next shareholders' meeting.

Subsidiaries

Concerning subsidiaries' dividend policies, each subsidiary may consider with dividend payment by taking into account its remaining cash flow in comparison with the investment capital. If the cash flow is substantial enough after legal provisions, the subsidiary may proceed with the payment on a case-by-case basis.

PTTEP Plc

Under normal circumstances, the Board's policy is to generally recommend to the meeting of the shareholders dividend payment of no less than 30% of PTTEP's net income after deducting its annual income tax each year, with occasional interim dividend payment, as appropriate. For subsidiaries, there is on certain policy regarding dividend payment.

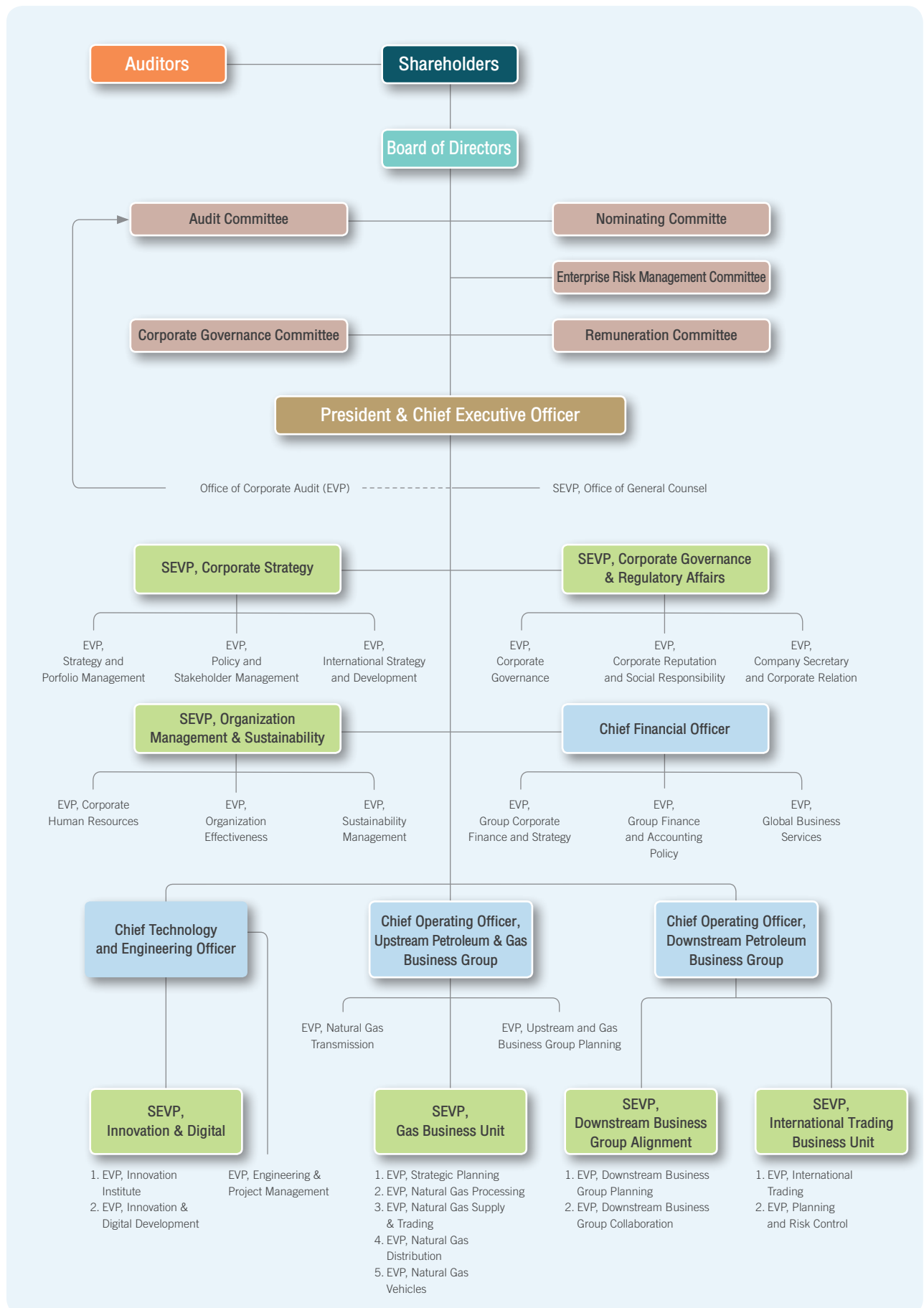


Management Structure

Board Responsibility

PTT Public Company Limited's management structure as of January 1, 2020, comprises the Board of Directors and five specific committees to consider significant matters: the Audit Committee, Nominating Committee, Remuneration Committee, Corporate Governance Committee, and Enterprise Risk Management Committee. The President & CEO is the top executive who manages PTT's business groups through three groups of 24 management committees.

This year PTT established an "Innovation and Digital Development" function under the SEVP, Innovation and Digital, responsible for pursuing opportunities in the innovation and technology business for PTT Group to develop into a new business including conduct the idea, innovation and technology and business trends to develop platform, create prototype, survey market and customer needs, scaled-up to commercial business and developed as the New S-Curve business of PTT and PTT Group.



Remark: EVP = Executive Vice President

Composition of the Board

Under PTT's Articles of Association, the Board is consist of:

- 5-15 persons
- A minimum of three independent directors (PTT's CG requires that independent directors account for no less than one-half of the Board)
- At least one director must be knowledgeable about accounting and finance.

According to the certification of the Ministry of Commerce dated January 17, 2020, the PTT Board consists of 14 directors as follows:

- 13 non - executive directors (10 of whom are independent directors, which exceeds one-half of the Board)
- One executive director.
- One female director.

The Current Board Consist's of: (as of January 17, 2020)

No.	Name	Position	Appointed Date
1.	Mr. Krairit Euchukanonchai	Independent director/ Chairman of the Board (Director from July 11, 2018, and Chairman of the Board from September 7, 2018)	July 11, 2018 (First term) April 11, 2019 (Second term)
2.	Mr. Vichai Assarasakorn	Independent director/ Chairman of the Audit Committee	September 4, 2014 (First term) April 28, 2017 (Second term)
3.	Mr. Don Wasantapruek	Independent director/ Chairman of the Nominating Committee	July 26, 2014 (First term) April 11, 2016 (Second term) April 11, 2019 (Third term)
4.	Gen. Teerawat Boonyawat	Independent director/ Chairman of the Remuneration Committee	April 11, 2019 (First term)
5.	Prof. Dr. Kittipong Kittayarak	Independent director/ Chairman of the Corporate Governance Committee	July 1, 2014 (First term) April 28, 2017 (Second term)
6.	Mr. Supattanapong Punmeechaow	Director/ Chairman of the Enterprise Risk Management Committee	October 1, 2019 (First term)
7.	Mrs. Nuntawan Sakuntanaga	Independent director/ Member of the Audit Committee	July 1, 2014 (First term) April 9, 2015 (Second term) April 12, 2018 (Third term)
8.	Mr. Danucha Pichayanan	Independent director/ Member of the Audit Committee	April 12, 2018 (First term)
9.	Prof. Dr. Supot Teachavorasinskun	Independent director/ Member of the Nominating Committee/ Member of the Remuneration Committee	January 18, 2018 (First term) April 11, 2019 (Second term)
10.	Prof. Dr. Surapon Nitikraipot	Independent director/ Member of the Nominating Committee/ Member of the Corporate Governance Committee	April 12, 2018 (First term)

No.	Name	Position	Appointed Date
11.	Mr. Thon Thamrongnawasawat	Independent director/ Member of the Corporate Governance Committee/ Member of the Enterprise Risk Management Committee	November 18, 2016 (First term) April 12, 2018 (First term)
12.	Mr. Chumpol Rimsakorn	Director/ Member of the Remuneration Committee/ Member of the Enterprise Risk Management Committee	December 21, 2018 (First term) April 11, 2019 (Second term)
13.	Mr. Sarawut Kaewtathip	Director	December 16, 2019 (First term)
14.	Mr. Chansin Treenuchagron	Director and Secretary to the Board (President & CEO)	August 31, 2018 (First term)

Remarks:

In 2019 the Board appointed new directors to replace those that had either completed their terms and/or resigned as follows:

- No. 4: Gen. Teerawat Boonyawat was appointed as an independent director with effect from April 11, 2019, replacing Gen. Chatchalerm Chalermsook, who retired by rotation at the 2019 AGM on April 11, 2019.
- No. 6: Mr. Supattanapong Punmeechaow was appointed as a director with effect from October 1, 2019, replacing Mr. Somsak Chotrattanasiri, who resigned on May 8, 2019.
- No. 13: Mr. Sarawut Kaewtathip was appointed as a director with effect from December 16, 2019, replacing Mr. Kulit Sombatsiri, who resigned on October 9, 2019.

PTT Director Who Retired in January 2020

No.	Name	Position	Date
1.	Mr. Nuttachat Charuchinda	Director/ Member of the Enterprise Risk Management Committee	January 17, 2020

Remarks:

Mr. Nuttachat Charuchinda retired from the directorship of PTT due to his completion of 65 years of age, with effect from January 17, 2020.

Authority and Responsibilities of the Board

Authority of the Board:

- The Board is authorized to supervise and oversee PTT's management to comply with applicable laws, objectives, Articles of Association, and resolutions of shareholders' meetings.
- The Board is authorized to select one director to serve as Chairman and may select Vice Chairman if appropriate.
- The Board of Directors has the power to appoint the President and Chief Executive Officer who has been nominated pursuant to the nomination process and procedures under by the relevant laws and regulations. The President and Chief Executive Officer shall be a director and secretary to the Board of Directors.



Duties and Responsibilities of the Board

The Board is to:

- Carry out its duties under PTT's Articles of Association and ensure that the management complies with applicable laws, objectives, Articles of Association and resolutions of shareholders' meetings.
- Define PTT's vision, directions, strategies, policies and major plans and consider potential risks so as to ensure that the management can effectively drive plans into practice.
- Monitor and ensure plan implementation in line with PTT's major strategies and policies, including objectives, financial targets and operating plans, and budget.
- Institute systems for corporate accounting, financial reporting and auditing, as well as the efficient and effective internal control and internal audit systems.
- Oversee and supervise issues regarding conflicts of interest and related-party transactions.
- Define comprehensive risk management guidelines and ensure an efficient risk management system or process.
- Ensure a suitable compensation system or mechanism for senior management to induce short-term and long-term motivation.
- Assess the performance of the President & CEO and decide suitable compensation.
- Ensure suitable communicating channels with each group of shareholders and stakeholders.
- Ensure accurate, clear, transparent, reliable, and high-quality disclosure of information.
- Express leadership and be a role model.

The Board's Additional Authority Includes:

- Approve long-term investment, such as common stocks, preferred stocks, bonds, debentures and warrants, or other financial instruments.
- Approve financial support, including funds, common stocks, preferred stocks, loans, or others as appropriate for PTT-invested companies.
- Approve debt financing and issuance of debt instruments such as debentures.
- Approve the annual budget.

- Approve procurement and other procurement related matters if the limits exceed the CEO's approval authority.
- Consent to employ, appoint, transfer, or promote employees serving as senior executive vice presidents or equivalent upward.
- Appoint the Company Secretary.

Authorized Director to Sign and Bind for PTT

According to PTT's Articles of Association, as of January 17, 2020, the directors whose signatures are authorized to sign and bind PTT are either (1) Mr. Chansin Treenuchagron, President & CEO, to sign and affix PTT's seal, or (2) Two out of these three directors: Mr. Don Wasantapruek, Professor Dr. Supot Teachavorasinskun, or Professor Dr. Surapon Nitikraipot, jointly sign and affix PTT's seal.

Appointment and Dismissal of Directors

1. The Board consists of 5 - 15 persons who are appointed at shareholders' meetings. In addition, the Board consists of a minimum of three independent directors and at least half of the directors must reside in the Kingdom. At least one of them must be knowledgeable about accounting and finance. All directors must have qualifications as specified by law and the Articles of Association. Since 2004, the Board has resolved that independent directors must consist of at least half of the Board, a requirement that remained effective until present. As of January 17, 2020, the Board had 10 independent directors, one female director, all of whom resided in Thailand. Eight directors are experts in accounting and finance, namely Mr. Krairit Euchukanonchai, Mr. Supattanapong Punmeechaow, Mrs. Nuntawan Sakuntanaga, Mr. Vichai Assarasakorn, Mr. Danucha Pichayanan, Mr. Chumpol Rimsakorn, Professor Dr. Surapon Nitikraipot and Mr. Chansin Treenuchagron.

2. The shareholders' meetings are to appoint qualified directors whom the Nominating Committee has elected and proposed to the Board under the following criteria:

- (1) Each shareholder has one vote per share held.
- (2) Each shareholder exercises all votes applicable under (1) in electing one or more persons as directors, provided that no vote is divisible.



(3) Candidates with the highest numbers of votes are to be appointed directors up to the number required at the meeting.

(4) If candidates get equal votes, which makes the number of successful candidates exceed that of directors to be elected, the Chairman of that meeting will cast the decisive vote.

3. At the AGM, one-third of the directors - or if the number is not a multiple of three, then the number nearest to one-third - will retire from directorship. The directors retiring in the first and second year after PTT was listed are to be drawn by lots. For subsequent years, those with the longest terms are to retire.

4. In case the seat of directors is vacated with other reasons besides term completion, the Board may elect a qualified person without the prohibitions stipulated under PTT's Articles of Association to fill the vacancy at the next Board meeting, except if the remaining term of the vacated director is less than two months. The acting director must secure at least three-quarters of the votes by the remaining directors. He or she can also stay in office only for the remaining term of the predecessor.

5. Any director who wish to resign from directorship must tender his or her resignation to PTT. Such resignation will take effect from the date the resignation letter reaches PTT.

6. In case of voting to remove any director from the directorship before the completion of his or her term, a three-quarter vote of eligible shareholders present at the meeting is required. The number of shares represented by the three-quarter votes at least half of the total number of shares represented by the eligible shareholders present at the meeting is also required.

Qualifications of Directors

Directors must be duly qualified, without the prohibitions stated in the Public Limited Company Act and the Standard Qualifications of State Enterprise Directors and Officials Act 1975 [B.E. 2518] and its amendments, as well as relevant Cabinet resolutions, including:

- Up to 65 years of age.
- A maximum of three directorships in state enterprises or juristic persons in which state enterprises hold shares, including appointments due to their positions and those due to acting assignments.

- Independent directors must be qualified under SET's Notification on the Qualifications and Scope of operation of the Audit Committees .
- Never been sentenced to imprisonment, except for violations of the law by negligence or a petty offence.
- Not being a political official, except for holding a directorial position pursuant to a provision of law.
- Not being a person holding any position in a political party or an official of political party.
- Never been expelled, dismissed, or removed from a position because of malfeasance.
- Not being a shareholder of such state enterprise or a shareholder of a juristic person in which such state enterprise holds shares. Exceptions apply to directors of state enterprises who are not government officials, government employees, or wage earners with positions or position salaries of centralized, or provincial, or local governments or other government agencies. Also, such state enterprise directors can hold no more than 0.5% of the paid-up capital of the state enterprise in which they serve as directors or juristic persons where the state enterprise in question holds shares.
- Not being a person holding any position in a juristic person in which such state enterprise holds shares, except where entrusted by the board of directors of such state enterprise to hold a directorial position or other position in the juristic person in which such state enterprise holds shares.
- Not being a director, or an executive or person having authority in the management or an interest in a juristic person who is a concessionaire or joint venture party, or having an interest relating to the undertakings of such state enterprise, except for being a chairperson of the board of directors, director or executive by entrustment of such state enterprise.

In addition, the Corporate Governance, Ethical Standards and Code of Business Ethics Handbook, Revision 4, on term holding, a director can hold office up to the following limits:

1. A maximum of three directorships in the state enterprises/ juristic persons of which the state enterprise is a shareholder.
2. A maximum of three directorships in SET-listed companies, provided that the directorships under (2) do not contradict (1). Such directorships in (1) and (2) must not exceed five.



However, independent directors and members of specific committees shall serve no more than nine consecutive years.

In compliance with the law, PTT ensures that at least one-third of the Board are listed in the Director's Pool of the Ministry of Finance. As of January 17, 2020, 10 out of 14 PTT directors' names were listed in the Director's Pool.

Board Meetings

Board meetings are planned for the entire year. For 2019, the meetings were held monthly on the third Thursday each month. Additional meetings may be called to discuss special items as necessary. The Office of the President issues a meeting notice along with the meeting agenda with details and reasons, and sufficient supporting documents for decision-making to all directors seven days ahead of the meeting to allow them enough time to prepare themselves. The meetings have been made electronic and conducted through application software for convenience, which considerably reduces the copying of documents, shortens the process, speeds up execution of the agenda, and eases decision-making of management with efficient information access.

Since 2015, the Board has set "sequel agenda" to report progress of previously proposed agenda items and follow up the operations implemented, based on the meeting's observation and comments, along with the corporate strategies being applied. The agenda must be reported monthly in the meeting.

The Board has set a policy that meeting documents on particular agenda items will not be forwarded to directors with potential conflicts of interest on such matters. The directors will abstain from attending and voting during that portion of the meeting. At least a quorum of two-thirds of eligible directors is required to pass the Board's resolution. If the quorum is not met, discretion of Chairman will be applied as stipulated in the CG Handbook.

The minutes of each meeting's agenda items will be properly documented along with all written comments and recommendations. After the adoption from the Board was approved the minutes will be filed for auditing purposes and reference by directors. By and large, each Board meeting lasted three hours approximately.

In 2019, PTT held 15 Board meetings (12 regular and 3 special ones). The special meetings, held annually, aimed to determine/review/approve PTT Group's vision and missions, directions and operational strategies (five-year rolling). This year the Board and the management jointly reviewed vision and missions and approved directions and operational strategies as a framework and guidelines for business units, subsidiaries, and associates to formulate the annual state enterprise plans and budgets of 2020 - 2024. In addition, one non-executive Board meeting was conducted in August 2019 on PTT management and operations. The meeting discussed related issues, and ensuing recommendations were forwarded to the Management to improve operations in compliance with the principles and guidelines for Corporate Governance of State-Owned Enterprises of 2019 and the State Enterprise Policy Office's guidelines for good practices. One independent directors' meeting was held in October 2019 on "Business and Human Rights: Global Trends". At every meeting, the Chairman allowed directors to freely and openly express their views. Details of directors' meetings are summarized below:

Attendance Records of the Board and the Five Specific Committee Meetings for 2019

Name	1/2019	2/2019	3/2019	Special 1/2019	4/2019	5/2019	Special 2/2019	6/2019	7/2019	Special 3/2019 (STS)	8/2019	9/2019	10/2019	11/2019	12/2019
1. Mr. Krairit Euchukanonchai	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
2. Mr. Vichai Assarasakorn	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
3. Mr. Don Wasantapruek	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4. Gen. Teerawat Boonyawat	Appointed, effective from April 11, 2019			/	X	/	/	/	/	/	/	/	/	/	/
- Gen. Chatchalerm Chalermsook	/	/	/	Retired by rotation at the 2019 AGM											
5. Prof. Dr. Kittipong Kittayarak	/	/	/	/	/	/	/	/	/	/	/	/	X	/	/
6. Mr. Supattanapong Punmeechaow	Appointed, effective from October 1, 2019												/	/	/
- Mr. Somsak Chotrattanasiri	/	/	/	/	/	Resigned, effective from May 8, 2019									
7. Mrs. Nuntawan Sakuntanaga	/	/	/	/	/	/	X	/	/	/	/	/	/	X	/
8. Mr. Danucha Pichayanan	/	/	/	/	/	/	/	/	/	/	/	X	/	/	/
9. Prof. Dr. Supot Teachavorasinskun	/	/	/	/	/	/	X	/	X	/	/	/	/	/	/
10. Prof. Dr. Surapon Nitikraipot	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
11. Mr. Thon Thamrongnawasawat	/	/	/	/	X	/	/	/	/	/	/	/	/	/	/
12. Mr. Chumpol Rimsakorn	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
13. Mr. Nuttachat Charuchinda *	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
14. Mr. Sarawut Kaewtathip	Appointed, effective from December 16, 2019														/
- Mr. Kulit Sombatsiri	/	/	/	/	/	/	/	/	/	/	/	X	Resigned, effective from October 9, 2019		
15. Mr. Chansin Treenuchagron	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Total Attendance	15	15	15	15	13	14	12	14	13	14	14	12	13	13	15
Total Directors	15	15	15	15	15	14	14	14	14	14	14	14	14	14	15

Remarks:

* Mr. Nuttachat Charuchinda retired from the directorship due to his completion of 65 years of age, with effect from January 17, 2020.

Attendance Records of the Board and Committee Meetings for 2019

Name	Board and Committee Meetings in 2019						Appointment during the year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 5)	Nominating Committee (Total 5)	Remuneration Committee (Total 3)	Enterprise Risk Management Committee (Total 9)	
1. Mr. Krairit Euchukanonchai	15/15						-
2. Mr. Vichai Assarasakorn	15/15	16/16			2/2		-
3. Mr. Don Wasantapruerk	15/15			5/5			-
4. Gen. Teerawat Boonyawat	11/12				1/1		April 11, 2019 (replacing Gen. Chatchalerm Chalernsukh)
5. Prof. Dr. Kittipong Kittayarak	14/15	5/5	4/4				-
6. Mr. Supattanapong Punmeechaow	3/3					2/2	October 1, 2019 (replacing Mr. Somsak Chotrattanasiri)
7. Mrs. Nuntawan Sakuntanaga	13/15	16/16					-
8. Mr. Danucha Pichayanan	14/15	7/11				3/3	-
9. Prof. Dr. Supot Teachavorasinskun	13/15			5/5	1/1		-
10. Prof. Dr. Surapon Nitikraipot	15/15		5/5	3/3			-
11. Mr. Thon Thamrongnawasawat	14/15		2/2			9/9	-
12. Mr. Chumpol Rimsakorn	15/15				3/3	2/2	-
13. Mr. Nuttachat Charuchinda	15/15					5/6	-
14. Mr. Sarawut Kaewtathip	1/1						December 16, 2019 (replacing Mr. Kulit Sombatsiri)
15. Mr. Chansin Treenuchagron	15/15						-

Attendance Record of Retired/ Resigned Directors for 2019 (Total: 4 directors)

Name	Board and Committee Meetings in 2019						Appointment during the year
	Board of Directors (Total 15)	Audit Committee (Total 16)	Corporate Governance Committee (Total 5)	Nominating Committee (Total 5)	Remuneration Committee (Total 3)	Enterprise Risk Management Committee (Total 9)	
1. Mr. Thammayot Srichuai							Resigned, with effect from January 1, 2019
2. Gen. Chatchalerm Chalermsook	3/3		1/1				Completed his term on April 11, 2019
3. Mr. Somsak Chotrattanasiri	5/5				2/2		Resigned, with effect from May 8, 2019
4. Mr. Kulit Sombatsiri	11/12					4/4	Resigned, with effect from October 9, 2019

Remarks:

A total of 15 Board meetings were held this year (12 regular meeting and 3 special meetings)

* Reasons for meeting absence were prior scheduled overseas trips and official engagement. Apologies letter were duly forwarded to the Chairman ahead of the meetings.

Corporate Management

Management Team Members as of December 31, 2019:

(PTT Organization Chart is detailed under “Board Responsibility”.)

Name	Position
1. Mr. Chansin Treenuchagron	President & CEO
2. Mr. Atikom Terbsiri ^{1/}	Chief Operating Officer, Upstream Petroleum & Gas Business Group
3. Mr. Autapol Rerkpiboon	Chief Operating Officer, Downstream Petroleum Business Group
4. Mr. Wittawat Svasti-xuto	Chief Technology and Engineering Officer
5. Ms. Pannalin Mahawongtikul	Chief Financial Officer
6. Mrs. Arawadee Photisaro	Senior Executive Vice President, Corporate Strategy
7. Mr. Preecha Pocatanawat	Senior Executive Vice President, Organization Management and Sustainability
8. Ms. Duangporn Thiengwatanatham ^{2/}	Senior Executive Vice President, Corporate Governance and Regulatory Affairs
9. Ms. Peangpanor Boonklum	Senior Executive Vice President, Office of General Counsel
10. Mr. Wuttikorn Stithit ^{3/}	Senior Executive Vice President, Gas Business Unit
11. Mr. Kris Imsang ^{4/}	Senior Executive Vice President, Downstream Business Group Alignment
12. Mr. Disathat Panyarachun	Senior Executive Vice President, International Trading Business Unit
13. Mr. Worawat Pitayasiri	Senior Executive Vice President, Innovation and Digital
14. Mr. Phongsthorn Thavisin	Senior Executive Vice President, seconded to President & CEO, PTT Exploration and Production Plc
15. Mr. Kongkrapan Intarajang ^{5/}	Senior Executive Vice President, seconded to CEO, PTT Global Chemical Plc
16. Mr. Wirat Uanarumit ^{6/}	Chief Operating Officer, seconded to President and CEO, Thai Oil Plc

Name	Position
17. Mr. Noppadol Pinsupa ^{7/}	Senior Executive Vice President, seconded to President, IRPC Plc
18. Ms. Jiraphon Kawswat	Senior Executive Vice President, seconded to Acting President and CEO, PTT Oil and Retail Business Plc.
19. Mr. Chawalit Tippawanich	Senior Executive Vice President, seconded to President and CEO, Global Power Synergy Plc.
20. Ms. Duangkamol Settanung	Senior Executive Vice President, seconded to Executive Vice President, Finance and Accounting, PTT Global Chemical Plc.
21. Mr. Yongyos Krongphanich ^{8/}	Executive Vice President, Group Corporate Finance & Strategy
22. Ms. Wilaiwan Kanjanakanti	Executive Vice President, Group Finance and Accounting Policy
23. Mr. Chienvit Udomwatwong	Executive Vice President, Global Business Services

Remarks :

No. 1-5 are "Management" under SEC's notification.

- 1/ Appointed on September 1, 2019, replacing Mr. Wirat Uanarumit, who was appointed as Chief Operating Officer, and seconded to President and CEO, Thai Oil Plc.
- 2/ Appointed on November 1, 2019, replacing Mr. Kris Imsang, who was appointed as SEVP, Downstream Business Group Alignment.
- 3/ Appointed on February 1, 2019, replacing Mr. Noppadol Pinsupa, who was appointed as SEVP and seconded to President, IRPC Plc.
- 4/ Appointed on November 1, 2019, replacing Ms. Duangporn Thiengwatanatham, who was appointed as SEVP, Corporate Governance and Regulatory Affairs.
- 5/ Appointed on October 1, 2019, replacing Mr. Supattanapong Punmeechaow, who retired.
- 6/ Appointed on September 1, 2019, replacing Mr. Atikom Terbsiri, who was appointed as Chief Operating Officer, Upstream Petroleum & Gas Business Group.
- 7/ Appointed on February 1, 2019, replacing Mr. Sukrit Surabotsopon, who resigned before retirement.
- 8/ Appointed on January 1, 2019, replacing Mr. Sumrid Sumneing, who was appointed as EVP and seconded to EVP, Finance and Accounting Group, PTT Exploration and Production Plc



Duties and Responsibilities of the President & CEO

Under the Articles of Association, the President is authorized and responsible for managing the Board-assigned and PTT's overall business, which must be strictly and prudently managed with integrity under the Board-approved plans or budget for the maximum benefit of PTT and its shareholders.

The President's authority and responsibilities include:

- Operating or managing day-to-day business, or both.
- Hiring, appointing, removing, transferring, promoting, demoting, deducting the salary or wages of, punishing, and dismissing any employees under the Board's regulations.
- Ensuring the preparation and submission of business policies, including operating plans and budget estimates, for the Board's approval, and reporting performance against them to the Board every three months.
- Ensuring implementation of the Board-approved policies, plans, and budget.

The Board authorized the President to manage PTT's business under the following scope of authority:

- Manage the overall business under the objectives, Articles of Association, policies, rules and regulations, specifications, directives, and resolutions of the Board or shareholders' meetings, or both.
- Order, contact, command, implement, and sign juristic acts, agreements, orders, announcements, or correspondence with government agencies, state enterprises, or other parties and engage in any essential and suitable action to facilitate this duty.
- Command all employees, including hiring, appointing, removing, promoting, demoting, deducting the salary or wages of, taking disciplinary action against or dismissing any employees under the rules, regulations, and directives of the Board. For employees serving as advisers, senior executive vice presidents or equivalent upward, prior approval of the Board is required. The President is also authorized to specify employment conditions for employees and issue rules for PTT's operations, provided that they do not contradict the rules, regulations, and directives of the Board.
- Assign the power of attorney and/or delegate specific tasks to other persons, or both, provided that the action complies with the document on the power of attorney or rules, regulations, or directives of the Board or PTT, or both.

The authority and duties of the President stated above are invalid in case of conflicts of interest with PTT in any form resulting from the President's exercise of the authority. This year no such cases have arisen.

The Management Committee

The PTT Management Committee (PTTMC) was appointed on October 1, 2001, with the mandate of operating PTT's business. As of December 31, 2019, the Committee consisted of 15 members as follows :

Name	Position
1. President & CEO	Chairman
2. Chief Operating Officer, Upstream Petroleum & Gas Business Group	Member
3. Chief Operating Officer, Downstream Petroleum Business Group	Member
4. Chief Technology and Engineering Officer	Member
5. Chief Financial Officer	Member
6. Senior Executive Vice President, Gas Business Unit	Member
7. Senior Executive Vice President, International Trading Business Unit	Member
8. Senior Executive Vice President, Downstream Business Group Alignment	Member
9. Senior Executive Vice President, Innovation and Digital	Member
10. Senior Executive Vice President, Organization Management and Sustainability	Member
11. Senior Executive Vice President, Office of General Counsel	Member
12. Senior Executive Vice President, Corporate Governance and Regulatory Affairs	Member
13. Senior Executive Vice President, seconded to PTT Oil and Retail Business Plc.	Member
14. Senior Executive Vice President, Corporate Strategy	Member and Secretary
15. Executive Vice President, Company Secretary and Corporate Relation	Assistant Secretary

The Management Committee meets at least twice a month. This year there were altogether 48 meetings (40 regular and 8 special meetings).



Duties and Responsibilities

Provide advice and recommendation to the President on significant issues regarding corporate strategy and business directions, long-term planning, business performance, investment plans, budgets, allocation of resources to PTT and its affiliates, and ensure the uniformity of PTT's operations. PTTMC also provides consultation and recommendations to the President & CEO and promotes operation in the following matters:

- Set the visions and major responsibilities for PTT Group.
- Establish directions, strategies, and business targets for the group along with the performance targets of business units and the group as a whole.
- Define a direction for corporate governance monitoring and integration of Governance, Risk and Compliance of the group
- Consider the capital allocation structure (budget and resources) to support future investment and operations of PTT and PTT Group (PTT Group's Capital Allocation Structure).
- Consider the investment management of PTT and PTT Group (PTT Group's Portfolio Management).
- Consider and monitor PTT's extended international investment.
- Establish a policy on human resource management, prepares and develops the group's management of level 14 up in a systematic, professional way for its future missions in line with the Leadership Affiliation and Alignment Program.
- Screen and provide opinions and recommendations on the establishment of standards/ mechanisms for the systems of business administration, human resources and information, as well as business processes and organizational structures of PTT and its affiliates in order to be a corporate of sustainability excellence.
- Consider, screen, define policies and principles for the PTT Way of Conduct, and ensuring desirable direction.
- Rank significant matters about the allocation of human and financial resources of PTT and its affiliates.
- Jointly resolve significant conflicts between PTT's upstream and downstream petroleum and technology and engineering businesses.
- Follow up the progress and assesses the performance of the group against KPIs (PAs & KPIs)
- Scrutinize risk management in the business operations of the group.
- Screen meeting agendas before presenting to the Board.
- Rank Board decisions to ensure effective implementation.
- Appoint committees and/or working groups, or both, to assist the Board's tasks.
- Perform other work as may be assigned by the President & CEO.

To efficiently manage PTT Group to drive the strategies and operations of the companies to achieve their goals, PTT has divided its committees into three groups:



1. Strategy Committees:

- 1.1 PTT Group Management Committee (PTTGMCC)
- 1.2 PTT Management Committee (PTTMC)
(mentioned above)

2. Coordination Committees:

- 2.1 Upstream & Gas Business Group Alignment & Coordination Management Committee (UAC)
- 2.2 Downstream Business Group Alignment & Coordination Committee (DAC)
- 2.3 Technology and Engineering Group Alignment & Coordination Management Committee (TEAC)
- 2.4 PTT Group Technology Committee (PTTGTC)
- 2.5 Sustainability Alignment Committee (SAC)
- 2.6 Gas Business Strategic Alignment Committee (GBSC)
- 2.7 Downstream Petroleum Business Group Strategic Alignment Committee (DBSC)
- 2.8 Trading Business Strategic Alignment Committee (TBSC)
- 2.9 Trading Risk Management Committee (TRMC)

3. Support Committees:

- 3.1 Corporate Plan and Risk Management Committee (CPRC)
- 3.2 Governance, Risk and Compliance Management Committee (GRCMC)
- 3.3 Human Resources Group Alignment & Coordination Management Committee (HRAC)
- 3.4 Finance & Accounting Group Alignment & Coordination Management Committee (FAAC)
- 3.5 PTT Group KM Committee
- 3.6 PTT Group Internal Audit Management Committee
- 3.7 PTT Group Digital Steering Committee
- 3.8 PTT Group Policy & Strategic Sourcing Committee
- 3.9 PTT Group Sustainability Management Committee (GSMC)
- 3.10 PTT Group Brand Equity Optimization Committee
- 3.11 PTT Group Operational Excellence Committee
- 3.12 PTT Group Corporate Governance Committee
- 3.13 PTT Group CSR Committee.

Company Secretary

To comply with the CG principles for listed companies contained under “Directors’ Responsibility” and the terms of the Securities and Exchange Act, the Board has appointed a Company Secretary to provide the Board with legal advice related regulations with are mandatory for the board to comply with; organize meetings; supervise Board activities to enable them to perform efficiently and effectively for the maximum benefit to PTT; prepare and maintain critical documents, including directors’ registration, Board meeting notices and minutes; annual reports; issue shareholders’ meeting notices and minutes, and keep reports of the interests of directors and managements.

The position of Company Secretary was established in 2008. Currently, Mrs. Wantanee Jaruke serve as the Company Secretary, effective from December 1, 2013.

Company Secretary:

Mrs. Wantanee Jaruke

Company Secretary

(December 1, 2013 - Present)

Age: 59

Number of shares held:

0.000430%



Education:

- Bachelor of Arts (German), Chiang Mai University
- Master of Business Administration, Kasetsart University

Company Secretary Training Record:

- Thai Institute of Directors Association (IOD): Company Secretary Program (CSP 2/2002), Effective Minutes-Taking (EMT 1/2006), Board Reporting Program (BRP 9/2012), Company Reporting Program (CRP 4/2012), Director Certification Program (DCP 215/2016), Ethical Leadership Program (ELP)
- TLCA: Executive Development Program (EDP 7), Thai Listed Companies Association
- Company Secretaries, Trueeventus, the Philippines (2013)
- Leadership Development Program, Centre for Creative Leadership, Singapore (2015)
- Professional Exchange Program, Hong Kong Institute of Chartered Secretaries, Hong Kong, (2016).
- Good Governance for Sustainable Development for Senior Executives, Class 5, Institute for Good Governance Promotion Office of the Public Sector Development Commission (OPDC Class 5), (February - September 2018)

- Advanced Management Program (March 2018), PTT
- Leadership Development Program (LDP 2, Class 3) (April-September 2018), PTT
- Top Executive Program for Creative + Amazing Thai Services (TOPCATS) Class 1, (January - July 2019), University of the Thai Chamber of Commerce (UTCC)
- Advanced Certificate Course in Promotion of Peaceful Society, Class 10 (May 2019 - February 2020), King Prajadhipok Institute (KPI)

Professional Experience (past five years):

- 2013 - 2018
Vice President, Office of the President and Corporate Secretary
- 2018 - present
Executive Vice President, Company Secretary and Corporate Relation

Related Key Positions Held: None

Extra Activity:

- Chairman of the Committee of Thai Company Secretary Club, Thai Listed Companies Association
- Executive Committee of the Chulalongkorn University Preparatory School Alumni Association (CUPSAA), Class 38

Relationship with Executives: None

Remuneration of Directors and the Management

With the validation of the Remuneration Committee, PTT fairly and sensibly specifies the compensation of directors, taking into account each director's responsibility, its own financial performance, and compatibility with industry peers. Compensation consists of meeting allowances and bonuses. Directors appointed to committees receive additional allowances for additional responsibilities. Shareholder-approved directors' compensation rates are as follows:

Directors' Compensation

Directors' Compensation

The following compensation structure for the Board was approved at the 2019 AGM on April 11, 2019:

1. Monthly and Meeting Allowances

1.1 Board meeting compensation consisted of :

- Monthly allowances of THB 30,000 per month per director (same rate as last year), and the chairman receives a monthly fee at equalling double the base fee received by the director (previously the Chairman received 25% higher than for other members)
- Meeting allowances of THB 60,000 per each meeting for those who attend the meeting only (formerly THB 50,000) and the Chairman shall receive 25% higher than other members. The payment is limited to one meeting per month. In case that there is a reasonable cause, the payment may be paid more than once a month but up to limited up to 15 meetings annually. (the previous limit was once a month).

1.2 Compensation for other committee meetings:

1.2.1 Audit Committee

- Monthly allowances of THB 15,000 per month per director (same rate as last year) (previously the Chairman received 25% higher than other members)
- Meeting allowances of THB 45,000 (formerly THB 15,000) per each meeting for those who attend the meet only. The Chairman received 25% higher than other members. For the secretary received, a monthly allowance of THB 7,500 (same rate as last year).

1.2.2 Compensation for other committees, namely the Nominating, Remuneration, Corporate Governance, Enterprise Risk Management Committees and other sub-committees to be appointed by the Board as necessary, consisted of only an allowance of THB 30,000 (formerly THB 24,000) per each meeting for those who attend the meeting only. The Chairman received 25% higher than other members.

Directors' Bonuses in 2019

Bonus payouts for directors, at 0.05% of the net profit of 2019, corresponded to PTT's performance and net profit, with a maximum limit of THB 60 million for the entire Board. Bonuses were prorated with each director's term, with the Chairman receiving 25% higher than other members.

Remuneration for Directors in 2019

Unit: THB

No.	Name	Days of Service Jan - Dec 2019	Bonus 2019	Meeting Allowance (Inclusive of Monthly Allowance)	Meeting Allowance Specific Committee	Total Allowance	Total Remuneration
1.	Mr. Krairit Euchukanonchai	365	3,989,817.50	1,732,500.00	-	1,732,500.00	5,722,317.50
2.	Mr. Vichai Assarasakorn ^{a/}	365	3,191,853.98	1,230,000.00	881,250.00	2,111,250.00	5,303,103.98
3.	Mr. Don Wasantapruek ^{a/}	365	3,191,853.98	1,230,000.00	292,500.00	1,522,500.00	4,714,353.98
4.	Gen. Teerawat Boonyawat ^{a/}	264.5	2,333,826.59	919,500.00	97,500.00	1,017,000.00	3,350,826.59
5.	Prof. Dr. Kittipong Kittayarak ^{a/}	365	3,191,853.98	1,170,000.00	358,750.00	1,528,750.00	4,720,603.98
6.	Mr. Supattanapong Punmeechaow	92	807,995.45	270,000.00	75,000.00	345,000.00	1,152,995.45
7.	Mrs. Nuntawan Sakuntanaga	365	3,191,853.98	1,110,000.00	630,000.00	1,740,000.00	4,931,853.98
8.	Mr. Danucha Pichayanan	365	3,191,853.98	1,170,000.00	517,000.00	1,687,000.00	4,878,853.98
9.	Prof. Dr. Supot Teachavorasinsun ^{a/}	365	3,191,853.98	1,110,000.00	234,000.00	1,344,000.00	4,535,853.98
10.	Prof. Dr. Surapon Nitikraipot	365	3,191,853.98	1,230,000.00	228,000.00	1,458,000.00	4,649,853.98
11.	Mr. Thon Thamrongnawasawat	365	3,191,853.98	1,170,000.00	354,000.00	1,524,000.00	4,715,853.98
12.	Mr. Chumpol Rimsakorn	365	3,191,853.98	1,230,000.00	138,000.00	1,368,000.00	4,559,853.98
13.	Mr. Nuttachat Charuchinda	350	3,047,707.30	1,215,483.87	150,000.00	1,365,483.87	4,413,191.17
14.	Mr. Sarawut Kaewtathip	16	133,591.71	75,483.87	-	75,483.87	209,075.58
15.	Mr. Chansin Treenuchagron ^{b/}	365	3,191,853.98	1,230,000.00	-	1,230,000.00	4,421,853.98
Total			42,231,478.35	16,092,967.74	3,956,000.00	20,048,967.74	62,280,446.09

a/ Includes the meeting allowances of the Nominating Committee and the Remuneration Committee during the process of PTT's President & CEO nomination.

b/ **Mr. Chansin Treenuchagron returned his Remuneration paid from January 1 to December 31, 2019, to PTT in compliance with his employment agreement of President & CEO.**

In addition, the President & CEO returned to PTT all Remuneration paid from January 1 to December 31, 2019, when serving as chairman or director in two companies under PTT Group: THB 5,164,426.00 from PTTEP Plc (as director), and THB 3,228,875.07 from IRPC Plc (as chairman), in compliance with his employment agreement.

Remarks:

No. 4, Gen. Teerawat Boonyawat was appointed independent director on April 11, 2019.

No. 6, Mr. Supattanapong Punmeechaow was appointed director on October 1, 2019.

No. 14, Mr. Sarawut Kaewtathip was appointed director on December 16, 2019.

A vehicle was provided to the Chairman to facilitate his duties only.

Retired and Resigned Directors (2019)

Unit: THB

No.	Name	Days of Service Jan - Dec 2019	Bonus 2019	Meeting Allowance (Inclusive of Monthly Allowance)	Meeting Allowance Specific Committee	Total Allowance	Total Remuneration
1.	Mr. Thammayot Srichuai	0	-	-	-	-	-
2.	Gen. Chatchalerm Chalermasukh	100.5	858,027.39	250,500.00	30,000.00	280,500.00	1,138,527.39
3.	Mr. Somsak Chotrattanasiri	127	1,079,288.65	396,774.19	48,000.00	444,774.19	1,524,062.84
4.	Mr. Kulit Sombatsiri	266	2,306,507.68	893,225.81	120,000.00	1,013,225.81	3,319,733.49
Total			4,243,823.72	1,540,500.00	198,000.00	1,738,500.00	5,982,323.72

Remarks:

No. 1, Mr. Thammayot Srichuai was appointed as a director on December 15, 2016, and resigned with effect from January 1, 2019.

No. 2, Gen. Chatchalerm Chalermasukh was appointed as a director on September 4, 2014, and completed his term on April 11, 2019.

No. 3, Mr. Somsak Chotrattanasiri was appointed as a director on April 22, 2015, and resigned with effect from May 8, 2019.

No. 4, Mr. Kulit Sombatsiri was appointed as a director on January 16, 2019, and resigned with effect from October 9, 2019.

Directors' Remuneration Profile of 2016-2019

Unit: THB

Remuneration	2016		2017		2018		2019	
	Person	THB	Person	THB	Person	THB	Person	THB
Meeting Allowance	15	15,883,015.57	15	17,319,925.12	15	17,241,903.21	15	21,787,467.74
Bonuses	15	41,717,213.11	15	45,215,753.42	15	45,125,342.45	15	46,475,302.07
Total		57,600,228.68		62,535,678.54		62,367,245.66		68,262,769.81

Remarks:

2016, 2017, 2018, and 2019 directors' remuneration as shown in the table including the remuneration of President & CEO with already returned to PTT.

Remuneration to Director/ Independent Directors Serving as Director/ Independent Directors of Subsidiaries* in 2019

Unit: THB

Name	Bonus	Meeting Allowance and Monthly Allowance	Committee Meeting Allowance	Total Remuneration	Remark
Mr. Don Wasantapruek	3,972,969.30	1,240,000.00	271,250.00	5,484,219.30	Independent Director, PTT Global Chemical Public Company Limited
Mr. Supattanapong Punmeechaow	3,972,969.30	1,240,000.00	220,000.00	5,432,969.30	Director, PTT Global Chemical Public Company Limited
Mr. Nuttachat Charuchinda	1,550,026.00	1,125,000.00	420,000.00	3,095,026.00	Director, IRPC Public Company Limited
Mr.Sarawut Kaewtathip	-	520,000.00	80,000.00	600,000.00	Director, PTT Oil and Retail Business Public Company Limited
Mr.Chansin Treenuchagron**	3,934,426.00	1,230,000.00	-	5,164,426.00	Director, PTT Exploration and Production Public Company Limited
	1,728,875.07	1,500,000.00	-	3,228,875.07	Chairman, IRPC Public Company Limited

* According to the new International Financial Reporting Standards.

** Mr. Chansin Treenuchagron has already returned the remuneration to PTT in compliance with his employment agreement.

Management's Remuneration

Management's Remuneration

PTT Management remuneration was set in accordance with the policy and regulations set by the PTT Board of Directors, align with the Performance Agreement (PA) of the Company given by the Ministry of Finance. The President & CEO and the executives at all levels had together set the Key Performance Indicators (KPIs) in every year, as well as, achievement targets in line with the long-term business strategies. Those indicators included the business dimension according to the balance scorecard such as finance, customers, internal processes, learning and developing, products, and personnel. These are for the Company to set the business directions and for the performance evaluation of The President & CEO and the executives at all levels.

The Remuneration Committee is responsible for considering remuneration of the President & CEO to reflect his performance management which are also in line with the principles and the standards of other industrial peers, with clear criteria, transparency and fairness. As the result, the annual salary increase and bonus payment would align with KPIs, short-term and long-term performance that tally with PTT's strategy. Overall, it should reflect his visions and the additional

values and capacity enhancement for company in the long run. The principles and the appropriate remuneration must be presented to the Board of Directors for approval. To this end, key factors to evaluate the performance of President & CEO were 1) Company's performance 2) The performance based on the visions and 3) Management capability and leadership.

Management's remuneration is determined with regarding to policy and criteria given by the Board, linked to PTT's performance under the Performance Agreement (PA), the assessment system of state enterprises prescribed by the Ministry of Finance. The President & CEO, all executives, and management jointly defined the annual KPIs as business operation directions and in assessing the President & CEO, executives and management. The Remuneration Committee decided the remuneration of the President & CEO, which reflected performance management, taking into account practices and standards of leading companies with similar business three criteria used for performance assessment were PTT's performance, management capacity and leadership, and performance outcomes under the vision. The decisions on both criteria and the final amount of compensation are subject to Board approval.

According to SEC's definition, PTT's "Management" included the President & CEO; Chief Operating Officer, Upstream Petroleum & Gas Business Group; Chief Operating Officer, Downstream Petroleum Business Group; Chief Technology and Engineering Officer; and Chief Financial Officer. The compensation paid to the management (excluding those seconded to PTT affiliates and those from PTT affiliates seconded to PTT) are detailed below:

Total Remuneration Paid to President & CEO in 2019

Unit: THB

Remuneration President & CEO	2019
	THB
Total Remuneration	31,199,880
Bonus	9,855,938
Total	41,055,818

Remarks:

The salary of the President & CEO for Mr. Chansin Treenuchagron included an allowance for additional tasks, namely holding the position of Chairman or Director (or both) of PTT's subsidiaries. He has already returned to PTT the remuneration earned as Chairman of the Board and/or Directors (or both) of PTT, PTTEP, and IRPC in compliance with his employment agreement.

Total Remuneration Paid to Top Management According to SEC's Definition (4 persons) in 2019

Unit: THB

Remuneration	2019	
	Management (under SEC's Definition)	
	Person	THB
Salary	4	29,236,280
Bonus	4	14,618,140
Total		43,854,420

Total Remuneration Paid to the Management (5 persons) from 2016 to 2019

Unit: THB

Remuneration	2016		2017		2018		2019	
	Person	THB	Person	THB	Person	THB	Person	THB
Salary	5	56,614,080	5	59,587,470	5	62,930,910	5	60,436,160
Bonus	5	22,617,040	5	22,880,880	5	24,672,468	5	24,474,078
Total		79,231,120		82,468,350		87,603,378		84,910,238

Remuneration Paid to Top Five Management According to SEC's Definition as Chairman and Directors of PTT Group and Subsidiaries for 2019

Unit: THB

Remuneration	2019	
	Person	THB
Meeting Allowance and Monthly Allowance	5	14,842,469.75
Bonus	5	18,659,382.54
Total		33,501,852.29

Remarks:

The Remuneration Paid to Top Five Management according to SEC's Definition as Chairman and Directors of PTT Group and subsidiaries. In addition, The remuneration of President & CEO has already returned to PTT in compliance with his employment agreement.

Provident Fund Contribution to the Management from 2016 to 2019

Unit: THB

Remuneration	2016		2017		2018		2019	
	Person	THB	Person	THB	Person	THB	Person	THB
Provident Fund Contributions	4	3,518,977.20	4	3,632,300.50	4	3,708,690.50	4	3,836,735.80

Additional information on the Board and the management:

Records have shown no violation of the law within the past 10 years regarding:

- 1) Being sentenced for criminal charges except for violations of traffic laws, petty charges, or similar charges.
- 2) Being sentenced to bankruptcy or having assets controlled.
- 3) Serving as an executive or an authority in a company or partnership sentenced to bankruptcy or whose assets are controlled.

Employees

Employees are the most important asset for our business, and their quality is key to its business success. PTT therefore concentrates on the development of HR management systems compatible with technological advancement and international standards. It not only promotes both conscientious merit and business competence among its employees, but also encourages them to actively take part in public service. It is indeed through employees that PTT focuses on its development toward a sustainable organization to elevate competitiveness and respond to internal changes of a corporation in pursuit of national energy security.

Headcount and Compensation

The employee headcount (including those seconded to PTT's affiliates) as of December 31, 2019, stood at 3,578. PTT has continued to set its manpower plan in line with its operations under uncertain economic conditions. The focus is on allocating resources where significant value supplementation is likely or where continuing investment is needed.

The business-group headcounts from 2016 to 2019 are as follows:

Business Unit (Unit : person)	2016		2017		2018		2019	
	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group	PTT	PTT Group
1. Gas	1,283	-	1,281	-	1,393	-	1,417	-
2. Oil	1,440	-	1,486	-	- ^{3/}	-	-	-
3. Petrochemicals and Refining	105	-	100	-	144	-	124	-
4. Technology and Engineering	492	-	507	-	380	-	394	-
5. Support staff/ secondees to PTT affiliates	1,042 ^{1/}	254 ^{2/}	1,084 ^{1/}	239 ^{2/}	1,144 ^{1/}	654 ^{2/}	1,167 ^{1/}	476 ^{2/}
6. Subsidiaries and jointly-controlled entities	-	24,680	-	25,036	-	25,959	-	27,511
Total	4,362	24,934	4,458	25,275	3,061	26,613	3,102	27,987

Remarks:

1/ Excluding PTT secondees

2/ PTT secondees

3/ On July 1, 2018, the Oil Business Unit was isolated and became PTT Oil and Retail Business Plc.

Remuneration for Personnel (excluding the President and the Management) from 2016 to 2019

Unit : THB

Remuneration	2016	2017	2018 ^{1/}	2019
Salary	4,080,267,146.00	4,282,921,717.48	4,104,427,784.01	3,855,819,435.99
Bonus	2,136,905,643.00	2,115,503,048.90	1,980,862,083.68	1,915,330,097.81
Contribution to Provident Fund	481,014,787.00	506,518,662.19	489,326,712.01	464,877,921.50
Others (if any)	2,953,091,552.00	3,778,463,866.70	3,286,987,468.56	3,629,328,277.20
Total	9,651,279,128.00	10,683,407,295.27	9,861,604,048.26	9,865,355,732.50

Remarks:

1/ On July 1, 2018, the Oil Business Unit was isolated and became PTT Oil and Retail Business Plc.

PTT sets the remuneration of employees in compliance with the short-term and long-term company's performance through Performance Management. The Performance Management is a systematic set to drive the company's performance to its achievement and in line with the Performance Agreement (PA) which also link to the corporate targets, business unit target and individual target in the same direction.

PTT set annual salary increase for the employees according to their performance. To this end, Key Performance Indicators – KPIs were applied to manage employee performance evaluation, which would accordingly reflect in their salary increase and benefit. Employee KPIs could be divided into two major groups, which were corporate KPIs and, business/operational/personal, or functional KPIs, Personal KPIs must align with the four aspects of balance scorecard, which were finance, customers, internal process, and learning and developing. In order to achieve the Company's targets sustainably, PTT had added two more important aspects, which were products, and personnel, in reply to current performance results (short-term) and long-term business plan. Besides, PTT set a variable bonus to align with the KPIs of PTT executives and employees in the management group to create motivation in achieving the targets of the year.

Other Remuneration

PTT has instituted employee welfare and other compensation programs apart from salary, bonus, and provident fund contributions for the management and all employees. This is to keep up with economic conditions, the cost of living, and other standards for peer companies as well as PTT's current and future performance, achieved through constant revision and improvement. In addition, in response to the needs of individual employees, PTT has adopted on Flexible Benefit policy. PTT give the right to choose to apply for flexible benefits by declaring his or her intention once a year based on PTT terms and conditions provided that such customized flexible benefits are not against the law, tradition, and good moral. However, mandatory employee benefits vital to the well-being of employees and in performing his or her duties will not be included as a choice. Moreover, contribution to the provident fund has been increased, and more choices are available for employee fund contribution to encourage employees' financial planning and preparation for retirement.

HR System Development and Improvement

To become a sustainable organization, PTT continues to improve its processes and mechanisms for HR management to ensure higher efficiency and realize the full potential of its employees, which will lead PTT toward its goals. PTT employees are able to fully demonstrate their competence, advance in their careers, and continue to grow with PTT.

PTT has focused on participation across the board in designing business plans to suit its direction and targets, since this will efficiently align all its components. To this end, it has instituted a process in which the senior management of PTT and its affiliates along with support staff jointly define a vision and directions before propagating the agreed items for other units to apply in defining business strategies and business plans and budget plans in broad alignment. All PTT employees define individual objectives and KPIs, cascaded through the ranks from the corporate, department, to individual level. Such objectives and indicators defined by employees then serve as a framework for performance and performance assessment standards to reflect individual performance.

PTT has applied Career Management guidelines to prepare and promote the management and all employees with skills and knowledge to fit the PTT-designed model in coping with its missions and creating value for the organization. PTT has applied this model to develop all its employees for greater competency by dividing employees and, taking into account business direction to enhance corporate competitiveness, has divided them into two professional groups (senior management and employees), with clear, efficient interconnected systems for recruitment, assessment, and individual development planning (IDP) in place.

- Senior management (equivalent to vice presidents upward) undergoes Group Leader Development, which sustains the needs of high-level executives in both quantity and quality. Management of this group is supervised by a panel of CEOs in PTT Group called the “PTT Group Management Committee (PTTGMC)”, responsible for defining directions and policies for development plans for senior management. Another team, called “Human Resources Group Alignment & Coordination Management Committee (HRAC)”, provides counseling and recommendations to the Senior Executive Vice President, organization Management and sustainability, to enhance decision-making on key coordination issues regarding human resource development strategies and directions of the PTT Group to align with those of PTT.
- Employees (division manager or equivalent downward): This internal management is specific to PTT or a PTT Group company in developing employees to suit future operational needs. For PTT, a Corporate Human Resources Committee (HRC) was established to promote and monitor career development planning to ensure goal achievement. A Career Counseling Teams (CCT) for 16 professional groups takes charge of defining and developing individuals, providing counseling and guidance, and monitoring and following up implementation. The individual development plan is a tool for employees to set their goals and develop their career paths, and add value to their work in line with PTT’s directions and goals. Such employee development can be undertaken through proper training via success profiles or job rotation in line with their career paths. This will enable all employees to develop skills in their new positions, as to suitable appointments and promotions in line with their responsibilities and potential. With this development framework, employees will be qualified to assume top management positions of PTT Group and enable PTT to achieve its goals.



- To ensure that the policy defined and HR management align with and support the business directions of PTT Group, the Human Resources Management Committee (HRMC), appointed to define and propose policies and make decisions on HR management, provide recommendations on the preparedness and development of PTT's current as well as future executives and employees, screen and give recommendations on the corporate structure and manpower, and approve or screen matters on HR management under the authority assigned.

Apart from implementing HR development under the above-mentioned guidelines, PTT takes environmental issues seriously and held environmental training courses for related employees and interested parties to enhance their awareness. In 2019 the following courses were conducted:

No.	Name of the business event	Start date	End date	Location	Attendees
1.	Collecting and Reporting Data on Environmental Performance for Those Who Collect and Report Data (Bangkok)	24/04/2019	25/04/2019	Head Office	18
2.	Consideration and Approval of the Data on Environmental Performance for Management (Bangkok)	26/04/2019	26/04/2019	Head Office	5
3.	A System for Collecting and Reporting Data on Greenhouse Gas Emissions for PTT Group (Web-based: PTT Group GHG Accounting & Reporting)	10/07/2019	10/07/2019	Head Office	1
4.	Collecting and Reporting Data on Environmental Performance for Those Who Collect and Report Data (Bangkok)	28/10/2019	29/10/2019	Head Office	1
Total					25

In 2019 PTT held the fifth “Young People to Globalization” program (YP2G, Batch 5) to develop qualified personnel for overseas posting in line with PTT’s strategies. These personnel will be assigned challenging responsibilities through the following core functions: Strategy & Planning, Business Development, Commercial & Marketing, and Engineering & Operation. These tasks will enable them to learn and accrue experience in business acumen through on-the-job training (OJT).

Valuing career and competency management, PTT not only prepared and reviewed the success profile and career path of each position, but also assessed success profiles for alignment with the performance cycle. The employees were urged to discuss their responsibilities with their supervisors (two-way communication) at the beginning of the year. These responsibilities were monitored and evaluated at mid-year and the end of the year to monitor or formulate individual development plans (IDPs), or both, for the employees.

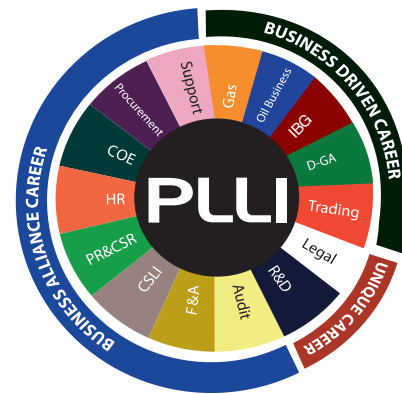
PTT Group encourages and supports employees’ learning through “PTT Leadership and Learning Institute (PLLI)” with goals of establishing standards and developing employees capability through the management and implementation of compulsory courses for all PTT employees in the same direction.

PLLI has continually provided capacity-building courses for the management and employees to be “smart and conscientious”, leadership development grooming for organization’s growth, and staff capacity-building to prepare them for corporate core competencies and strategic challenges. It has upgraded its learning and development course structure by applying new digital learning tools and media to support business direction and strategies and maximize the development of employees’ capacity and modern management. PLLI’s course structure covers the development of all employees, from new recruits to top management, as follows:

1. Leadership Development Program is designed to prepare and accelerate the development of high-potential management team members for skills, knowledge, and ability in people and business management through learning, knowledge-sharing and experience-sharing with world-class instructors, including learning and experience sharing with top management, internal and external. Participants of this program are potential management team members selected under given criteria.

2. Core Programs are designed to develop the capacity of all employees at each level, position, and career. The supervisor must support the employee for training under this program. The program comprises compulsory courses, direction/ assignment, and essential program (personal wellness)

3. Elective Program is designed to develop the capacity of each individual needs. The line supervisor and employee will together choose the additional courses as suitable and necessary, for example, English and Presentation courses.



Summary of Human Resource Development

Hours/ person/ year					
Training hours/ person/ year	2015	2016	2017	2018	2019
Employee	55.11	68.40	40.62	73.67	78.88
Management	30.02	20.91	25.12	73.91	89.15

THB/ person/ year					
Expense/ person/ year	2015	2016	2017	2018	2019
Employee & Management	34,476.36	35,168.35	37,837.83	55,274.35	53,143.21

Fostering Positive Relations between the Management and Staff in Search of Common Goal

Communication between the management and staff comes in various forms. Needing to be aware of corporate business, obstacles, and potential repercussions, all employees should be allowed to share their views and take part in business efficiency improvement. Each year, besides the monthly labor relations committee meetings, PTT holds Joint Consultation Committee (JCC) meetings between its management team and staff of regional offices nationwide.

In addition, the President & CEO constantly holds regular meetings with employees, while PTT annually surveys employees' satisfaction and engagement for views and suggestions for improvement. PTT believes that proper communication and information exchange among all staff and management will produce smooth relations and cooperation, thus driving the organization toward goal achievement. Moreover, PTT surveys the basic human resource needs of the management and staff through the operation of various committees, such as the Human Resource Management Committee, PTT Labor Relations Committee, and Career Path Management Committee.

A survey of staff opinions was undertaken by an external human resource management adviser. There was also cooperation with PTT Group to jointly develop a database of the management as well as development plans of senior management.

The PTT Labor Relations Committee was established under the State Enterprise Labour Relations Act B.E. 2543 (2000). The committee consists of 19 members with the President & CEO as Chairman, 9 members representing the employers, and 9 members representing the employees (who nominated by State Enterprise Employees Union of PTT Public Company Limited). The committee is responsible for consideration of issues relating to PTT operations, employment conditions, employees' rights and benefits, as well as employee complaints.

PTT Group Core Values

PTT Group Core Values

PTT Group defined its core values as SPIRIT, which is significant in molding PTT management's and employees to possess' work behavior in the same direction, clearly reflecting PTT's identity of smart, conscientious and responsible for society, communities, and the nation.

Advanced digital technologies have resulted in truly challenging changes. The new business models have changed business conduct, and PTT employees, besides adhering to PTT Group core values (SPIRIT), must also adapt themselves to keep up with the rapid changes in world situation. Since 2018, PTT has added D – Digitalization in its Core Values (SPIRIT + D) to forge a corporate culture which is prepared for changes and supported its personnel to apply digital technology to work performance with the maximum efficiency, and to moving with technology and innovation drive.



Succession Planning

Because PTT is a state enterprise, the processes of nomination and appointment of the President & CEO must follow the Standard Qualifications of State Enterprise Directors and Officials Act. Directors must possess the qualifications as specified in Section 8 ter and the nominating procedures as specified in Section 8 quarter. The Board is to appoint a President & CEO Nominating Committee, with five members duly qualified and without prohibitions under the law, which nominates persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. Candidates must be legitimately qualified, without prohibitions under the laws, and must not be PTT directors, except for management team members who are directors by title. They must not be older than 58 years old on the date of application submission when the President & CEO Nominating Committee selects appropriate candidates and submits the results to the authority. The appointment must be completed within one year from the day the incumbent vacates the position. Each employment contract lasts up to four years for each term. In case of the Board willing to hire a previous management team member after the completion of his or her term as specified in the hiring contract, the nomination process is not required, but hiring the person for more than two consecutive terms is prohibited. In 2019 the Board proceeded with the nomination of the new President & CEO to replace

Mr. Chansin Treenuchagron, who will complete his term on May 12, 2020. The President & CEO Nominating Committee was appointed as required by the Standard Qualifications of State Enterprise Directors and Officials Act. Six fully qualified candidates applied for the position consisting of all PTT management personnel. The nominating process was transparently conducted in compliance with Section 8, paragraph 3, of the above-mentioned act of B.E. 2518 and its amendments. The President & CEO Nominating Committee proposed a qualified candidate to the Board for consideration. On December 19, 2019, the Board approved the Committee's proposal and appointed Mr. Auttapol Rerkpiboon as the new President & CEO, replacing Mr. Chansin Treenuchagron so, Mr. Auttapol Rerkpiboon will be assume office on May 13, 2020 for a four-year term from the date of appointment.

PTT has been grooming top management to become qualified candidates to replace the top management due to retire in the next 3-5 years. In 2007, PTT set up a Group Leader Development Program (GLDP) to develop a succession plan for potential leaders to assume higher positions of PTT Group that become vacant, namely:

- President & CEO
- Senior Executive Vice President (SEVP)
- Executive Vice President (EVP)
- Vice President (VP)

Core responsible management parties and units are as follows:

- PTT Group Management Committee (PTTGMC)
- PTT Group Management Committee-Minor (PTTGMC-Minor)
- Human Resources Group Alignment & Coordination Management Committee (HRAC)
- Human Resources Management Committee (HRMC)
- Corporate Human Resources Committee (HRC).

Performance in 2019

- Selection of SEVP pool members from potential EVPs (PTT Group)
 - 38 pool members (as of December 31, 2019)
 - 37 pool members already promoted (2008-2019)
- Selection of EVP pool members from potential VPs (PTT Group)
 - 114 pool members (as of December 31, 2019)
 - 73 pool members already promoted (2009-2019)
- Selection of VP pool members from PTT potential division managers (PTT)
 - 122 pool members (as of December 31, 2019)
 - 222 pool members already promoted (2009-2019).

Labor Disputes

No reports of PTT labor disputes have been received over the past three years.



Corporate Governance

Corporate Governance Policy

As the national energy company (officially a state enterprise) and a listed company on the Stock Exchange of Thailand (SET), PTT recognizes its vital mission of good management filled with transparency, establishing equitability among all stakeholders while striving to develop itself into a corporate governance (CG) role model. For it is convinced that CG under good management will bring about fairness, investors' confidence, create a long-term value for shareholders, boost all stakeholders' confidence, and give the corporation a most suitable, efficient, and effective management systems while enhancing its competitiveness for sustainable growth.

Ever since its privatization into PTT Plc. and distribution of its shares on SET in late 2001, the Board of Directors has adopted CG as its guiding principles. The Articles of Association of PTT state: "The Company must have and implement a policy on its business ethics, including the ethics of its Board of Directors, senior executives, the management, and employees in compliance with good CG practices as its code of conduct for the proper conduct of the organization with a high standard." PTT has issued its CG code in 2001 and revised it. It published the first CG Handbook in 2003 and delivered to each director, the management, and the employees to sign, acknowledge, and comply with. The handbook was revised regularly to improve the standard of operation to comply with SEC and SET's CG of listed companies (CG Code) as well as comments and recommendations from IOD's Corporate Governance Assessment Report, including The Organization for Economic Cooperation and Development, the ASEAN Corporate Governance Scorecard (ASEAN CG Scorecard), and the Dow Jones Sustainability Indices (DJSI),

together with best practices of leading international companies. The handbook in 4th revision was renamed "Corporate Governance, Ethical Standards and Code of Business Ethics Handbook" (CG Handbook). Essential provisions added to the handbook which were approved by the Board this year are:

- Revision of the duties and responsibilities of the Enterprise Risk Management Committee to screen and provide opinions and recommendations on investment items.
- Revision of the Anti-Fraud and Corruption Policy for PTT and PTT Group, including Fraud and Corruption Risk Assessment to cover with its core contents and guidelines embrace Fraud and Anti-Corruption.

PTT has integrated CG in its vision, mission, and core values as part of its sustainable growth strategy, to become a leading Thai energy company as the Pride & Treasure of Thailand, with a focus on transparent business and balanced stewardship of stakeholders on CG Principles.

Corporate Governance Policy

PTT duly reviewed its CG Policy and handbook to suit prevailing economic and social circumstances and requires all directors, the management, and employees to acknowledge it in writing and observe all policies in the course of their work to illustrate the commitment to practical application of such policy and code of conduct to their jobs. The Board's policy on CG is as follows:



1. The Board, the management, and all employees shall commit to the six elements of CG: Accountability, Responsibility, Equitable Treatment, Transparency, Vision to Create Long-Term Value, and Ethics. An organization structure shall fairly balances the roles of the Board, the management, and shareholders.

2. Directors must perform their duties independently with full commitment, responsibility, and independence. There is a clear division of responsibility between the Chairman and the President & CEO.

3. Playing a key role in formulating PTT's vision, strategies, policies, and key plans with due regard for risk factors and proper risk management, the Board must also ensure the credibility of PTT's accounting system, financial statements, and accounting audit.

4. The Board shall be the Role Model on ethics and CG, as well as oversee and resolve Conflicts of Interest and Connected transactions.

5. The Board may appoint specific committees to help it screen critical issues.

6. The Board must perform an annual self-assessment to obtain a scope for its performance assessment.

7. The Board must establish a code of conduct, which the Board, the management, employees, and all contract employees to observe in addition to PTT's Rules and Regulations.

8. The Board must arrange for disclosure of PTT's information both of financial and non-financial information to be carried out adequately, credibly, promptly, and fairly for all shareholders and stakeholders. The Corporate Communication and Investor Relations are responsible for providing the information to investors.

9. For fair treatment, the Board must arrange for PTT shareholders to access information through proper communication channels with PTT.

10. The Board must ensure a proper recruitment procedure for the appointment of key management personnel under a fair and transparent nomination process.

11. The Board must establish an efficient anti-corruption system to ensure that the management is aware of action and pay attention to anti-corruption, as well as complying with anti-corruption measures.

PTT publicized on the intranet and its website the latest version of its "Corporate Governance, Ethical Standards, and Code of Business Ethics Handbook" in Thai and English for the benefit of and reference for investors and foreign interested parties together with stakeholders.

1. Shareholders' Rights

As the owners, shareholders are entitled to determine PTT's business direction or decide on matters of significant impacts. Shareholders' meetings therefore serve as their key forums for the expression of views, questioning, and voting, apart from the election of directors to supervise PTT's operations on their behalf. Shareholders are entitled to attend shareholders' meetings, take adequate deliberation time, and acknowledge meeting minutes.

1.1 Shareholders' Meeting

PTT schedules an annual general meeting of shareholders (AGM) within four months of the annual closing date of its accounting books. For urgent matters that affect or involve shareholders' interests or involve conditions, regulations, or laws that require shareholders' approval, however, it can call an extraordinary meeting of the shareholders (EGM).

This Year, The AGM held on April 11 at the Bangkok Convention Center, 5th floor, Central Plaza Lardprao Shopping Complex, 1695 Paholyothin Road, Chatuchak district, Bangkok. This meeting, PTT was the first entity in the industry to receive the certification of "Sustainable Meeting" from the Thailand Convention & Exhibition Bureau (TCEB). No EGM took place this year. Also, The meeting was organized in accordance with the AGM Checklist, prepared by the Thai Investors Association (TIA), the Thai Listed Companies Association (TLCA), and The Securities and Exchange Commission, Thailand (SEC). In 2019, PTT received a full score of 100 points on AGM Checklist, for 7 consecutive years.

1.2 Delivering Meeting Notices

For this year's AGM, Board Meeting No. 2/2562 (2019) of February 21, 2019, decided to call a meeting on April 11, 2019. Its decision, meeting date, and meeting agenda



were disclosed in detail ahead of time by announcing on SET's website to notify shareholders before sending meeting notices. PTT assigned Thailand Securities Depository Co., Ltd. (TSD), its securities registrar, to mail the notices together with agenda details and accompanying documents, supplementary and supporting information for decision-making, opinions of the Board, complete minutes of the last meeting, the annual report, meeting documents, and proxy forms with complete instruction for shareholders more than 14 days before the meeting date. The meeting notices were sent on March 21, 2019 and three days before the meeting, the invitation was announced through one Thai and one English newspaper, each for three consecutive days (April 5 - 7, 2019), to allow shareholders enough time to prepare themselves for the meeting.

The AGM meeting notice and supporting documents were made available at PTT's website (www.pttplc.com) 30 days before the meeting date (starting March 11, 2019).

1.3 On the Meeting Date

Before the meeting, the Chairman of the meeting introduced the directors, the management, the external auditor, and the legal advisers who served as a neutral party and witness. The Chairman then elaborated on the voting and ballot counting for individual agenda items under PTT's Articles of Association, as well as how to vote on each item. Once information had been provided on each item, the Chairman gave a chance to all attendees to comments or recommendations and ask questions, allowing adequate time for debate. The Chairman and the management answered all questions clearly and precisely, treating all questions with due respect. For the election of directors, individual votes were required.

The Chairman ensured that the meeting proceeded by the order of the agenda and did not add any item without notifying shareholders in advance. If the meeting should decide to change the order of the agenda, it would need at least two-thirds of the votes of the shareholders in attendance. Alternatively, the shareholders with at least one-third of all subscribed shares may ask the meeting to consider other matters not mention in the meeting notice. At the 2019 AGM, the order of the agenda was not changed, and there was no request to consider any other matter.

At every meeting, the minutes must be completely and accurately recorded with the vote tally on each applicable agenda item. As a rule, a shareholders' meeting lasts 3 - 4 hours. The 2019 AGM began at 1.30 p.m., with registration beginning at 11.30 a.m. At the meeting's opening, a total of 5,189 shareholders registered, of whom 2,591 were shareholders and 2,598 were proxy holders, holding a total of 20,697,911,424 shares, or 72.464% of the total shares, which exceeded one-third of all PTT's subscribed shares of 28,562,996,250. Below is a description of meeting attendants and those responsible for issue clarification:

- All 15 PTT director attended the meeting. The Chairman presided as the Chairman of the meeting with the sub-Committee chairmen, members, the President & CEO, the Chief Operating officer, Upstream Petroleum and Gas Business Group, the Chief Operating officer, Downstream Petroleum Business Group, Chief Technology & Engineering Officer, and the Chief Financial officer together provided supporting information on stage. The Senior Executive Vice Presidents, Executive Vice Presidents, and the management of PTT Group were attended in the front rows to provide informations for relevant questions. Independent directors served as proxies for minor shareholders.
- The external auditors from the State Audit Office of the Kingdom of Thailand were Ms. Mayuree Juntamat (Bureau Director), Ms. Phakawan Sueblao, and Ms. Jirawat Prueksasuai.
- Legal advisers from Weerawong, Chinnavat and Partners Co., Ltd. (witness in charge of the examination of voting in case of disputes throughout the meeting): Mrs. Veeranuch Thammavaranucupt and Ms. Phatcharaporn Pootranon.
- Shareholder count
(as the AGM adjourned at 6.45 p.m.)
A total of 7,211 shareholders,
of whom 3,337 were shareholder
and 3,874 were proxy holders.
Total Shares represented: 23,458,184,683
or 82.13% of the total shares.

1.4 Practical Guidelines for Reporting Conflicts of Interest

As specified by the PTT CG Handbook, all directors, the management, and employees must prepare reports on conflicts of interest, consisting of annual reporting forms and a new interim reporting format in case of changes. At a given meeting, those with vested interests or conflicts of interest with PTT must inform the meeting to excuse themselves and abstain from voting on each connected matter.

At the shareholders' meetings, any director with vested interests or involvement on any agenda item must inform the meeting to excuse themselves and abstain from voting on each applicable agenda item.

1.5 Disclosure of Shareholders' Meeting Outcomes

For the 2019 AGM, PTT submitted a summary of AGM resolutions to SET and SEC on the evening of the meeting date (April 11, 2019). It also submitted the minutes of the shareholders' meeting (each agenda clearly separated), number of directors in attendance/absence, questions raised by shareholders and answers from directors, together with the voting tallies of each agenda item to SET and SEC within 14 days after the meeting. Meeting information, video-recording, photos, and audio-recording are accessible through PTT's website.

2. Equitable Treatment of Shareholders

PTT treats all shareholders fairly despite their different shareholding proportions and corresponding voting power. Shareholders' fundamental rights are conserved regardless of their gender, age, race, nationality, religion, belief, social status, physical impairment, or political inclination. At the AGM, seats at the most convenient spots were reserved for the elderly, the handicapped, and pregnant women, with officers attending to their needs. Information on the shareholders' meeting was announced ahead of the meeting in Thai and English. Directors with vested interests on any agenda item must excuse themselves from the meeting on that item. All shareholders have equal rights to take part in PTT's activities.

2.1 Proposing Additional Meeting Agenda Items and Nominating Directors

To enable minor shareholders to take part in business oversight, for the 2019 AGM, PTT has defined the criteria and consideration process for entitling them to propose meeting agenda items or nominate directors in advance, or both, so as to deliberate agenda items that could prove useful to PTT, including the selection of qualified directors to perform their duties efficiently in the maximum benefit of PTT, the shareholders, and the stakeholders. In practice, shareholders with a combined holding of at least 5% of the total eligible votes or at least 1 million shares held uninterrupted for at least one year could propose agenda items or nominate directors before the AGM from September to November of 2018, in case the nomination of directors might need the approval of the State Enterprise Policy Office (SEPO), as required by the regulation of The Prime Minister's Office on State Enterprise Policy and Monitoring B.E. 2557 (2014).

For this year's AGM, PTT posted such criteria on its website and an announcement on SET's website from September 1 to November 30, 2018. However, this attracted no recommendation of such agenda items or nomination of directors, and the Company Secretary duly informed the Board meeting on the matter.

2.2 Facilitating Shareholders at the Meeting

As in previous AGM at the 2019 AGM PTT facilitated all shareholders by manning officers to welcome and take care of them, and provided adequate convenience. The meeting venue was well chosen to accommodate all shareholders and facilitate the elderly and those on wheelchairs. Back-up meeting rooms were arranged, as was a signal relay system between meeting rooms. Security precautions and emergency contingency plans were in hand. Examination of registration credentials was available seven days in advance. Officers provided photocopying services and verified documents. On the meeting day, registration opened two hours early and extended until the period before the last meeting agenda. A barcode system facilitated registration and voting. Refreshments were also provided for the shareholders at the meeting.

Since most shareholders at the AGM were Thais, it was conducted in Thai. However, for the benefit of foreign shareholders, PTT commissioned the translation of shareholders' meetings, supplementary documents, and relevant documents into English. Its website is also bilingual. It also provided officers with a good command of English on hand at meetings to facilitate foreign shareholders. If shareholders cannot communicate in Thai but want to pose queries or discuss topics at the meeting, PTT arranges for suitable communication and provides translation into Thai for both queries and answers for the benefit of other shareholders to preserve their rights and ease communication needs for foreign shareholders.

2.3 Appointing Proxies

To maintain the rights of those who could not attend the 2019 AGM in person, they could appoint proxies or delegate their votes to any independent director in attendance. To this end, PTT has specified these independent directors' names on proxy forms defined by the Ministry of Commerce for voting on behalf of shareholders without conditions. PTT treats proxies as if they were shareholders. As a rule, 30 days before each meeting, PTT discloses the proxy form, attached with details and procedures, on its website. Shareholders may make further inquiries about this by phone or through other channels such as PTT's website and e-mail.

3. Roles toward Stakeholders

As the national energy company, PTT accounts for all stakeholders' rights and interests by establishing guidelines for addressing the needs of each group in and outside the corporation, as well as its own responsibility for society and the environment. The following spells out PTT Group's missions for each group:

The country:	Ensuring long-term energy security by providing adequate high-quality energy supply at fair prices to support economic growth.
Communities and society:	Representing a corporate citizen by exercising environmental stewardship of international standards and improving the quality of life for communities and society.
Shareholders:	Operating profitable businesses that lead to sustainable growth while generating optimal returns.
Customers:	Ensuring customers' satisfaction and loyalty by delivering world-class quality products and services at fair prices.
Business partners:	Conduct fair practices with all partners while promoting trust, relationship, and cooperation to extend business capability and increase efficiency in long-term business partnerships.
Employees:	Promoting professional capacity-building and ensuring that employees' wellbeing is on a par with those in other leading companies in order to strengthen employee engagement.

3.1 Treatment of Six Main Stakeholder Groups

3.1.1 Thailand

As the national energy entity with a crucial mission to drive the country under the national strategies and the "Secure, Prosperous, and Sustainable" Thailand vision, PTT is tasked with a mission to achieve long-term energy security through supply of energy of sufficient volumes, standard quality, at fair prices, and in support of public policy to promote national economic growth. Its major operations are listed below.



1) **Energy Security:** PTT leverages its investment budget to relentlessly develop energy infrastructure to accommodate rising energy consumption, including growth in natural gas transmission systems and capacities, LNG-receiving terminals, power plant investment, and pursuit of an ASEAN LNG trading hub, together with investment in emerging businesses, including the battery and clean energy businesses. In sourcing energy supplies to meet domestic demand, PTT executes risk management plans for supplies from various sources to ensure adequate volumes, quality, and standards, including sourcing of natural gas to cover indigenous deposits, imports from neighboring countries, or power business growth both of domestic and international countries to support the national energy demand.

2) **Public policy support for economic growth and national competitiveness** along with support for the national grassroots economy closely with the public sector. The key actions of 2019 are as follow:

- **EECi:** PTT is the key partner of the National Science and Technology Development Agency (NSTDA) in planning, developing, and administering the Wang Chan Valley serve as Research and Development city in the Eastern Economic Corridor of Innovation (EECi) to become a domestic and regional trade and investment hub. To this end, PTT pursues the target of establishing new industries to accommodate a research hub on automatic, robots, and smart systems (ARIPOLIS), a research and innovation hub on biosciences and biotechnology (BIOPOLIS), an innovation hub on space technology and geo-information (SPACE INNOPOLIS), and a food innovation hub (FOOD INNOPOLIS) – all to transform the industrial sector to the Thailand 4.0 age. In addition, PTT mobilized initial funds for InnoSpace (Thailand), a national agency for incubating, developing, and upgrading startups in Thailand.
- **Project on State Welfare Card – LPG for low-income earners:** PTT, the Ministry of Energy, and the Ministry of Finance modified the assistance method for providing LPG discounts to the target group (low-income earners) by providing such discounts only to vendors, hawkers, and street stall owners holding such cards. This eases their costs of living, stimulate the grassroots economy, and promotes low-income earners' livelihoods.

- **B10 diesel support:** PTT piloted and actively drove the growth of PTT Stations with sale of B10 biodiesel. Besides costing less and being more environmentally friendly, B10 gives income to oil palm growers, thus contributing to the grassroots economy.
- **Thai Det Project:** PTT, the Ministry of Commerce, SME Bank, Bank of Agriculture and Agricultural Cooperatives, and Thammasat University secured areas on the premises of service stations for sales outlets of goods, food, and handicrafts from several localities sold by social enterprises.

3.1.2 Society and Communities

PTT is committed to driving Thailand through enhanced national energy security and economic growth in parallel with a better quality of life for society and communities by applying SDGs of the United Nations, the 2018-2037 National Strategies, and the result of surveys of PTT Group stakeholders', society's and communities' needs and PTT Group's skills as guidelines for social development endeavor. Mainly, the focus is on people development (People) to possess sufficient skills to live in the 21st century through promoting learning innovation in and outside classrooms and developing their skills so as to upgrade their quality of life to self-reliance through livelihood promotion and renewable-energy promotion. In addition, PTT supported the conservation and restoration of natural resources and the environment (Planet) by raising the awareness of and cooperation in the conservation of nature and the ecosystem in environmental restoration, in urban and rural areas alike. This included the continual reforestation of 1 million rai for fertile forests and reduction of impacts of climate change.

Details about these sustainable efforts are illustrated under "Corporate Citizenship" in the 2019 Corporate Sustainability Report.

3.1.3 Shareholders

PTT remains firmly committed to being a Pride & Treasure of Thailand through the management of 3P: People for human resource development, Planet for stewardship of natural resources and environment in balance with the well-being of the Community and Society, and Prosperity for service as a platform for economic and social sector. Its business is engaged with good governance and balanced stewardship of its stakeholders in pursuit of Sustainable Growth for All to ensure investors that PTT provides sound investment returns and is sustainable, apart from being a part of Thai society in the future.

Investors' Activities

Since 2006, PTT has arranged ongoing trips for minor investors to visit its operation, update information, and meet the management as well as participating in PTT's CSR activities in Rayong.

In 2019, PTT organized the activity on October 29 - 31 by mailing letters of invitation and response forms to all shareholders whose names appeared on the share roster on the record date for the 2019 AGM attendance (March 7, 2019). Interested shareholders were asked to notify PTT of their interest in the visit. But due to the overwhelming interest shown by shareholders (about 4,907 persons), PTT had to draw lots to select those who won the right to visit, as done in past years. Witnessing the draw on September 17 were the Corporate Governance Committee, executives, and CG taskforce members. The winners' names were posted on PTT's website. PTT notified the winners by phone to confirm their acceptance. This activity involved 450 shareholders' visits (three groups of 150 persons each) to the Kamnoetvidya Science Academy (KVIS), Vidyasirimedhi Institute of Science and Technology (VISTEC), and Wang Chan Forest Learning Center, Wang Chan district, Rayong province, to hear a presentation about their operations. PTT will apply shareholders' recommendations to the improvement of its work next year.

Those interested in visiting PTT's sites can follow project updates and details on PTT's website. PTT reserves the rights to invite only those that have never taken part in this activity.

Activities for Debenture Holders

Since 2010 PTT has staged ongoing debenture holders' activities to serve as a channel for maintaining cordial relations with them and repay them for the confidence in PTT bonds over the long term. In 2019 the activities were diverse to meet the needs of debenture holders, who numbered over 18,000, including:

- The "happiness" quarterly journal, which communicates corporate data, provides energy knowledge, and edutainment articles, was found to be highly suitable and satisfactory by target debenture holders.
- Two visits to PTT's business operation. The first was a trip to gas separation plants and the Amazing Winter City Flower Tulip in Rayong in April; the second, to KVIS, VISTEC, and the Wang Chan Forest Learning Center Project in Rayong in October, both of which were found intriguing by visiting debenture holders.
- Relations activities, including seminars and workshops, particularly concerts, which consistently met with excellent responses. In 2019 PTT staged The XXL Concert to commemorate its 10th anniversary of its series of concerts. In addition, it organized a stage drama (The Musical of Love) commemorating PTT's 40th anniversary, narrating PTT's existence through thicks and thins; PTT supported a royally bestowed Khon cultural show from the epic Ramayana (Sueb Munkha episode). Finally, it supported a puppet show entitled Taleng Phai.

PTT is committed to raising its efficiency and satisfaction of debenture holders by adding the PTT Debenture Mobile Application channel for them to access data of the PTT Debenture Club, including data on debenture holding, maturity dates, application and verification of the rights to attend activities, personal data, and online magazine subscription. These channels indeed helped raise data access efficiency.

Activities for Institutional Investors

In 2019, besides investors' meetings to inform institutional investors and securities analysts about its quarterly performances, PTT organized annual company visits to PTT Group companies and meetings with its executives in September, namely a visit to IRPC's Residue Deep Catalytic Cracking Plant (RDCC Plant: UHV), GC Polyols Lab & Innovation Center, GPSC's Gheco-One Power Plant, and PTT's strawberry farm in Rayong. In October, it organized a trip to PETRONAS's MLNG Complex, PTT Global LNG Company Limited, equally owned by PTT and PTTEP under the Liquefaction Train 9 Project, and a visit to PTTEP's Bintulu Onshore Receiving Facility (BORF) in Sarawak State, Malaysia. These trips were designed for investors and analysts to learn about PTT Group's business directions and opportunities, as well as PTT Group's cooperation for national energy security.

3.1.4 Customers

PTT divides its market into both of domestic and overseas. Its core products are natural gas products and petroleum products. These are sold to customers of the International Trading Business Unit, Gas Business Unit, and Infrastructure and Sustainability Management Business Group, with two major groups of customers: Business to Business (B2B) and Business to Customer (B2C).

PTT listens to customers' needs and expectations to analyze them through assorted channels, including customer visits, seminars, and opinion surveys. These provide information on competitors, state of competition and technology, customers' behavioral trends and lifestyles, the market environment, and future needs of customers. All input is reviewed together with other information, namely situations and trends of energy economics, public policies, regulations, technological innovations, and financial and economic data for the design of products and services that match the needs and expectations of current and future customers.

Constantly, PTT developed support systems to ease customers' transactions with it, including the e-Billing, e-Payment, and Direct Approved systems designed to help customers search for information on getting support and engagement in transactions round the clock, efficiency improvement of the Order & Customer Relations Center through the iMind System, which links all related information centers, including e-mails, the website, and PTT Fleet Card member data, so that Contact Center officers can swiftly respond to customers with accurate and timely data.

PTT also developed a service standard manual and procedure manual that are comprehensive, including a manual on service station standard, LPG bottling, and Contact Center standard. In place are procedures for periodic assessment against service standards under QSHEMSC, Mystery Shopper, and Gas Control to ensure that its personnel can regularly provide good experience to customers

PTT developed means to foster relations with customers that suit each life-cycle of customers, designed to lead to repurchase and "word of mouth" to others, which form the ultimate goal. In place is PTT satisfaction and engagement assessment in comparison with competitors via the annual satisfaction survey, featuring constant query development. To this end, PTT considers the outcomes directly with customers' purchasing behavior to allow survey outcomes to reflect current operations while extending future businesses more clearly. Customers' dissatisfaction has been regularly compiled and analyzed, including the Contact Center and customer visits so that PTT may know trouble indicators and promptly resolve problems, preventing losses of customers or competitors' intervention.

PTT groups complaints by severity of impact, with defined service level agreements for different types of complaints, for which relevant units must resolve problems within given periods. All complaints must be addressed within 24 hours, and after problem resolution, an inquiry will be made to customers to determine their satisfaction with PTT's problem-solving. At the same time, customers will learn about PTT's long-term problem-solving plans. This ensures that customers are satisfied and will continue to buy PTT's products and services in the future.

Constantly paying attention to customers' convenience and safety, PTT launched projects like the PTT Tune up Project, under which free engine checks and tune-ups are given.

Customer Satisfaction Survey (%)

Unit: %

	Natural Gas					International Trading
	Natural Gas	Power Plant and Wholesale Market	Industry	Petroleum and Petrochemical Products	NGV	
Satisfaction level 2019	92.2	90.6	92.7	93.1	88.4	96.2
Satisfaction level 2018	90.6	87.8	91.2	94.4	88.1	91.0
Satisfaction level 2017	92.0	90.7	92.2	93.7	91.0	88.3

3.1.5 Business Partners

Since business partners are keys to business success through mutual support, PTT values and treats them fairly on the basis of fair competition, mutual respect, and good cooperation. PTT strictly complies with contracts and procurement processes, since they are vital to the determination of expenses and the quality of PTT products and services. A clear procurement procedure is in place to ensure transparency, accountability, and maximum benefit.

To achieve its resolution, PTT is committed to doing business for sustainable growth in parallel with good governance for communities, society, and the environment. It therefore values supply chain management such that it is clearly in place by developing risk management processes and mitigation of impacts arising from business partners' business conduct to support the success of supply chain management. The key factors for the drive are as follows:

1. Clear policy and directions

This means PTT's policies and strategies are key factors for forging awareness among employees and society of PTT's commitment and business directions. Therefore, in 2015 PTT issued a PTT Group policy on procurement and sustainable business partner management.

So that PTT's business partners' business conduct guidelines may be more in line with, and more suitable for, the sustainable organizational management concept, the company revised the PTT Supplier Sustainable Code of Conduct (SSCoC) and announced its third edition on August 3, 2015, defining the contents and scope under applicable regulations and laws, together with the aspects taken seriously by PTT, consisting of four main topics:

1. Business Ethics
2. Social Responsibility
3. Safety
4. Environmental Management.

2. Sustainable business partner selection and management process development

To align supply chain management with corporate directions, PTT manages its business partners with due regard for ESG (Environmental, Social, and Governance) impacts. Assessing risks and impacts from the perspectives of the environment, society, and oversight of goods and services groups, PTT divides business partner management into three levels: critical, key, and managed (in order of potential severity of impacts). For those in the critical group, management actions will be more intensified than the other groups. Besides formally acknowledging the guidelines for sustainable

treatment of PTT's business partners, they must respond to the Sustainability Performance Assessment Form. After self-assessment, if they fail, they will need to formulate ESG Corrective Action Plans. PTT reserves the right to audit business partners' self-assessment outcomes. This year a PTT team in conjunction with a third-party agency conducted sustainability assessment of 12 "critical" business partners. Overall, their scores passed the criteria set by PTT. A project designed to develop business partners' sustainable operation caliber was launched, under which PTT selected major business partners whose operations involved ESG for training on sustainability capability development of business partners and practices on sustainability capability self-assessment for development planning in line with PTT's policy. In addition, PTT commands a policy on green procurement conforming to the public sector. A system was developed in support of green procurement through the PTT Vendor Management system. This system compiles green spending data. Vendor who won from price bidding can report their choices of green products in serving PTT, with effect from March 1, 2019. As of the year-end, 42 tasks were related to such green spending and green products, valued at some THB 327 million.

In addition, to illustrate PTT's "pride" action in being a transparent company, it joined public agencies in preventing and suppressing corrupt practices by signing a memorandum of cooperation on driving the prevention and suppression of corrupt practices with the Office of the National Anti-Corruption Commission (NACC), State Enterprise Policy Officer (SEPO), and state enterprises to ensure that the national strategy on prevention and suppression of corrupt practices, relevant measures, relevant government policies, and action plans are successfully driven to implementation in state enterprises under CG. To this end, for the provision and disclosure of information on procurement, PTT disclosed related data in compliance with an announcement of the panel on public information on the requirement that information about the outcomes of procurement deliberation of public agencies must be open to the public under Article 9 (8) of the Public Information Act of B.E. 2540 (1997). Disclosure is to be done monthly through the www.pttplc.com website for

public examination. Note that PTT's procurement information disclosure is subject to annual assessment through a project on Integrity and Transparency Assessment (ITA), sponsored by NACC. This year's score for PTT was 100% on procurement information disclosure, based on the assessment of visual evidence inspection.

Since August 24, 2017, PTT has complied with the Public Sector Procurement and Materials and Supplies Administration, B.E. 2560 (2017). It therefore amended its own processes by requiring the disclosure of its annual procurement plan for interested parties to join in price bidding contests at PTT and manage their bidding readiness. PTT has disclosed its 2019 annual procurement plan via three channels: www.pttplc.com, e-Government Procurement (e-GP) of the Comptroller General's Department, and bulletin boards at PTT offices.

PTT has appointed a Procurement Governance and Audit Committee to ensure transparency of procurement, both those requiring compliance with Public Sector Procurement and Material Supplies Administration laws and those direct commercial procurement requiring compliance with PTT regulations already approved by the Public Sector Procurement and Materials Supplies Commission. The committee consists of executives from procurement and legal units and the Office of Corporate Audit, with roles and responsibility to govern and audit procurement processes to ensure compliance with laws, regulations, criteria and relevant processes. Annually, the committee inspects procurement processes randomly to detect deficiencies, causes, and preventive measures. In 2019 the management was committed to the transparency organization vision. Each department was required to set KPIs for procurement compliance to ensure that such procurement is worth the value, transparent, fair, efficient, effective, and auditable.

A system is now in place, called Material Receive (MR) on Web, through which user units assess business partners in assorted aspects, including quality, delivery, service, performance, SSHE, and sustainability. Initially, assessment outcomes will be released to registered business partners for further improvement.

3. Capacity-building of relevant parties

Since the mastery and caliber of relevant parties represent another key factor driving the success of this matter, PTT values capacity-building on procurement and management of business partners by PTT's own executives and staff in a systematic and suitable way. This is achieved through training, communication, and knowledge management (KM) so as to achieve the sustainability objectives of business partner management. In addition, PTT establishes business partners' readiness and communicates with them in parallel so that they may prepare themselves for developing their own businesses along the sustainability approach (PTT Supplier Sustainable Code of Conduct).

To promote the sharing of data and knowledge between PTT and business partners while nurturing their caliber to support PTT's success in outcomes, business continuity, and social responsibility, this year PTT has staged Supplier Relationship Management Seminars (SRMs) to communicate PTT's business direction under GRC for transparency, fraud-free execution of tasks, suitable complaint channels, and education on the types and methods of procurement together with channels accessing procurement data of suppliers. This year PTT communicated and educated suppliers on the new procurement system under the Digital Procurement Project, including an overview on the premises of the Rayong gas separation plant, Gas Transmission, and NGV for Vehicles (a total of four exercises). Specifically, they touched on business policy and direction, as well as the electronics system of procurement for their readiness for the new system. Besides, training on ISO 20400 sustainable procurement by Management System Certification Institute (Thailand) (MASCI) for 34 employees of the procurement function and related units was organized. Such standard system focuses on sustainable procurement to develop relationship between suppliers and PTT.

PTT requires price bidders to strictly conform to the rules of work safety and handling of tools, as well as other regulations, particularly the types of work affecting health, safety and the surroundings. PTT visits business partners' sites to assess their capabilities, particularly those on the QSHE side. In addition, business partners' employees must undergo the do's and don'ts on PTT's sites in addition to conforming to the requirements for entering sites to work, as described for each.

A PTT Approved Vendor List (PTT AVL) is prepared for the benefit of procurement through bidding to ensure that, under the process to determine business groups and procedures or methods of selecting business partners to register for PTT AVL, business partners are efficient and deliver products/services that meet PTT's requirements and foster sustainable partnership with PTT. This year the PTT AVL consisted of 233 companies from 19 business groups.

To ensure efficient preparation of PTT AVL, PTT considers criteria, conditions, qualifications of business partners who apply to PTT AVL in each business group. The initial qualifications of the business partners must meet the following requirements:

1. Business partners must not have abandoned the work of PTT, the public sector, state enterprises, and government agencies.
2. If business partners were removed from the Vendor List, they have no rights to apply for registration in that particular business group for three years. An exception applies if the removal was the result of abandoning the work of PTT, state enterprises, and public agencies, in which case PTT will not accept them to PTT AVL until PTT receives a letter proving the cancelation of such removal.
3. Business partners must understand and acknowledge PTT Suppliers' Sustainable Code of Conduct (SSCoC).

Apart from these initial criteria, PTT assesses business partners' operations and sustainable implementation in parallel.

After business partners deliver products/services in each allotment, PTT will assess them and notify them of the strengths/improvements to be made in operation for future supplier development.

Moreover, PTT supports Thai suppliers of goods and services and gives them the top priority. Past procurement information reveals that PTT has procured about 90% of local products, generating cash flow in the Thai economic system, promoting procurement of products from the areas where PTT sites are located, and promoting jobs and generating income for people in the communities.

3.1.6 Employees

(The information on employees is reported under Management Structure/ Employees).

3.2 Respect for Universal Human Rights Principles

PTT requires that all its directors, the management, and employees observe laws, customs, and cultures which differ in each country where PTT invests and strictly respect universal human rights principles under the Universal Declaration of Human Rights. This is the minimum requirement of PTT's business operations.

In 2017, to ensure complete and proper compliance by PTT with laws and regulations, PTT established a Compliance Department under the Office of General Counsel to compile laws and regulations, assess risks, support corporate units in proceeding with defined approaches, monitor and inspect, and report on compliance outcomes to the top management and relevant committees.

With the rollout of the human rights management system since 2017, PTT has reviewed risk aspects on human rights covering PTT Group's business operations under the PTT Group Way of Conduct of 15 group companies in 14 countries, or a total of 30 areas. What the group found were aspects that represented core operational risks: safety and occupational health, migrated labor, security, suppliers' workplace conditions, standard of living of communities, and the rights of natives. Control measures have been developed and applied, along with human rights management plans to keep risks manageable. As assurance of the maximum effectiveness, implementation of such a plan is to be monitored every quarter. So, this year no human rights complaints arose. Constantly, it disclosed operating information under the 10 Principles of the United Nations Global Compact. Finally, PTT enrolled in the effectiveness assessment of operating outcomes on human rights organized by Corporate Human Rights Benchmark, with the outcomes also encouraging.

3.3 Significant Disputes with Stakeholders

This appears under "Legal Disputes", disclosed in Form 56-1

4. Disclosure of Information and Transparency

Disclosure of information is a key index of operating transparency, a crucial factor for confidence among investors and stakeholders. PTT values accurate, precise disclosure of information and creates numerous channels of disclosure so that all stakeholders can gain easy access to information. It promotes awareness among directors, the management, and employees of the importance of CG and transparency to their work, and creates appropriate tools to receive complaints while providing fair treatment to whistleblowers and those complained against as follows:

4.1 Financial and Non-financial Reports

PTT prepared the 2019 Corporate Sustainability Report to disclose the outcomes of economic, social, and environmental operating performance, based on the Sustainability Reporting Guidelines and Oil and Gas Sector Disclosure (OGSD) of the Global Reporting Initiative (GRI). It presented data under the Integrated Reporting (IR) model of The International Integrated Reporting Council (IIRC) along with reporting progress on the 10 Principles of UNGC, and illustrating PTT's commitment to supporting the UN SDGs. Further, PTT applied the Recommendation of the Task Force on Climate-related Financial Disclosures (TCFD) to report performance on climate change. There also was a report review to validate the information by an external party regularly. This report and the annual report were delivered to the shareholders this year and are accessible to those interested via www.pttplc.com, GRI and UNGC.



4.2 Investor Relations

Ever since PTT's privatization and share trading on SET in October 2001, the Investor Relations Department has been established as a center for disclosing essential information to investors and shareholders, including financial data like quarterly performance and financial statements, Management Discussion & Analysis (MD&A), Corporate strategies, and outlooks of PTT. These are disclosed with regularly, fairly and thoroughly. Investors may contact Investor Relations Department directly at phone number 0-2537-3518-9, e-mail: ptt-ir@pttplc.com, and PTT website at www.pttplc.com, which is regularly updated, for information in Thai and English, which includes:

- Company information
- Annual report (Form 56-2)/ Form 56-1
- Information for common-share holders
- Information and activities for debenture holders
- Presentations and webcasts
- Roadshow/ conferences
- Analyst Research
- Activity Calendar
- Code of Conduct for Investor Relations
- Major investment project information
- Policy and business direction statements by the management
- Compliance with public policies
- Key plans
- CG policies and promotional activities
- Financial performance
- Non-financial performance
- Highlights of CSR activities.
- Procurement
- Name and contact number of Investor Relations.

Through the years, PTT has valued disclosure of information that is accurate, complete, transparent, and comprehensive, as well as continual direct and indirect presentation of performance while keeping investors, shareholders, and relevant parties informed of its data. Highlights appear below:

- **Direct:** PTT regularly reports performance, capital budgets, and industry outlooks to analysts, investors, and employees at quarterly analysts' meetings; conference calls as requested; local and international roadshows/ conferences organized by domestic and international financial institutions; company visits by analysts, investors, or related parties, or all, including credit rating agencies; press meetings, to inform about performance outcomes and investment projects; basic business knowledge involving PTT; site visits; and SET's Opportunity Days. This year PTT applied digital technology to investor relations work, including quarterly analyst meetings via Facebook Live (in Thai and English); provision of data to analysts and institutional investors; and automatic written conversations through the PTTIR LINE Chatbot, with extra convenience, cost reduction, and travel time reduction for analysts and institutional investors. PTT also participated in the SET Digital Roadshow, organized by SET. This year, these key activities took place:

Activities	2018 (times)	2019 (times)
Analyst Meetings via Facebook Live	4	4
Conference calls (presentation of quarterly performances, capital investment, and other key events)	5	5
Domestic roadshows/ conferences (including provision of basic PTT business knowledge)	12	14
International roadshows (including video conferences)	14	9
Company visits/ conference calls (upon request)	55	57
Credit rating reviews	4	4
Press meetings	2	2
Company visits by analysts and institutional investors	4	4
e-mail/ phone calls	8 - 10 times/day	8 - 10 times/day
Quarterly SET Opportunity Days and SET in the City	5	5
Participation in SET Digital Roadshow (organized by SET)	4	4
Minor investors' meetings with the management and company visits	One visit (2 groups), Oct. 30 - 31	Two debenture holder visits (2 groups), Apr. 18 - 20 & Oct. 16 - 18 One shareholder visit (3 groups), Oct. 29 - 31
Relations activities with debenture holders	15	17

• **Indirect:** Information about PTT, its performance, financial statements, and reports filed with SET are found at www.set.or.th, PTT's website www.pttplc.com, the "happiness" magazine for debenture holders (via the PTT Debenture Application).

- Investors and interested parties can also mail inquiries to Investor Relations at Tel. 0-2537-3518-9, through e-mail at ptt-ir@pttplc.com or PTT website at www.pttplc.com.

In addition, PTT has constantly publicized news, business activities, operation and project updates, apart from addressing questions and facilitating contacts for the media and the public. In 2018 - 2019, the activities appear below:



Activities	2018 (times)	2019 (times)
E-mails	225	186
News/photo releases	225	186
Press conferences	12	22
Media visits to operations (domestic and international)	6	3
Welcoming and information provision to visiting agencies for assorted purposes	65 groups (3,026 persons)	64 groups (2,521 persons)

4.3 Complaint-Filing and Access to Information

All stakeholders have equal access to PTT's public information, including reporting of news and leads, whether inside PTT through the intranet webboard or outside PTT through its website, by phone, letter, or e-mail. Please contact Investor Relations, Office of the President, Corporate Communication and Branding, Governance, Risk Management and Compliance (GRC), or the Ordering & Customer Relations Center through these channels:

Telephone : 1365 Contact Center, 0-2537-2000

Website : www.pttplc.com

e-mail : - Ordering & Customer Relations Center: 1365@pttplc.com
- Corporate Communication and Branding Department: corporate@pttplc.com
- Office of the President: corporatesecretary@pttplc.com
- Investor Relations: ptt-ir@pttplc.com
- GRC Hot Line: GRChelpdesk@pttplc.com

Line@ : @contact1365

Queries, comments and recommendations will be forwarded to relevant agencies to be addressed through the complaint management system. Follow-ups on the actions are done through e-mail every three days. If the actions are not completed, a notification will be sent to a higher level of supervisors for action. When completed, responsible units will notify the contact person(s), with another follow-up to find out about their satisfaction with the services of Contact Center officers, which will help improve information system management. The management tracks all information every month to detect trends and apply them as an approach for refinement of processes, products, and services in response to all stakeholders. This year, excluding complaints about PTT Oil and Retail Business Plc, queries, comments, and recommendations received totaled 16,878 mostly concerning discount cards, energy credit cards, and service station data.

PTT offers opportunities for the public to file complaints about improper behavior of directors, the management, and staff or their violation of PTT's code of conduct. They are to be directed to the Audit Committee, Office of Corporate Audit, GRC, or Human Resources Department. PTT treats all complaints with equality, transparency, attention, and fairness to all concerned. An appropriate timeframe to consider the complaints is set, and secrecy and protection of whistleblowers will be observed. No significant complaint on ethics was filed this year.

In 2018 the Board approved the structure of Corporate Governance and corporate relations by appointing the Good Governance and Corporate Ethics Department to centralize whistleblowing: filing incidents and tips, following up on complaint-handling, protecting and ensuring fair treatment of whistleblowers or those who provide tips on corruption in the company, reporting investigations and the punishment to the management and applicable committees, and informing relevant parties of the results. In 2019 there were 21 cases filed; after reviewing under the process, 16 found no grounds for corruption, and five were under investigation (these were about non-compliance with PTT's Rules and Regulations).

Committees, Directors' Assessment, Directors' Development

1. Committees

The Board values CG by initially appointing the Audit Committee, the Nominating Committee, and the Remuneration Committee. For a period, the Audit Committee also looked after CG matters and risk management for the Board.

In 2004 the Board set up a Corporate Governance Committee, charged with promotion and screening of CG and promotion of excellence in such areas. In 2013 it set up the Enterprise Risk Management Committee (ERMC) to ensure clearer implementation of corporate risk management in compliance with the CG of listed company and the State Enterprise Policy Office's (SEPO) guidelines on the CG of state enterprises (2009). PTT today therefore has five committees investigating critical matters under the CG principles for the maximum benefit of shareholders, taking into account stakeholders' concerns and interests, business ethics, transparency, and accountability. Each of these committees consists of qualified, non-management directors as required by SET, with clearly written roles and responsibilities in a charter. Since 2009, the duties of the Corporate Governance Committee have been expanded to cover additional policies, implementation, and monitoring of the operation on responsibilities for society, communities, and the environment so that the committee may be responsible for the stakeholders in a more comprehensive and efficient way. In 2013 the duties of this committee also covered the definition of

guidelines for CG monitoring concerning PTT's counter-corruption implementation. In 2015 - 2016, the Board updated the authorities of the Nominating Committee, Remuneration Committee, Corporate Governance Committee, and Enterprise Risk Management Committee. In 2017 the Board approved Enterprise Risk Management Committee's steering of stakeholder management as an additional mandate. And this year, the Board approved Enterprise Risk Management Committee's responsibilities to include the screening and commenting on investment items.

PTT has appointed five committees with the following duties and responsibilities:

1.1 The Audit Committee

Each quarter, together with the Accounting Service Center and the State Audit Office of the Kingdom of Thailand, the Audit Committee reviews PTT's financial reports. The Board is accountable for PTT Group's consolidated financial statements as well as other financial information presented in the annual report. The financial reports are prepared under generally accepted accounting principles and are audited and certified by the State Audit Office of the Kingdom of Thailand. Material information, financial and otherwise, is completely and consistently disclosed.

The Board approved the appointment of the Audit Committee on October 1, 2001, which consisted of directors with the qualifications specified by SEC laws and SET. The committee must consist of at least three directors. As of December 31, 2019, it consisted of three independent directors as follows:



Name	Position	Remarks
1. Mr. Vichai Assarasakorn	Chairman	Independent director
2. Mrs. Nuntawan Sakuntanaga	Member	Independent director
3. Mr. Danucha Pichayanan	Member	Independent director

The Executive Vice President, Office of Corporate Audit served as secretary.

Remarks:

1. Mr. Vichai Assarasakorn was appointed member with effect from September 4, 2014, and appointed Chairman with effect from April 11, 2019.
2. Mrs. Nuntawan Sakuntanaga was appointed member with effect from July 5, 2014. She commands sufficient expertise and experience to review and ensure the accuracy and credibility of PTT's financial statement, with experience as member of the PTT Audit Committee since 2014.
3. Mr. Danucha Pichayanan was appointed member with effect from April 11, 2019. He commands sufficient expertise and experience to review and ensure the accuracy and credibility of PTT's Financial Statement, with experience as member of the Audit Committee of Provincial Electricity Authority.

Duties and Responsibilities

- Prepare a charter on internal audit for the Audit Committee compatible with PTT's scope of work and responsibilities. The charter must be approved by the Board and revised at least once a year.
- Review the efficiency and effectiveness of CG, risk management, and internal control processes.
- Review PTT's financial reporting process to ensure accuracy and credibility.
- Review compliance with laws, regulations, procedures, cabinet resolutions, SET requirements, SEC laws, and announcements or directives relevant to PTT's businesses.
- Ensure sound internal audit procedures and review the adequacy of the budget and personnel and the independence of the Office of Corporate Audit.
- Consider connected transactions or transactions of potential conflicts of interest or potential corruption affecting PTT's operations under the laws and SET's requirements.
- Provide recommendations to the Board on the appointment, transfer, promotion, and assessment of the head of the Office of Corporate Audit.
- Select, nominate, and recommend fees for the external auditor to the Board.
- Coordinate audit findings with the external auditor and recommend reviews or verification of any items, if necessary.
- Report internal audit performance to the Board at least quarterly, except for the fourth quarter, which is reserved for the annual report. The reports must be submitted to the regulating ministry and the Ministry of Finance for acknowledgment.
- Evaluate its own internal audit performance at least once a fiscal year and report the results to the Board.
- Disclose a report on its annual performance and the fees of the external auditor in the annual report.
- The chairman or members of the Audit Committee must attend shareholders' meetings to address matters related to the committee or the appointment of the external auditor.
- Ensure that the management has a whistleblowing mechanism for complaints and supervise the system of complaints.

- When it is necessary to provide its opinions on PTT's assorted operations, seek independent opinions from or hire advisers or specialists at PTT's expenses.
- If internal reports show any sign of violation against laws, regulations, procedures, Cabinet resolutions, announcement, or directives relating to PTT's businesses, the top management must be informed and responsible unit(s) ordered to take due actions.
- Hold the committee meetings at least every quarter and a meeting with the external auditor in the absence of the management at least once a year.
- Hold a formal meeting with the management at least once a year.
- Perform other tasks as required by the law or as assigned by the Board within the committee's scope of duties and responsibilities.

These are in line with PTT's Articles of Association on the Audit Committee and the Office of Corporate Audit 2014.

This year the committee held 16 meetings and duly reported its findings to the Board. In addition, it participated in quarterly audits along with the external auditor and the Accounting Service Center.

The Audit Committee has reported this year's performance in the Report of the Audit Committee section.

Remarks:

In practice, PTT is a state enterprise under the definition of the Budgetary Practice Act, B.E. 2561 (2018), Article 4, interpreted by an organic law concerning the auditing of state budget, B.E. 2561 (2018), Articles 4, 53, and 91, which state that the State Audit Office of the Kingdom of Thailand is authorized to audit financial reports in accordance with the Policy on State Budget Auditing and Standard Regulation, defined by the State Audit Commission and the Finance and Fiscal Discipline Act B.E. 2561 (2018).

1.2 The Nominating Committee

The Board approved the appointment of the Nominating Committee on October 1, 2001, by appointing three directors. As of December 31, 2019, it consisted of:

Name	Position	Remarks
1. Mr. Don Wasantapruek	Chairman	Independent director
2. Prof. Dr. Supot Teachavorasinskun	Member	Independent director
3. Prof. Dr. Surapon Nitikraipot	Member	Independent director

The Company Secretary served as secretary.

Remarks:

1. Mr. Don Wasantapruek was appointed Chairman with effect from December 23, 2018.
2. Prof. Dr. Supot Teachavorasinskun was appointed member with effect from April 25, 2018.
3. Prof. Dr. Surapon Nitikraipot was appointed member with effect from April 25, 2018 to April 11, 2019, and from October 1, 2019, in place of Mr. Somsak Chotrattanasiri, who resigned.



Duties and Responsibilities

- Define the methods and criteria for directors' nomination for transparency.
- Select director nominees to fill vacancies (due to resignation or term completion) for the Board's or the shareholders' consideration and appointment with due regard for the composition of the Board, expertise, competencies, and experience useful to PTT in compliance with PTT's Board Skill Matrix and the Director's Pool of SEPO and IOD. Equally important, nominees must have no conflicts of interest with PTT. The qualifications of desirable directors must prove compatible with PTT's business strategies.
- Propose directors for committee duties with due regard for the committees' compositions, qualifications, expertise, and competencies. Then these names are to be tabled for the Board's appointment. An exception is for the committee itself, which is to be appointed by the Board.
- Be directly accountable to the Board, while the Board is accountable for PTT's businesses to all stakeholders.
- Assess its own performance and report the outcomes to the Board for acknowledgment and disclose them in the annual report.
- Disclose its own performance in the annual report.
- Hold at least two meetings a year.
- Perform other Board-assigned tasks.

Directors' recruitment procedures are as follows:

- The committee defines the qualifications needed for replacements to ensure that new directors meet the criteria and qualifications required by applicable laws and regulations and align with PTT's strategy and operations. It defines a procedure for nominating qualified candidates.

According to the CG Ethical Standards, and the Code of Business Ethics Handbook, the Board should consist of experts from a variety of disciplines needed for the administration of PTT businesses. Specifically, it should consist of at least three experts in the petroleum business, at least one expert in law, and at least one expert in finance and accounting. Currently, PTT's Board Skill Matrix consists of Accounting/ Finance/ Laws/ Information Technology/ Engineering/ Marketing/ Business Management/ International Business/ Economics/ Science, Technology, Energy Innovation, Petrochemical, Biological Industries, Digital, Automation, Artificial Intelligence and Robotics/ Political Science, Security, Risk Management/ Social Enterprise, Natural Resources and environment and sustainability.

- The committee summarizes its recruitment results and presents to the Board a shortlist of qualified candidates along with supporting rationale.
- The Board appoints qualified candidates from the list prepared by the committee and submits their names to the shareholders' meeting for approval. The list must also be endorsed by SEPO in conformance to the Directive of the Prime Minister's Office on the Definition of Policy and Supervision of State Enterprises, B.E. 2557 (2014).

This year the committee held 5 meetings, with all committee members at the time in attendance. The Company Secretary served as secretary to the committee.

The committee disclosed its own performance in the annual report under the Report of the Nominating Committee.



1.3 The Remuneration Committee

The Board approved the appointment of the Remuneration Committee on October 1, 2001, by appointing three directors. As of December 31, 2019, it consisted of:

Name	Position	Remarks
1. General Teerawat Boonyawat	Chairman	Independent director
2. Mr. Chumpol Rimsakorn	Member	Director
3. Prof. Dr. Supot Teachavorasinskun	Member	Independent director

The Company Secretary served as secretary.

Remarks:

1. Gen. Teerawat Boonyawat was appointed Chairman with effect from April 11, 2019.
2. Mr. Chumpol Rimsakorn was appointed member with effect from December 23, 2018.
3. Prof. Dr. Supot Teachavorasinskun was appointed member with effect from October 1, 2019.

Duties and Responsibilities

- Define the criteria for compensation and propose fair, sensible compensation for directors and committee members for the Board's and the shareholders' approval.
- Propose guidelines for assessing performance outcomes and compensation for the President & CEO for the Board's approval.
- Acknowledge and comment on organization restructuring and job levels, and assess and decide compensation for senior executive vice presidents.
- Be accountable to the Board directly, while the Board is accountable for PTT's businesses to all stakeholders.
- Assess its own performance outcomes and report the findings to the Board for acknowledgment and disclose them in the annual report.
- Disclose its own performance in the annual report.
- Hold at least two meetings a year.
- Perform other Board-assigned tasks.

This year the committee held 3 meetings, with all committee members at the time in attendance. The Company Secretary served as secretary to the committee.

The committee disclosed its own performance outcomes in the annual report under the Report of the Remuneration Committee.

1.4 The Corporate Governance Committee

The Board approved the appointment of the Corporate Governance Committee on June 24, 2004, consisting of three directors. As of December 31, 2019, it consisted of:



Name	Position	Remarks
1. Prof. Dr. Kittipong Kittayarak	Chairman	Independent director
2. Prof. Dr. Surapon Nitikraipot	Member	Independent director
3. Mr. Thon Thamrongnawasawat	Member	Independent director

The Senior Executive Vice President, Corporate Governance and Regulatory Affairs, and Senior Executive Vice President, Office of General Counsel, served as secretary, and the Executive Vice Presidents, Corporate Governance and the Executive Vice President, Company Secretary and Corporate Relation, served as assistant secretaries.

Remarks:

1. Prof. Dr. Kittipong Kittayarak was appointed Chairman with effect from April 11, 2019.
2. Prof. Dr. Surapon Nitikraipot was appointed member with effect from December 23, 2018.
3. Mr. Thon Thamrongnawasawat was appointed member from November 18, 2016 to April 11, 2019, and from October 1, 2019, in place of Mr. Somsak Chotrattanasiri, who resigned.

Duties and responsibilities

- Propose practical CG guidelines to the Board.
- Counsel the Board on CG matters.
- Ensure that the performances of the Board and the management align with CG.
- Revise PTT's CG approach annually by comparing it with international practices and propose revisions to the Board.
- Assign the CG policy to the Governance, Risk Management and Compliance Management Committee.
- Assign the policy and guidelines for sustainability management (SM) including CSR.
- Assign a policy of allowing minor shareholders to nominate directors and propose AGM agenda items.
- Monitor SM implementation and report its findings to the Board.
- Define the scope for supervising matters dealing with PTT's anti-corruption practices.
- Hold at least one meeting each quarter.

This year, the committee held 5 meetings with all committee members at the time in attendance. The Senior Executive Vice President, Corporate Governance and Regulatory Affairs, and the Senior Executive Vice President, Office of General Counsel, served as joint secretary to the committee.

The committee disclosed its own performance in the annual report under the Report of the Corporate Governance Committee.

1.5 The Enterprise Risk Management Committee

The Board approved the appointment of the Enterprise Risk Management Committee (ERMC) on October 25, 2013, by appointing at least three directors, at least one of whom must be an independent director. As of December 31, 2019, it consisted of:

Name	Position	Remarks
1. Mr. Supattanapong Punmeechaow	Chairman	Director
2. Mr. Thon Thamrongnawasawat	Member	Independent director
3. Mr. Nuttachat Charuchinda	Member	Director
4. Mr. Chumpol Rimsakorn	Member	Director

The Senior Executive Vice President, Corporate Strategy, as Chief Risk Officer (CRO) and Chief Stakeholder Officer (CSO), served as secretary.

Remarks:

1. Mr. Supattanapong Punmeechaow was appointed Chairman, with effect from October 1, 2019.
2. Mr. Thon Thamrongnawasawat served as Chairman from April 25, 2018, and as member with effect from October 1, 2019.
3. Mr. Nuttachat Charuchinda served as member from April 11, 2019, and he retired from the directorship due to his completion of 65 years of age, with effect from January 17, 2020.
4. Mr. Chumpol Rimsakorn was appointed member with effect from October 17, 2019.

In 2019 the committee's duties and responsibilities have been revised to embrace screening and commenting on investment items.

Duties and responsibilities

- Define and review PTT's risk management and corporate stakeholder management policies and scopes
- Supervise and support risk management and stakeholder management practices in line with strategies and business goals as well as prevailing circumstances
- Provide recommendations, monitor, and evaluate risk management and stakeholder management for further implementation of the Corporate Plan and Risk Management Committee (CPRC) (management level)
- Review risk management outcome reports and provide recommendations on risks, including specifications of control measures or mitigation plans and development of the risk management system to CPRC for continued efficiency
- Review reports of corporate stakeholder management outcomes and provide recommendations on relevant plans to extend positive outcomes or minimize/offset potential impacts on stakeholders, including development of the stakeholder management system for CPRC to ensure continued efficiency
- Support the Chief Risk Officer (CRO) and Chief Stakeholder Officer (CSO) in achieving PTT's corporate risk management and stakeholder management goals
- Report risk management outcomes and stakeholder management outcomes to the Board. In case factors or events might have potential significant impacts on PTT, the Board must be notified immediately.
- Screen and comment before presents to the Board for approval on contractual items, which are complicated businesswise and contain risks potentially affecting PTT or potentially and significantly affecting PTT's stakeholders as endorsed by the Management Committee.



- Screen and comment on investment agenda:
 - PTT's and PTT Group's wholly owned investment projects with investment value exceeding THB 5 billion and present to the Board for approval
 - PTT's investment projects where it holds less than 100% shares and not SET-listed, with investment value exceeding THB 5 billion, and presenting to the Board for approval before PTT's representative votes in shareholders' meetings or board meetings
 - Investment with risks potentially significantly affecting PTT or its stakeholders as endorsed by the Management Committee.
- Meet at least once a quarter.
- Perform other Board-assigned duties.

Revision of the risk management system remains the duty of the Audit Committee and the Office of Corporate Audit.

This year the Committee held 9 meetings. Most of committee members at the time attended to the meeting. The Senior Executive Vice President, Corporate Strategy, served as the secretary.

The committee disclosed its own performance in the annual report under the Report of the Enterprise Risk Management Committee.

2. Board Self-assessment

With the resolution of Board Meeting No. 9/2562 (2019) of September 27, 2019, the Board approved all five self-assessment forms with some modification made to the entire Board assessment form under Board Policy, designed to embrace incorporation of innovation and digital technology as part of the business drive of the corporation; some wording was changed on Board Practices, specifically under performance assessment for clarity and comprehensiveness for exploiting such assessment. Therefore, in 2019 there were five assessment forms, namely Assessment of the Board,

Assessment of Individual Directors (Self-assessment), Individual Assessment of Other Directors (Cross-assessment), and Assessment of the Committees (Entire Committees), and Assessment of Chairman's roles & duties and performance, along with work satisfaction of the committees and chairman of each committee. The five assessment forms stipulated the percentages corresponding to the levels of performance achieved in each of these detailed below.

Over 85%	=	Excellent
Over 75%	=	Very good
Over 65%	=	Good
Over 50%	=	Fair
Below 50%	=	Need improvement.

The self-assessment findings were as follows:

1. Assessment of the Board consisted of Board Policy, Board Composition, Board Practices, Board Meetings, and Board Training and Development.

The results indicated excellent/most suitable overall performance, with an average score of 95.95%.

2. Assessment of Individual Directors (Self-assessment) consisted of accountability for decisions and actions; responsibility for performing the job with full ability and efficiency; equitable treatment of all stakeholders; transparency of job performance and information disclosure; vision to create a long-term value; and business ethics.

The overall results of the six categories indicated excellent conformance by most directors, with an average score at 98.39%.

3. Individual Assessment of Other Directors (Cross-assessment) consisted of six identical categories as listed above for direct comparison.

The cross-assessment results in these six categories indicated excellent conformance by most directors, with an average score of 99.38%.

4. Self-assessment of the Committees (entire committees) consisted of Board policy, Board composition, Board practices, and Board meetings.

The results in the four categories indicated excellent/ mostly suitable overall performance for the committees as follows:

4.1 The Nominating Committee indicated excellent performance, with an average score of 97.92%

4.2 The Remuneration Committee indicated excellent performance, with an average score of 97.22%

4.3 The Corporate Governance Committee indicated excellent performance, with an average score of 98.96%

4.4 The Enterprise Risk Management Committee indicated excellent performance, with an average score of 95.83%.

5. Chairman's Roles & Duties and Performance Assessment, Work Satisfaction of the Committees and the Chairman of each. The assessment of the Chairman consisted of 8 categories and work satisfaction assessment, 10 categories, with an average score of 98.40%.

6. Audit Committee's Performance Assessment

Under PTT's regulations on performance assessment of the Audit Committee and the Office of Corporate Audit 2014, the Audit Committee Manual for State Enterprises under the Ministry of Finance, and SET's good governance handbook for internal auditors and the audit committee Section 1.1: Responsibility of the Audit Committee, the Audit Committee must assess its performance by undertaking self-assessment at least once a year. The individual self-assessment or the entire committee's assessment is presented annually to the Board, specifying problems leading to unfulfilled objectives. This year the Audit Committee's Meeting No. 8/2562 (2019) of August 13, 2019, resolved the same assessment forms for the Audit Committee, namely Assessment of Individual Directors (self-assessment), Individual Assessment of Other Directors (cross-assessment), and Assessment of the Committee (entire Committee), since they conformed to the best practices stipulated by SEPO and SET. The Audit Committee's Extraordinary Meeting No. 9/2562 (2019) of September 17, 2019, approved the assessment of its performance for 2019 with the following details:

- **Assessment of the entire committee** consisted of the structure and composition/ meetings/ roles and responsibilities/ relationship with the Office of Corporate Audit and the external auditor/ relationship with the management/ reporting/ quality consistency.

The assessment criteria were 4=regularly implemented, 3=mostly implemented, 2=sometimes implemented, 1=never implemented.

The results of the assessment of the entire Audit Committee was at the "regularly implemented" level, with an average score of 3.97.

- **Assessment of Individual Directors (Self-Assessment)** consisted of business knowledge/ specific expertise/ duties and authorities/ independence and fairness/ understanding of duties and responsibilities of members/ commitment to work and meetings.

The assessment criteria were 4=Excellent, 3=Very good, 2=Good, 1=Need improvement.

The results of the Audit Committee's self-assessment indicated "excellent" overall performance, with an average score of 3.85.

- **Cross-assessment** consisted of six identical categories listed above for direct comparison.

The results of the Audit Committee's cross-assessment indicated "excellent" overall performance, with an average score of 3.97.

PTT also analyzed the assessment topics to develop/improve performance. In addition to developing the annual performance assessment forms for the Board, the Board has since 2017 begun gauging directors' efficiency and effectiveness by defining KPIs for their performance early in the year for measuring the Board's performance and for determining their compensation.



3. Directors Orientation

For the new directors, PTT arranges an orientation program dealing with its business policies, capital structure, shareholding structure, business performance, information systems, as well as applicable laws and regulations. Moreover, each director receives a Director's Handbook, which includes the following topics:

Director's Handbook:

1. Public Company Act
2. Securities and Exchange Act
3. Standard Qualifications of Directors and State Enterprise Officer Act
4. Company Registration Certificate
5. Company Certificate
6. Company Objectives
7. Articles of Association
8. Company Rules (17 Rules)
9. PTT Corporate Governance Handbook
10. Manual for Directors of Listed Companies.

Information kit for directors:

1. Overview business presentation of PTT
2. List of directors, committees, and management structure
3. Director Fiduciary Duty Check List
4. CG principles for listed companies
5. Connected transactions of listed companies
6. Guidance on providing information for listed company management
7. PTT Plc Company Profile (short version)
8. Annual Report
9. Financial Report
10. Annual Corporate Sustainability Report
11. Corporate Governance book
12. Debenture Magazine ("Happiness")
13. PTT Spirit publication
14. Article: "Truth about Privatization"
15. PTT WAY OF CONDUCT
16. PTT Technology and Innovation Management Operating System
17. PLLI Course Catalog

This year, in the briefing to the new directors, the President & CEO along with senior management presented information about PTT, its management structure, strategies and policies on its business operations and performance, and relevant information for their overview of the overall business operations. At the same time, on three occasions, the above-mentioned documents and handbook for new directors were handed over.

4. Directors' Development

Course/ Seminar

The Board and the management value regular participation in development training relevant to their performance (as detailed in each of their profiles). Most directors (over 90%) have undergone training with IOD. PTT encourages and applies IOD membership for all the directors to provide them with a channel for news and intelligence while augmenting their expertise, which can be applied during directorship. PTT delivers training-related data to the Board for consideration of attending training courses of their interest, as well as training courses of other institutes in all relevant courses throughout the year, which included regular in-house briefings by experts and consultant companies with helpful business data. In addition, it stages visit to other companies and organizations to promote helpful initiatives for application to PTT's sustainable business.

This year the following directors have attended courses and seminars.



Name	Course/ Seminar
Mr. Krairit Euchukanonchai	<ul style="list-style-type: none"> • Participated in the Closing Ceremony of the Executive Program on Energy Literacy for a Sustainable Future Thailand Energy Academy (TEA) (Class of 13th) • Visited PTTEP's Arthit Project, a gas field in the Gulf of Thailand, offshore Songkhla • Attended the National Director Conference 2019 Board of the Future, IOD • Attended the 31st GASTECH Exhibition and Conference (GASTECH 2019) • Welcomed HRH Princess Maha Chakri Sirindhorn, the Princess Royal of Thailand, to Wang Chan Valley, Rayong
Mr. Vichai Assarasakorn	<ul style="list-style-type: none"> • Attended the PTT Group AC Forum 2019 seminar under the "Driving IA in the Age of Digitalization"
Mr. Don Wasantapruerk	<ul style="list-style-type: none"> • Attended the National Director Conference 2019 Board of the Future, IOD • Participated in a dialogue and visited the exhibition of the Gas Business Group entitled "Gas Day 2019, Energy Fuel for Today and Tomorrow: To be the Energy Hub of Asia", PTT • Attended an event marking the 30th anniversary of PTT International Trading Pte. Ltd. (PTTT), Singapore
Gen. Teerawat Boonyawat	<ul style="list-style-type: none"> • Participated in Executive Program on Energy Literacy for a Sustainable Future Thailand Energy Academy (TEA) (Class of 15th)
Prof. Dr. Kittipong Kittayarak	<ul style="list-style-type: none"> • Attended the National Director Conference 2019 Board of the Future, IOD
Mrs. Nuntawan Sakuntanaga	<ul style="list-style-type: none"> • Attended the Boardroom Success through Financial and Investment (BFI), Class 7/2019, and Board that Makes a Difference (BMD), Class 9/2019, IOD • Participated in the 8th Amazing Winter City Flower: Tulip in Rayong • Attended the National Director Conference 2019 Board of the Future, IOD • Attended the PTT Group AC Forum 2019 seminar under the "Driving IA in the Age of Digitalization"
Mr. Danucha Pichayanan	<ul style="list-style-type: none"> • Attended the PTT Group AC Forum 2019 seminar under the "Driving IA in the Age of Digitalization"
Prof. Dr. Supot Teachavorasinskun	<ul style="list-style-type: none"> • Attended the Director Certification Program (DCP), Class 269/2019, and Financial Statements for Directors (FSD), Class 38/2019, IOD • Participated in the "PTT Group CG Day 2019: Digitalization...Challenge the Governance"
Prof. Dr. Surapon Nitikraipot	<ul style="list-style-type: none"> • Participated in the "PTT Group CG Day 2019: Digitalization...Challenge the Governance" • Attended Thailand's National Conference on Collective Action against Corruption, "Innovations in the Fight Against Corruption" seminar, IOD • Participated in a dialogue and visited the exhibition of the Gas Business Group entitled "Gas Day 2019, Energy Fuel for Today and Tomorrow: To be the Energy Hub of Asia", PTT



Name	Course/ Seminar
Mr. Thon Thamrongnawasawat	<ul style="list-style-type: none">• Attended the National Director Conference 2019 Board of the Future, IOD
Mr. Chumpol Rimsakorn	<ul style="list-style-type: none">• Participated in the 8th Amazing Winter City Flower: Tulip in Rayong• Attended the 3rd SOE CEO Forum, organized by State Enterprise Policy Office (SEPO)
Mr. Nuttachat Charuchinda	<ul style="list-style-type: none">• Attended the National Director Conference 2019 Board of the Future, IOD
Mr. Chansin Treenuchagron	<ul style="list-style-type: none">• Attended the 3rd SOE CEO Forum, organized by State Enterprise Policy Office (SEPO)• Participated in The World Economic Forum Meeting in Davos, Switzerland• Attended the National Director Conference 2019 Board of the Future, IOD

Directors who resigned or retired during the year

Name	Training Course/ Seminar
Mr. Kulit Sombatsiri (Resigned, effective from October 9, 2019)	<ul style="list-style-type: none">• Participated in the Closing Ceremony of the Executive Program on Energy Literacy for a Sustainable Future Thailand Energy Academy (TEA) (Class of 13th)• Attended the 31st GASTECH Exhibition and Conference (GASTECH 2019)• Participated in a dialogue and visited the exhibition of the Gas Business Group entitled “Gas Day 2019, Energy Fuel for Today and Tomorrow: To be the Energy Hub of Asia”, PTT

The Board also participated in other corporate activities, including “The Anniversary of Love” event marking PTT’s 40th founding anniversary. The Company’s policy is to stage business visits to PTT’s and PTT Group’s assets and employees or organize periodic study visits to promote understanding of business and enhance the Board’s expertise on the outlook for energy consumption of other countries so that they may apply the knowhow and experience to defining future business approaches for PTT and Thailand. This year they visited, studied business conduct, including the monitoring, of EECi together with a meeting with the board of the State Railway of Thailand and a project taskforce supporting state enterprises on organizational management (the mentor project). They also visited VISTEC and KVIS, and a member of the Enterprise Risk Management Committee visited the Battery Manufacture in Japan. Finally, the Audit Committee visited the Gas Business Unit’s operation at the Gas Dispatch Control Center.

Nomination and Appointment of Directors and President & CEO

1. Independent Directors

1.1 Qualifications of Independent Directors

At Meeting No. 1/2556 of January 17, 2013, the Board endorsed a proposal of the Corporate Governance Committee to redefine PTT independent directors' qualifications more stringently than the criteria of SEC and SET and define their roles and responsibilities in a manual signed by the Chairman on January 21, 2013, as follows:

• Qualifications of Independent Directors

(1) Hold up to 0.5% of the voting shares of PTT, its subsidiaries, associates, juristic persons with potential conflicts, or related companies (including the shares held by related parties under Article 258 of Securities and Exchange laws))

(2) Have not been involved in the management or employees, wage earners – including audit advisors, legal or other advisers – on the payroll of PTT, or have control over PTT, its subsidiaries, associates or juristic persons that could pose conflicts of interest for the past two years

(3) Have no blood relationship or relationship through registration as parents, spouses, siblings, and children. This definition also applies to children's spouses, executives, major shareholder, controllers, or people due to be nominated as an executive or controller of PTT or its subsidiaries

(4) Business relationship with PTT

(a) Types of relationship

- Professional service
 - Auditor and other professional service provider, including legal adviser, financial adviser, property valuator
 - “Non-independent” criteria
 - Total prohibition for auditors
 - Other professional services: when the total value exceeds THB 2 million per year.
- Commercial/business relationship (similar to SET's requirements for connected transactions)
 - Types of relationship: Full coverage of business transactions, that is, normal transactions, real-estate leasing, asset/service transactions, and financial assistance transactions
 - “Non-independent” criteria: Transaction value from THB 20 million or 3% of PTT's NTA upward (whichever is lower); the total value must include items occurring within six months before this transaction.

(b) Should the relationship under (a) apply to a juristic person, the parties regarded as “non-independent” consist of the major shareholder, directors that are not independent ones or not a member of the Audit Committee, and executives (or partners) of that juristic person

(c) The forbidden periods for (a) and (b): Two years before the appointment

(d) Exceptions: If necessary and suitable (exceptional cases), independent directors/Audit Committee members may have more relationship than the non-independent criteria while holding directorship, provided that a prior unanimous approval has been given by the Board. Besides, PTT must disclose such relationship in Form 56-1 and its annual report (Form 56-2). And should PTT should decide to extend the term of that independent director, it must disclose details about such relationship in the meeting notice for the next shareholders' meeting (in the directors' election agenda item).

(5) Are not appointed to represent PTT's directors, its major shareholder, or shareholders related to PTT's major shareholder.

(6) Have no qualifications that compromise the expression of free views.

(7) Independent directors with qualifications 1 through 6 above may be assigned by the Board to decide on business matters of PTT, its subsidiaries, associated companies, affiliated companies, or juristic persons that could pose conflicts of interest; such decisions are to be collective decisions.

Incidentally, if independent directors serve in this position in PTT, its subsidiaries, associated companies, or affiliated companies, PTT must also disclose information as well as the overall remuneration of such directors in Form 56-1 and Form 56-2.

• Roles and Responsibility of PTT's Independent Directors

(1) Recommend essential, beneficial matters to PTT and its minor shareholders to the Board or the President & CEO, or both.

(2) Advocate roles and responsibilities of the Board and provide views commonly expected of independent directors for the benefit of PTT and its minor shareholders.

(3) Review PTT's compliance with laws dealing with independent directors, and revise the definition of independent directors for suitability and legal completeness.

(4) Take other Board-assigned actions provided that these actions do not compromise their independence.

(5) An independent director's term begins once he or she fulfills all the requirements under the definition for PTT's CG; it ends when he or she lacks qualifications or completes the PTT term.

(6) The independent directors must hold their own meeting at least once a year.

1.2 Segregation of the Chairman and the President & CEO Positions

To segregate policy-making duties from those of day-to-day management and to enable directors to oversee, look after, and assess performance effectively, PTT has required that the Chairman and the President & CEO are always two persons. This is because the Chairman needs to oversee the management's performance, guide, and assist it, but not to take part in or interfere with day-to-day management, which is the duty of the President & CEO under the authority delegated by the Board.

The current Chairman is an independent director. He exercises high-level leadership and ensures that directors do not fall under the influence of the management by encouraging them to exercise their voting rights and strictly comply with the CG principles.

1.3 Independence of the Chairman

Board Meeting No. 7/2561 (2018) of July 20, 2018, appointed Mr. Krairit Euchukanonchai, an independent director, as Chairman of the Board, which was endorsed by the State Enterprise Policy Office (SEPO) with effect from September 7, 2018, as required by the regulation of the Prime Minister's Office on State Enterprise Policy and Monitoring B.E. 2557 (2014), and the 2017 CG principles for listed companies. It would allow the work of the Chairman to be independent and boost confidence in the transparency of operations and fair treatment of all stakeholders.

2. Nomination of Directors and President & CEO

2.1 Nomination of Directors

(The nominating process for directors is reported under Corporate Governance, entitled "Proposal of additional agenda items and nomination of directors" and "The Nominating Committee").

2.2 Nomination of President & CEO/ Succession Planning

Because PTT is a state enterprise, the nomination and appointment of the President & CEO must follow the Standard Qualifications of Directors and State Enterprise Officer Act. The directors must have the qualifications as specified in Article 8 ter and the nominating procedures as specified in Article 8 quarter. The Board is to appoint a Nominating Committee with five members legitimately qualified to nominate persons with appropriate knowledge, capability, and experience to fill the positions of PTT management. They must be legitimately qualified and cannot be PTT directors, except for the management who are directors by title. They must not be older than 58 years old when submitting the application form. When the Nominating Committee has selected appropriate candidates, it submits the results to the authority's consideration. The appointment must be completed within one year from the day the incumbent left the position. The employment contract lasts up to four years for each term. If the Board wishes to hire the previous person after the completion of his term as specified in the employment contract, it does not have to go through the nominating process. However, it cannot hire that person for more than two consecutive terms.

Succession planning for the executives is reported under Management Structure, entitled "Employees".

Governance of Subsidiaries and Associated Companies

Governance Mechanisms

PTT defined a CG policy for PTT Group companies by preparing the "PTT Way" handbook and the "PTT Way of Conduct" guidelines, which compile work procedures in various aspects of PTT Group companies so that their work procedures may be in conformity and unity as a governance tool for PTT group companies. All are required to practice and drive toward the same standard across PTT Group through PTT's representative(s) assigned as directors, the management, and officers. This way, PTT Group commands unity in action, leading to synergy, enhanced capability and strength in international competition for PTT Group to in turn lead to joint growth in a transparent and sustainable way.

Below is the scope of PTT Group management, which consists of five governance principles:

1. Definition of key strategic positions for PTT's executives and employees, based on the joint agreement of PTT Group or other business terms

2. Rules and regulations and directives which form part of the governance designed to drive linkages between PTT Group's policy governance and its successful implementation. Such rules, regulations, and directives are to be put into practice and driven toward a uniform standard throughout the group by PTT representatives assigned to serve in these companies as directors, top executives, the management, and officers.

3. Reporting line and performance management: PTT Group companies must report implementation updates under assorted policies to PTT's management and/or the Board.

4. Multi-level governance: This is to proceed through governance transfer (PTT Group Way of Conduct) from PTT direct to PTT-invested companies (subsidiary companies). PTT authorizes to govern through PTT executives serving as the top executives there. To this end, such companies must develop its own group governance to convey the PTT Group Way of Conduct concept to its invested companies (affiliated companies) so that a single standard governs the entire PTT Group.

5. Management Committee: PTTGMC and other policy committees play a key role in driving the efficiency of PTT Group governance since they represent a forum for consultation and joint definition of business directions. In place is regular performance reporting under the PTT Group Way of Conduct by PTT Group companies to PTTGMC to track business efficiency and effectiveness.



Other elements of the PTT Group Way of Conduct:

Roles of the Shareholder:

- Appointing the Board to work on their behalf
- Defining the Company's business direction or decide on matters of significant impacts through shareholders' meetings
- Attending to exercise their voting rights in shareholders' meetings to appoint or remove directors, appoint the external auditor, and consider matters affecting the Company, including dividend payout allocation, definition or amendment of the articles of association or memorandum of association, capital increase or decrease, and approval of extraordinary items.
- Auditing the Board's performance.

Roles of the Board:

- Steering the Company for sound management by defining objectives and goals, strategies, and policies, and allocating key resources for objective and goal achievement, including monitoring, assessing, and ensuring performance reporting.
- Creating sustainable value for the business, leading to competitiveness and outstanding performance outcomes with due regard for long-term impacts. Engaging in business with ethics and a respect for rights, while exercising responsibility for shareholders and stakeholders, among others.
- Ensuring that all directors and the management execute their duties of care, loyalty, obedience, disclosure.
- Assigning scopes of duty to the President and the management in an explicit way and monitoring execution as assigned.

Roles of the Top Management:

- Managing the Company as assigned by the Board, specifically by managing the Company under the plan and budgets which by the Board strictly, with integrity and honesty, and prudently, while acting in the Company's and shareholders' best interests.

- Providing linkage of strategies and policies between the Company and PTT Group through concrete implementation.
- Executing duties of care, loyalty, obedience, and disclosure.
- Executing Governance, Risk, and Compliance (GRC) and providing cooperation with Internal Audit.

Policy on Serving as Directors of Other Companies

This year PTT had 33 affiliated companies, five of which are SET-listed flagships. PTT therefore adopted the PTT Group management structure for synergy and alignment of policies. To achieve this, it appointed directors or management team members as directors in these companies to supervise policies and business management which aligned with PTT's policies for the benefit and value addition for all stakeholders. The objectives of such appointments are:

1. To ensure that the management of a given company aligns with the policies of PTT Group companies, monitor its overall business performance to align with PTT's policy, and institute comparable standards.
2. To establish synergy for the business of PTT Group and add value to all related parties, including Thailand as a whole.
3. To apply specific expertise in support of business, including financial know-how to improve accounting and financial processes to enable a given company to grow robustly. This includes assistance to companies outside PTT Group. The resulting application of the knowledge and expertise gained from serving in such leading companies will enhance the benefit to PTT and foster cordial relations and business alliance with PTT.

4. This is part and parcel of the responsibility of the directors and the management of PTT.

PTT ensures its consideration of executives or outsiders from the Ministry of Finance's Director's Pool for appointment within PTT Group, which is regarded as a state enterprise, based on the pertinent act on standard qualifications of directors and state enterprise officials. Chosen directors from the pool must make up no less than one-third of other directors of a given state enterprise. As of December 31, 2019, PTT had 24 members who belonged to the Director's Pool. It also ensures that PTT executives and such outsiders who serve as directors in PTT affiliates serve on no more than three PTT affiliates or other state enterprise affiliates. This is designed to lower risks of conflicts of interest and ensure conformance to applicable laws, as well as conformance to a Cabinet resolution of January 24, 2011, on fraud prevention measures at state enterprises, entitled "The appointment of senior government officials or persons as directors on multiple state enterprises", as proposed by NACC.

Finally, the Board defined guidelines and criteria for serving in various positions by PTT Group's executives. In 2015 the Board decided to adopt them as part of the CG Handbook.

Supervision of the Use of Inside Information

1. Code of Conduct

PTT's written policy and a code of conduct are in place for integrity and a high ethical standard. In the handbook, the Corporate Governance Committee defines the code based on international standards. Violators of the code are subject to disciplinary action.

The essential aspects of the code are included below:

1. Respect of the law and the Universal Declaration of Human Rights principles
2. Prevention of money laundering
3. Support to the political sector
4. Vested interests and conflicts of interest
5. Maintaining of confidentiality, retention of data, and use of inside information
6. Treatment of customers and consumers
7. Treatment of business competitors
8. Purchasing, procurement, and treatment of business partners
9. Responsibility to communities, society, and the environment
10. Treatment of employees
11. Treatment of creditors
12. Internal control system and internal audit
13. Acceptance and presentation of gifts, assets, and other benefits
14. Safety, occupational health, and the environment
15. Intellectual properties and application of information and communication technology.

2. Conflicts of Interest

PTT requires information disclosure to prevent conflicts of interest and illegal, improper activities. Under the Board's policy, business decisions made by the management and employees must be solely in PTT's best interests. All staff must not only avoid engaging in financial and other relationships with external parties that would lead to financial losses for PTT or a conflict of loyalty or interests, but also not compromise the efficiency of business operation. Those staff with interests or related businesses which may require PTT's review and decisions must report their relationships and connection with potential conflicts of interest. PTT is to disallow such connected persons from exercising their authority for and involvement in such transactions.

3. Reporting Transactions of Potential Conflicts of Interest with PTT

PTT has required the directors, management, and all employees to disclose potential conflicts of interest through a specific disclosure form for suspected conflicts of interest with PTT. These are to go through a system for reporting such conflicts. In addition, any approval of such items must not contain special conditions or specifications that are out of the ordinary, which forms part of PTT's internal controls. PTT's Office of Corporate Audit and the Audit Committee have been entrusted with the monitoring and resolution of issues related to conflicts of interest. This year the directors, management, and all employees were required to fill out an electronic report through the PTT intranet. However, no such case of significance violations have arisen. The disclosure form confirms their acknowledgment that violation of ethics and the code of conduct in PTT's business operations is subject to disciplinary measures with the seriousness of the actions.

4. Reporting Vested Interests of Directors, the Management, and Related Parties

In the first quarter this year the Board developed a form for reporting vested interests of directors, the management, and related parties as basic information to manage vested interests for directors and senior management. The directors and the management are to report such matters every year and with every change. The Company Secretary is to compile and submit the copy to the Chairman and the Chairman of the Audit Committee to check and manage conflicts of interest. This year, however, no such cases have arisen.

5. Reporting Changes in Share Portfolios

As part of the oversight of inside-information measures, all PTT directors and management, including their spouses and children not yet of legal age, must report any changes in their PTT share ownership to SEC under Article 59 of the Securities and Exchange Act B.E. 2535 (1992) within three days of the dates of sale, purchase, disposal, or receipt of such shares. PTT defines a policy of disclosing or reporting the sale, purchase, disposal, or receipt of such shares, changes in share ownerships of the directors and the management to the monthly Board meeting, contained in advance as a regular agenda item.

Moreover, a week before the closing of the quarterly and yearly financial statements, the Office of the President issues a letter to the directors, executives, or units with privilege of inside information, forbidding them to disclose such information to external parties or unrelated parties, and to buy or sell PTT shares within 45 days (for quarterly statements) and 60 days (for the annual statements) of the last effective date of the financial statements to the notification date of the statements to SET, ahead of the public dissemination of the statements so as to prevent insider trading. This year, all directors and the management have strictly observed this policy. Notifications of no sale, purchase, or transfer of PTT's shares were served on four occasions to the directors and executives:

1. Between January 1 and February 28, 2019 (fiscal year 2018)
2. Between April 1 and May 15, 2019 (fiscal year 2019, first quarter)
3. Between July 1 and August 15, 2018 (fiscal year 2019, second quarter)
4. Between October 1 and November 15, 2018 (fiscal year 2019, third quarter).

A policy was set for the avoidance of share trading of PTT Group companies during other periods. If necessary, such share trading must follow notification to the Company Secretary by at least two days.

Directors' Securities Portfolios, 2018 - 2019

No.	Name	Shares			Remark
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
1.	Mr. Krairit Euchukanonchai	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
2.	Mr. Vichai Assarasakorn	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
3.	Mr. Don Wasantapruek	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
4.	General Teerawat Boonyawat	N/A	–	–	Appointed on April 11, 2019 (No PTT share held)
	Spouse and children under legal age	N/A	–	–	–
5.	Prof. Dr. Kittipong Kittayarak	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
6.	Mr. Supattanapong Punmeechaow	–	–	–	Appointed on October 1, 2019 (No PTT share held)
	Spouse and children under legal age	–	–	–	–
7.	Mrs. Nuntawan Sakuntanaga	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
8.	Mr. Danucha Pichayanan	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
9.	Prof. Dr. Supot Teachavorasinskun	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–



No.	Name	Shares			Remark
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
10.	Prof. Dr. Surapon Nitikraipot	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
11.	Mr. Thon Thamrongnawasawat	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
12.	Mr. Chumpol Rimsakorn	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
13.	Mr. Nuttachat Charuchinda	N/A	630	–	Appointed on January 16, 2019 (No PTT share held) * Retired from the directorship of PTT due to his completion of 65 years of age, with effect from January 17, 2020
	Spouse and children under legal age	N/A	–	–	–
14.	Mr. Sarawut Kaewtathip	N/A	–	–	Appointed on December 16, 2019 (No PTT share held)
	Spouse and children under legal age	N/A	–	–	–
15.	Mr. Chansin Treenuchagron	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–

Remarks:

No PTT share was held by directors' spouses and children under legal age.

Securities Portfolios of Directors Who Completed Their Terms or Resigned in 2019

No.	Name	Shares			Remarks
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
1.	Mr. Thammayot Srichuai	–	N/A	N/A	Resigned on January 1, 2019 (No PTT share held during his directorship in 2019)
	Spouse and children under legal age	–	N/A	N/A	–
2.	Gen. Chatchalerm Chalermsook	–	N/A	N/A	End of term on April 11, 2019 (No PTT share held during his directorship in 2019)
	Spouse and children under legal age	–	N/A	N/A	–
3.	Mr. Somsak Chotrattanasiri	–	N/A	N/A	Resigned on May 8, 2019 (No PTT share held during his directorship in 2019)
	Spouse and children under legal age	–	N/A	N/A	–
4.	Mr. Kulit Sombatsiri	N/A	N/A	N/A	Appointed on January 16, 2019 and resigned on October 9, 2019 (No PTT share held during his directorship in 2019)
	Spouse and children under legal age	N/A	N/A	N/A	–

Management's Ownership of Shares during 2018 - 2019

No.	Name	Shares			Remarks
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
1.	Mr. Chansin Treenuchagron	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
2.	Mr. Atikom Terbsiri	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
3.	Mr. Auttapol Rerkpiboon	225,000	225,000	–	(No trading transactions of PTT shares in 2019)
	Spouse	43,000	43,000	–	–
	Children under legal age	–	–	–	–
4.	Mr. Wittawat Svasti-xuto	554,510	554,510	–	(No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	–	–	–
5.	Miss Pannalin Mahawongtikul	288,120	288,120	–	(No trading transactions of PTT shares in 2019)
6.	Mrs. Arawadee Photisaro	–	–	–	(No trading transactions of PTT shares in 2019)
	Spouse	1,140	1,140	–	–
	Children under legal age	–	–	–	–
7.	Mr. Preecha Pocatanawat	–	–	–	(No PTT share held)
8.	Miss Duangporn Thiengwatanatham	77,000	77,000	–	(No trading transactions of PTT shares in 2019)
9.	Miss Peangpanor Boonklum	–	–	–	(No PTT share held)
10.	Mr. Wuttikorn Stithit	N/A	141,210	–	* Appointed on February 1, 2019 (No trading transactions of PTT shares in 2019)
	Spouse	N/A	90,960	–	–
	Children under legal age	–	–	–	–
11.	Mr. Kris Imsang	100,000	100,000	–	(No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	–	–	–
12.	Mr. Disathat Panyarachun	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–



No.	Name	Shares			Remarks
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
13.	Mr. Worawat Pitayasiri	–	–	–	(No PTT share held)
	Spouse and children under legal age	–	–	–	–
14.	Mr. Phongsthorn Thavisin	10,000	10,000	–	(There were trading transactions of PTT shares during his term in 2019)
	Spouse	7,000	15,000	8,000	–
	Children under legal age	–	–	–	–
15.	Mr. Kongkrapan Intarajang	N/A	–	–	* Appointed SEVP and seconded to CEO, PTT Global Chemical Plc., with effect from October 1, 2019 (No PTT share held)
	Spouse and children under legal age	N/A	–	–	–
16.	Mr. Wirat Uanarumit	155,000	155,000	–	(No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	–	–	–
17.	Mr. Noppadol Pinsupa	136,000	136,000	–	(No trading transactions of PTT shares in 2019)
	Spouse	508,000	508,000	–	–
	Children under legal age	–	–	–	–
18.	Miss Jiraphon Kawswat	–	–	–	(No PTT shares held)
19.	Mr. Chawalit Tippawanich	10,000	10,000	–	(No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	–	–	–
20.	Miss Duangkamol Settanung	80,000	80,000	–	(No trading transactions of PTT shares in 2019)
21.	Mr. Yongyos Krongpanich	N/A	3,000	–	* Appointed on January 1, 2019 (No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	N/A	–	–	–
22.	Miss Wilaiwan Kanjanakanti	36,990	36,990	–	(No trading transactions of PTT shares in 2019)
23.	Mr. Chienvit Udomwatwong	15,160	15,160	–	(No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	–	–	–

Remarks:

No PTT share was held by executives' spouses and children under legal age except those of No. 3, 6, 10, 14 and 17.

Securities Portfolios of Executives Transferred/ Resigned/ Retired in 2019

No.	Name	Shares			Remarks
		As of Dec. 31, 2018	As of Dec. 31, 2019	Change during the Year	
1.	Mr. Sumrid Sumneing	7,000	N/A	–	Appointed to EVP and seconded to EVP, Finance and Accounting Group, PTT Exploration and Production Plc., with effect from January 1, 2019
	Spouse and children under legal age	–	N/A	–	–
2.	Mr. Supattanapong Punmeechaow	–	–	–	Retired on September 30, 2019 (No PTT share held)
	Spouse and children under legal age	–	–	–	–
3.	Mr. Sukrit Surabotsopon	20,000	N/A	N/A	Resigned on February 1, 2019 (No trading transactions of PTT shares in 2019)
	Spouse and children under legal age	–	N/A	N/A	–

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PTT has issued and offered 60,000,000 warrants to the President, management, PTT employees, and employees of PTT Group companies seconded to PTT, consisting of two batches: PTT-W1 (40,000,000 units), offered in 2005, with the last exercise date on August 31, 2010, and PTT-W2 (20,000,000 units), offered in 2006, with the last exercise date on September 28, 2011. All warrants were exercised, and no new ones have been issued.

6. Filing of Assets and Debts to NACC

Under Article 39 of the Anti-Corruption Act B.E. 2542, PTT's directors and senior management, including directors and senior management in the companies where PTT holds more than 50% of shares, are required to file a list of their own assets and debts, including their spouses and children that are not yet of legal age, to the NACC each time they take up a position, every three years during their terms, and one year after leaving their positions. To achieve this, PTT issues a reminder to each of the directors and senior management as required.

7. Declaring Vested Interests at Meetings

At every Board meeting, the Chairman reminds directors to conform to the policy on conflicts of interest on all agenda items, which requires those with vested interests to declare them to the meeting to abstain from voting or giving any views. This year a total of 6 notices were made to the Chairman at 15 Board meetings.

8. Review of Connected Transactions

The Audit Committee reviews related transactions and those with potential conflicts of interest that could harm PTT's businesses. Which have been examined for conformance to the law and SET's criteria. All of which must be reported to the Board for approval.

9. Corporate Governance Promotional Activities

The Corporate Governance Committee (CGC) provides oversight, monitors, and assesses the outcomes concerning PTT's CG and anti-corruption. It issues policies and guidelines to the Governance, Risk and Compliance Management Committee (GRCMC), with duties covering good governance, operational risks, internal control and corporate compliance, including a state enterprise anti-corruption operation center chaired by a senior executive vice president and reporting directly to CGC. GRCMC implements the CG and anti-corruption operating plans and sets goals and KPIs approved by CGC and the Board. This year's tasks, both initiated and constantly developed, are described below:

- For new employees, the CG Code is communicated through orientation sessions, with tests their knowledge under the CG E-Learning system. This year there were two batches of some 200 persons. All new employees receive a CG handbook. They were to study it and sign their names as acknowledgment for implementation on their jobs.
- Communicated in meetings via various work functions and seminars, including town halls, Leadership Development Program Reunions, Chansin Camp, and GRC communication in provincial units to establish awareness among all executives and employees of GRC and emphasis on CG guidelines as well as anti-corruption measures.

- Developed CG E-learning (self-learning) on the intranet as a learning media for CG, the Code of Conduct, and anti-corruption measures for all employees. Simulated situations drummed up awareness and enabled employees to apply what they learned from their self-learning experience to real-life situations as seen fit. Employees are to take a post-test as a means to measure their understanding. To date, 3,091 employees (85% of the workforce) have joined the CG E-learning experience.
- Assessed CG and anti-corruption through internal communication channels, the results of which would be used for developing relevant activities. Assessment results showed good understanding at 92.17%; communication showed good to very good satisfaction at 89.21%, and employees agreed with PTT's performance on CG and anti-corruption.
- Periodic promotional campaigns were conducted through various media within PTT, including exhibitions, CG intranet website, two-way communication channels through GRChelpdesk@pttplc.com, a GRC Corner in the "PTT Spirit" magazine, and CG Tips through internal email on Page: CG Channel in PTT Workplace to communicate CG movements together with knowledge tips and participation in activities of interest. In addition, topics dealing with QSHE, SPIRIT, CSR, and GRC Talk are included in meeting agenda in order to communicate GRC at all units and promote CG-conscious business conduct, including MC meetings.
- GRC Camp has been organized for 6 consecutive years, to encourage participating PTT employee as representatives into functional GRC agents in communicating the GRC knowledge with fellow employees and apply the knowledge properly to work. GRC Camp activities consisted of talks and workshops to enhance GRC understanding and recreational activities interspersed with CG, risk & internal control, compliance, and cultural understanding in the form of activity bases, among others.



- PTT values PTT Group's CG to align with company management in the "PTT Group" management approach, appointing a PTT Group Corporate Governance Committee to elevate CG standards among PTT Group to comparable levels, define work plans and a proactive PR approach. A PTT Group CG Day was continually organized to campaign for, promote, and publicize CG practices among six SET-listed PTT Group companies (PTT, PTTEP, PTTGC, TOP, IRPC, and GPSC). Guests of honor from related fields and companies that shared the same visions continued to join the event, such as representatives from SET, SEC, IOD, Anti-corruption Network Foundation, and the State Audit Office of the Kingdom of Thailand, together with business partners, Board members, executives, and employees of PTT Group companies. This year PTTGC hosted the event, entitled "PTT Group CG Day 2019: Challenge for the Governance" to illustrate commitment to driving PTT Group with the CG Code in keeping with changing times while harnessing advanced IT in enhancing practical work processes.
- Striving to upgrade its CG standard, PTT shared this knowledge with external parties by agreeing to requests for visits by assorted organizations/institutions and educational institutions. PTT's top management was also invited to give various talks or join seminars on the subject.

10. Anti-Corruption

- PTT defined its annual work plan in line with the national strategies on the prevention and suppression of fraud, phase 3 (2017 - 2021) to drive CG and anti-corruption strategies in pursuit of a prototype corporation for transparency and virtue.
- In 2010 PTT enlisted in the declaration of intention to join Thailand Private Sector Collective Action Coalition against Corruption (CAC), an endeavor of IOD with the support of the government and NACC. PTT was one of the first 27 companies to do so.
- In 2012 PTT joined the United Nations Global Compact (UNGC) to show its desire to apply to its business conduct the principles of human rights, labor rights, environmental preservation, and anti-corruption at the international level. PTT presents an update of its compliance with the 10 elements of UNGC in its corporate sustainability report.
- Policy announcement:
 - Since 2014 PTT has begun enforcing PTT's and PTT Group's anti-corruption policies. This year the revised policy contains essential principles and guidelines embracing resistance to fraud by defining the anti-corruption policy as part of PTT's Corporate Governance, Ethical Standards, and Code of Conduct Handbook and requires PTT Group's Anti-Corruption Policy as part of the PTT Way of Conduct so that PTT Group companies may observe the same standards and management approaches and that all companies may achieve synergy under the investment objective.
 - PTT's Anti-Corruption Policy forbids PTT's employees to carry out or participate in corrupt practices as well as any bribery offer or acceptance (direct and indirect). They must seriously observe the Anti-Corruption Policy, which covers various processes, including donation to charities, HR administration, material procurement, and internal control.
 - In 2015 PTT declared its "No-Gift Policy" for any festive period. In 2016-2019 it enforced practical guidelines under PTT Group's policy on gifts, entertainment, or other benefits to establish a higher standard for business practices in the hope of having all employees do their best without expecting benefits. To this end, a letter was sent to business partners and external agencies, and signboards were put up on the premises of PTT along with assorted PR channels. PTT was the prototype company of Thailand to truly enforce this policy.

- Communication, training, and task highlights:
 - PTT communicates its Anti-Corruption Policy and guidelines to its subsidiaries, associates, and other PTT-controlled companies, business partners, and stakeholders as well as the public, through assorted channels including letters, e-mails, website, PTT intranet, seminars, and exhibitions so that all stakeholders may acknowledge and conform to PTT's guidelines.
 - PTT establishes communication with and trains its employees to develop true understanding about its anti-corruption measures, expectations, and punishment for violators, including orientation sessions, an ethics curriculum, and CG E-learning. It also arranges for its executives and employees to join external training courses on anti-corruption.
 - Conforming to CAC's certification process, PTT retained CAC membership for the second consecutive year on May 17, 2018.
 - PTT's hope is that it will become part of a transparency network for a strong Thai society. To this end, it promoted and urged its business allies to declare their own intention to join CAC to minimize corruption risks level across their supply chains. This year it informed suppliers to actively urge them to join CAC at the Annual Supplier Seminar and a Supplier Seminar involving the work functions under the EVP (NGV Vehicles) and the EVP (Natural Gas Distribution).
 - PTT uses IT systems under the PTT intranet to serve as a key tool for all employees to show their transparency, namely a system to pre-report PTT Group securities trading to prevent insider trading and a system to report employees' acceptance of presents, assets, or other benefits in view of the No-Gift Policy so that employees who find it inevitable to accept such items and cannot return them to their givers can deliver such items to Corporate Governance for collection and donation for public use.
 - Recognizing that corruption undermines the nation, PTT values work integration and anti-corruption networking with the public and private sectors to drive anti-corruption suppression through several activities, such as joining NACC in developing action plans on anti-corruption in state enterprises, co-hosting a National Moral Assembly, Anti-Corruption Day, and developing a master plan and action plan on enhancing PTT's morality for the National Morality Promotion Committee, Department of Religious Affairs, Ministry of Culture.
- Oversight and monitoring of performance:
 - The Board ensures that PTT commands an efficient system in support of anti-corruption to ensure that the management recognizes and values anti-corruption and cultivates it as a corporate culture.
 - The Audit Committee supervises internal control, financial reporting, and other procedures related to anti-corruption measures, steers conformance to anti-corruption measures, and reviews applicable measures and internal control to ensure that the measures are adequate and effective. The committee reviews risk assessment and provides recommendations to the Board on suggested practices to mitigate such risks. Executives must implement such recommendations. The committee also regularly reports internal-audit outcomes regarding anti-corruption measures to the Board and provides best practices to the Board and the executives.
 - The Corporate Governance Committee annually defines and reviews the Anti-Corruption Policy, provides recommendations and guidelines, monitors, and assesses performance.
 - The Risk Management Committee steers and advocates risk management practices related to anti-corruption by assessing corruption risks and reviewing anti-corruption measures for adequacy and suitability.



- Executives establish risk assessment for business processes that may lead to corrupt practices, review the suitability of processes and measures, and personify proper behavior as well as communicating it to all employees and related parties.
 - PTT has developed a Fraud and Corruption Risk Assessment Manual for all units to apply as guidelines for assessing corruption risks in their respective business processes and for defining suitable internal control processes. This year, a class of Fraud Risk Management training was organized to foster knowledge and understanding of international standards on corruption risk management and relevant internal measures for employees to apply in their day-to-day work.
 - PTT establishes procedures for maintaining auditable documents and records to confirm the accuracy and suitability of financial reports. The internal control of accounting processes and information storage is audited to verify the effectiveness of anti-corruption processes and ensure that the entry of financial items is well-evidenced for audit.
 - The Office of Corporate Audit reviews items of potential conflicts of interest, the likelihood of corruption, and corporate efficiency for managing risks arising from corporate corruption and those at operating levels. The office also reviews business ethics principles and the code of conduct for executives and employees. It reviews and reports to the Audit Committee and top executives immediately when encountering items or actions that could harm PTT's performance outcomes, including corruption.
- Measures, scope, and tools for whistleblower protection:
 - PTT's HR administration process reflects its commitment to anti-corruption measures. Although refusal to take part in corruption may deprive PTT of business opportunities, its policy is not to demote, punish, or harm those that do so.
 - PTT's employees should not ignore actions in potential conflicts with anti-corruption measures. PTT has established channels for whistleblowing and protection of whistleblowers or those that need advice about conformance to anti-corruption measures.
 - PTT has established a requirement for complaint-making and whistleblowing to define applicable criteria and guidelines that are suitable and uniform throughout the corporation. In which, a protective measures and fair treatment are place as precaution for whistleblowers or those that provide information. In 2018, PTT MC approved a revision of the guidelines for the consideration of corruption cases to conform to corruption prevention and suppression in the public sector measures of the National Council for Peace and Order (NCPO), established to resolve corruption seriously, strictly, and more efficiently.
 - Punishment
 - PTT has established a suitable and fair process for punishing violators of anti-corruption measures. Any violation of this policy, direct or indirect, calls for disciplinary review under PTT's regulations, consisting of fact-finding, investigation, punishment, and appeal. They could also lead to punishment by law. Employees must therefore master and strictly conform to the Anti-Corruption Policy in every step of their work.

Audit Fee

This year PTT and its subsidiaries, paid THB 142,026,208 (one hundred forty-two million twenty six thousand two hundred and eight Baht) in total as audit fee to the offices of external auditors for previous fiscal year round. They also paid THB 38,019,046 (thirty-eight million nineteen thousand and forty-six Baht) for other services (Non-audit Fee) such as, fees for Comfort Letter which issue for subsidiaries' debt management plan for USD currency debenture distributed to foreign investors, fee for revisit the Updated Global Medium Term Notes, fees for certifying financial statements submitted to the Revenue Department, and other certification fees in previous fiscal year.

Compliance with CG in other areas

According to a survey on PTT's CG conducted by IOD, the overall score given to PTT on the CG Code for listed companies in 2019 was regarded as "excellent". On average, PTT earned a higher overall score and individual category scores than the field of 677 companies, and higher than the average score of SET 50 companies. The survey result was based on PTT's public information. This year PTT commands good guidelines apart from the survey criteria which can serve as best practices for other listed companies such as:

- The current Chairman of the Board, an independent director, exercises freedom in assigning policies and guidance for PTT management.
- PTT requires that independent directors make up at least half of its directors.
- Under the Budget Procedures Act B.E. 2502, PTT is regarded as a state enterprise, the Audit Committee endorsed the appointment of the State Audit Office of the Kingdom of Thailand (a credible, neutral agency) as PTT's external auditor. The committee has secured the Board's endorsement for approval by the shareholders, who will appoint and approve its audit fees.

- The Corporate Governance Committee at Meeting No. 5/2562 of December 4, 2019, and Board Meeting No. 12/2562 of December 19, 2019, acknowledged the Corporate Governance Code (CG Code) issued by SEC. They recognized very well their roles as a governing body for the corporation by implementing CG principles in supplementing sustainable values for business. Having assessed PTT's compliance with the CG Code point by point and in detail, in comparison with PTT's CG Policy and actions, they viewed PTT as commanding a policy, measures, and work processes that align with CG Code guidelines in addition to commanding short-term and long-term plans to develop a CG system to suit its business growth and trends among international leading companies.

This year PTT has observed CG, though it may not have fully covered the criteria of the Corporate Governance Report of Thai Listed Companies (CG Code) and the ASEAN CG Scorecard in the following aspects:

1. Board composition of 5 - 12 directors

The PTT Articles of Association call for 5 - 15 directors. Today it has a total of 15 directors, which agrees with the requirements for petroleum businesses that need experts from a variety of professions. The Board has appointed five committees to screen key matters, namely the Audit Committee, the Nominating Committee, the Remuneration Committee, the Corporate Governance Committee, and the Enterprise Risk Management Committee.

(The number of subcommittee meetings has been detailed under "Board Meetings")

2. Director election through cumulative voting

The PTT Articles of Association call for director election to be decided by a majority of votes. Each shareholder carries votes equal to his or her number of shares. In addition, PTT has consistently devised other ways to preserve the rights of minor shareholders, including its encouragement for them to exercise their right to nominate additional agenda items or nominate directors in advance.



Internal Control and Risk Management

Internal Control System

PTT takes internal control seriously, focusing on a system that is comprehensive in scope of activities as well as adequate and suitable for its businesses to achieve these objectives:

- 1. Operation** – Ensure efficient, effective management of resource consumption, together with stewardship of assets through prevention or reduction of errors, damage, waste, or fraud
- 2. Reporting** – Ensure that financial and other reports developed for internal and external consumption are accurate, transparent, credible, and timely
- 3. Compliance** – Ensure strict compliance with laws, regulations, directives, cabinet resolutions, and policies as well as PTT management's protocols dealing with the organization's business.

PTT developed the duty of internal control assessment to a specific office. The President & CEO has authorized the Governance, Risk, and Compliance Management Committee (GRCMC) to define work procedures under PTT's internal control standards, assess outcomes, and report on internal control. The Board assigned the Audit Committee to review the outcomes of internal control assessment, annually conducted by the management and the Office of Corporate Audit.

The assessment of internal control under the five key aspects of The Committee of Sponsoring Organizations of the Treadway Commission (COSO) are highlighted below.

1. Control Environment

PTT commands a sound control environment that is adequate for business efficiency and effectiveness. Its executives have promoted a corporate culture focusing on integrity and ethics as a role model with the following implementation:

- PTT defined a written policy and protocols, called the Corporate Governance, Ethical Standards and Code of Business Ethics Handbook, which defines assorted best practices to be observed by directors, the management, and employees. In fact, Integrity and Ethics, a part of the SPIRIT corporate values, stresses transparent works by PTT personnel. The Corporate Governance Committee defined a CG policy in line with international standards. Disclosures are made about conflicts of interest to ward off activities of such conflicts as well as illegal and improper activities. The policy and the handbook are revised each year. The Board, the management, and employees are required to acknowledge and conform to such policy and handbook as an integral part of their work, illustrating the commitment to concretely applying the CG policy and code of conduct.
- PTT instituted a decentralized organizational structure for job flexibility, suitability, and alignment with prevailing circumstances. Responsibilities were defined in writing, with definitions of key performance indicators (KPIs) set as guidelines for employees' performance. This practice is regularly monitored and measured against goals, annually revised, so that employees are aware of their roles, authority, and responsibilities.

- PTT integrated CG with the organization's vision, mission, and values by setting a goal for PTT as "sustainable growth for all", a high-performance multinational energy company with excellent capability for growing its competitiveness, and focus on creating shared value (CSV), with due benefit to stakeholders on the basis of CG.
- PTT defined a written policy and procedure for human resource (HR) development, including procedures for planning and administering the overall workforce in both short and long terms. In place is an annual analysis and revision of the manpower compatible with business directions, as well as compliance with laws and regulations. PTT reviews the suitability of audit authority segregation for checks and balances for efficient internal control. All this was communicated to applicable units to prepare for recruitment and prepare expenditure budget to meet HR needs.

2. Risk Assessment

PTT recognizes the importance of risk management to achieve business objectives, as well as those of compliance and preparation of credible reports under changes that impact its businesses due to internal and external factors. Viewing risk management as a critical component of every business process which must be linked with one another, PTT defined a policy of corporate risk management for all to conform to. At every level, risks are to be assessed. As for corporate risks, management is systematically undertaken by PTT's various management committees. Operational risks fall under the oversight of respective executives. An Enterprise Risk Management Committee (ERMC) was set up by the Board to steer and support corporate risk management in line with business strategies and goals as well as shifting circumstances and provide advice on guidelines for monitoring and assessment to the Corporate Plan and Risk Management Committee to manage overall risks for maximum efficiency. It is the responsibility of all units to manage and control risks to manageable levels, as clearly stated in the functional descriptions of all units.

3. Control Activities

PTT Management Committee (PTTMC) is authorized to review financial and other reports of all business groups and regularly reviews performance to ensure conformance to regulations, protocols, and job manuals. PTT defined written policies and procedures, including those for performance assessment of all employees, which relies on KPIs to make control of administrative activities suitable, adequate, and auditable. Portions of businesses have been identified for key risks, and mechanisms defined to control and minimize errors. Regular performance reviews by the management are in place, including financial, procurement, and general administrative transactions. Systematic delegation of duties to personnel groups ensures proper checks and balances. Authority is duly and totally segregated for approval, information compilation, transaction recording, receipt and disbursement of cash, reviews of inspection and stewardship of properties. In place is an internal control system for finance and accounting dealing with cash collection, cash retention, receipt and disbursement, bank deposits, and cash advances. These follow the rules with complete, accurate, and regular recording. Systematic and consistent storage of both accounting documents and information, is in place to comply with the law.

In procurement, PTT follows Public Sector Procurement and Supplies Management Act of 2017 and requirements on materials and supplies, which clearly define responsible parties, including the authority, approval limits, supply need assessment, delivery inspection, control and storage of supplies, and property counting. PTT has systematized HR administration, complete with adequate monitoring and assessment, covering recruitment, determination of compensation, responsibilities, personnel development, performance, and communication so that employees achieve competency under this suitable and efficient system.

Should PTT engage in transactions with the major shareholder, directors, management, or their related parties, it would apply strict measures to ensure that each such transaction secures the required approval every time and for every item. Parties with vested interests will not take part in the approval of such an item. PTT also closely monitors subsequent actions.

In addition, PTT values sustainability management together with Security, Safety, Health, and Environment (SSHE), all of which are likened to a vital shield against risks or impacts, and efficiently as well as effectively lowering potential losses suffered by all stakeholders, assets, work processes, data, and the surroundings. This would bring about business sustainability while extending performance in all aspects of excellence for vision and goal attainment. The Board oversees, monitors, and provides policies as well as recommendations on sustainability management and SSHE, which PTT then applies as its control activities through the Corporate Governance Committee and PTTMC, led by the President & CEO, including Governance Risk and Compliance Management Committee (GRCMC) and the PTT Group Sustainability Management Committee (GSMC), which screens and steers management practices at the strategic level and operating level for sustainability and SSHE. To this end, centralized functions are Good Governance and Corporate Ethics Department and Sustainability Strategy Department. This year a presentation on the key strategic performances and sustainability plans, SSHE goals and KPIs was given to PTTMC for review, direction, and comments once a month. SSHE management actions are detailed in the Corporate Sustainability Report 2019.

4. Information & Communication

In 2019 PTT redefined its visions and missions with a focused strategy to strive for growth to become a sustainable top-quartile performance organization and pursue high-potential “new S-Curve” businesses for leaping into the future with rapid development in technology and innovation, coinciding with Thailand 4.0 public policy on innovation-driven economic growth.

Under the new visions and missions, the Board granted approval for and has fully supported a Digital Roadmap, a strategic plan to develop innovations to increase work efficiency, decrease costs and expenses with a focus on outcomes positively responding to the needs of all stakeholders in all sectors equally, leading to higher business competitive advantages. The integrated digital technology drives productivity improvement in all facets of the business, resulted in increasing revenue, decreasing expenses and non-performing time, and hence consistently generating additional value to the business process in a sustainable manner. Recognizing the significance of digitalization (D), PTT has incorporated it with the SPIRIT corporate values to become “SPIRIT+D” to nurture a digital culture/ mindset of the organization and continuously raise organizational competitiveness to cope with the unceasingly changing work environment. Digital transformation with the Digitize Now strategy has therefore become PTT’s main driving force. Under this strategy, higher efficiency of HR management has been achieved through the use of personalized story lines and HR value chain. The HR value chain is integrated with the personal information database, and the system user can therefore generate his or her own reports in various formats, including individual HR reports and personal-data analytical reports. The system is also equipped with chatbot, providing instantaneous responses, including answers to frequent questions and HR data for employees. Employees can access and seek information from the Workplace Chat, developed as a central platform for all PTT employees to communicate at all times. Another example of using the Digitize Now strategy to improve work efficiency is in procurement, especially non-hydrocarbon items. To fully adhere to governance, risk, and compliance (GRC) and universal application to all PTT business units while striving for the highest possible efficiency and agility in a procurement system under the concepts of Anywhere Anytime Any Device and Green Procurement, state-of-the-art technologies including robotic process automation (RPA) analytics and chatbots have been deployed. Also under these concepts, PTT has joined BCI (Thailand) Co., Ltd., a joint-venture entity among 22 commercial banks in Thailand to pursue the Thailand Blockchain Community Initiative, in replacing hand delivery of collateral

documents with the Blockchain technology, the world's first implementation to adopt Blockchain by all domestic and international banks operating in Thailand and private users transacting on the same platform. The RPA has been widely deployed throughout PTT mainly to increase work efficiency, particularly on repetitive and predictable work processes 24/7, compatible and operable with existing work systems. The RPA is designed as the starting point of the Intelligent Automation Journey of PTT to optimize profits for the organization, from procurement to accounting and finance. The journey began with selection of the critical few transactions with the highest frequency and volumes and detailed work analysis, and designing RPA algorithms for maximum work efficiency. One successful example is the RPA development for an end-to-end financial payment process in conjunction with the Siam Commercial Bank Plc. The RPA system automatically generates requests for payment in text files, expedites the submission of the requests to the bank, and activates the payment process with authorizations in all stages, reducing the overall turnaround time of the entire payment process by 50%.

With a rapidly increasing number of cyber threats, classified as the top 10 global risks by the 2019 World Economic Forum, organizations should realize consequences and damage from these threats, including unnecessary expenses on data retrieval, impacts on and interruptions of businesses, and, in the worst case, loss of customers' confidence. The Board has been fully aware and developed a cyber-security system with specific plans and installation of hardware and software to counter such threats and protect its assets and properties. The system provides security protection through various channels, such as identification and screening of threats through the use of the internet, and tracking of behavioral patterns of cyber attacks. In addition to the development and installation of the system, PTT and its digital service provider, PTT Digital Solutions Co., Ltd., and PTT Group companies, jointly established a Cyber Security Operation Center (CSOC) to take a lead in the cyber security of the entire organization. All staff and executives of CSOC are well-trained with international accreditation, thus providing confidence and assurance to PTT to operate safely.

5. Monitoring & Evaluation

Control Self-Assessment (CSA)

To ensure all stakeholders that PTT's operations will achieve the business objectives and resource consumption efficiency as well as effectiveness, including the stewardship of assets, prevention or reduction of losses, corrupt practices, credibility of financial and operation reports, as well as compliance with laws, regulations, requirements, Cabinet resolutions, and policies (including PTT management's protocols), PTT has integrated internal control as everyone's duty, part of the routine operation of the management and all applicable employees. The Internal control and Risk Management department under the EVP, Corporate Governance, which supervises internal control, annually assesses corporate Control Self-Assessment (CSA) in 2 forms:

1. Control self-assessment questionnaire: An individual internal control assessment form for executive vice presidents upward under PTT's structure as well as executives on secondment in PTT's subsidiaries.

PTT compiles data and develops an information system for a list of key controls. The effort consists of data on functional description (FD), committee appointments, five-point COSO Internal Integrated Framework (namely control environment, risk assessment, control activities, information & communication, and monitoring). The response format was also developed as an e-CSA (electronic) for executives to assess and access assessment reports through the intranet system. To enable the control self-assessment form to incorporate more activities under key processes for individuals, this year, the assessment questions were amended to be more concise and aligned with the fundamental principles of defining suitable internal control measures for juristic persons' prevention of bribery of public officials under Article 176 of the National Anti-Corruption Commission (NACC).

2. GRC Assessment Workshop: This workshop assesses process internal control at the departmental and divisional level, with a focus on control activities of business processes. Assessment outcomes and plans to improve internal control must have the concurrence of work process owners and monitoring by supervisors.

In 2019, PTT integrated functional-level internal control assessment in line with the GRC approach, COSO 2013 standard of 5 elements and 17 principles, the criteria of the Ministry of Finance on the standard and rules for internal control operation for public-sector agencies of 2018, and SEC's sufficiency assessment form for internal control. This integration includes CG and good governance, internal control, risk management, as well as laws and organizational regulations to jointly define emphasis, improve assessment criteria, develop approaches and tools for efficient internal control assessment, and organize a GRC Assessment Workshop for each unit to educate and forge awareness in every function. This awareness is critical for efficient and effective risk management and internal control. Throughout the assessment, advice is given on activity-level risk assessment and the criteria for control assessment so that those on the job may assess and state assorted essential data accurately and comprehensively, the findings of which would serve as key control database for the organization. In addition, senior executives communicate this matter through assorted activities to drive the importance among all and continually implement them.

Moreover, the Office of Corporate Audit also reviewed internal control practices to ensure that they are adequate, suitable, and consistently practiced. If a given item needed improvement, procedures would be defined to ensure that audit and review findings are promptly remedied. The office also reviewed internal control assessment outcomes and reported them to the Audit Committee, indicating no significant problems or defects, which is parallel with a view shared by the external auditor, described that PTT's internal control system was considered adequate and efficient from a business standpoint.

Internal Control System

The Office of Corporate Audit is an independent unit that directly reports to the Audit Committee. It fosters assurance and provides consultation to ensure that business processes are duly equipped with CG, risk management, and sound internal control practices, known as Governance, Risk Management, Control and Compliance (GRC), in support of PTT's objectives.

The office commands an annual audit plan and three-year audit plans in line with PTT's business strategic direction and a risk-based approach to key corporate risks, encompassing PTT Group's businesses, domestic and international. It reports findings to the Audit Committee for consideration and forwarding them to the Board for acknowledgment every quarter. Regular monitoring is undertaken for actions in response to the office's recommendations. In its course of work, the office freely expresses its opinions. No conflicts have arisen between audited units and the office that cannot be resolved.

Head of the Office of Corporate Audit

At Meeting No. 5/2019 of May 16, 2019, the Board appointed Mr. Chadil Chavanalikhorn, Executive Vice President, Office of Corporate Audit, with effect from July 1, 2019, citing his mastery of PTT's business. Equipped with expertise, skills, and experience in internal audit, he is familiar with PTT's business undertaking, good governance, risk assessment, and internal control at the business and overall levels and was therefore regarded as suitable for the position. The Audit Committee approved the appointment, transfer, performance assessment, and annual merit pay increase of this position.

Biography of the Head of Corporate Audit



**Mr. Chadil
Chavanalikhikorn**
Head of the Office
of Corporate Audit

Age: 54

Education

- Bachelor of Engineering, Kasetsart University
- Master of Business Administration, Kasetsart University
- Certified Internal Auditor (CIA): The Institute of Internal Auditors

Training

- Senior Energy Executive, Thailand Energy Academy, Ministry of Energy
- Administrative Psychological Operation: Institute of Security Psychology, National Defence Studies Institute
- Anti-Corruption Training Program for Public Officials, NACC
- Senior Executive Program (SEP), Sasri Graduate Institute of Business Administration
- Leadership Development Program II, PTT-Harvard Business School: PLLI
- Leadership Development Program II, PTT-IMD: PLLI
- Successful Formulation & Execution of Strategy (SFE 17/2013), Anti-Corruption: The Practical Guide (ACPG 2/2013), Company Secretary Program (CSP 65/2015), Independent Observer Program (IOP 1/2016), Thai Institute of Directors Association (IOD)

Working experience in the 5 preceding years

- 2013 - 2016 Vice President, Strategy & Audit Quality Development Department
- 2016 - 2017 Vice President, Internal Audit Department
- 2017 - 2018 Executive Vice President, Sustainability Management
- 2018 - 2019 Executive Vice President, Corporate Governance
- 2019 - Present Executive Vice President, Office of Corporate Audit

Key Related Directorship: None

Relations with the Management: None

Compliance Unit

PTT inaugurated a Compliance Department in 2017 to oversee all personnel and all business units under PTT to fully comply with all external and internal laws, rules, regulations, directives, procedures, and announcements controlling all facets of PTT businesses, such as laws governing state-owned enterprises, regulations governing company registration and articles of association, rules and laws governing energy businesses and investments. This compliance unit falls under the Office of General Counsel and reports directly to Senior Executive Vice President, Office of General Counsel (biographical data shown under “PTT Executives”), indirectly reporting to the GRCMC and the Corporate Governance Committee. The Department routinely works with the 2nd Line of Defense Alliances or business units directly in charge of specific legal issues and forms a coordination team to collect, search, and develop a data depository on laws and regulations governing the operations and businesses of PTT. The team is tasked to analyze and determine legal assessment and potential legal risks, as well as impacts on the operations and businesses. The assessment also focuses on the compliance of all business units with all laws and regulations, and takes all concerning issues into consideration for continuous work process improvement to ensure full compliance with external and internal laws, rules, and regulations. The Department also constantly develops and nurtures a compliance culture through continuous organization of learning and development sessions, consultancy services, and publications and dissemination of data and information related to laws, rules, and regulations governing PTT’s operations and businesses. Series of emails and e-learning are routinely communicated to share best practices and regulatory compliance intended to nurture compliance values and culture, as well as to enhance understanding of legal and compliance issues related to individual job responsibilities and the awareness of consequences of non-compliance. Thanks to correct work practices and strict adherence to legal and regulatory compliance of all staff and executives, PTT can assure that all operations and businesses are uninterrupted by legal risks, while striving to become a sustainable “zero non-compliance” organization.

PTT Board of Directors

As of December 31, 2019

PTT Board of Directors

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PTT Board of Directors

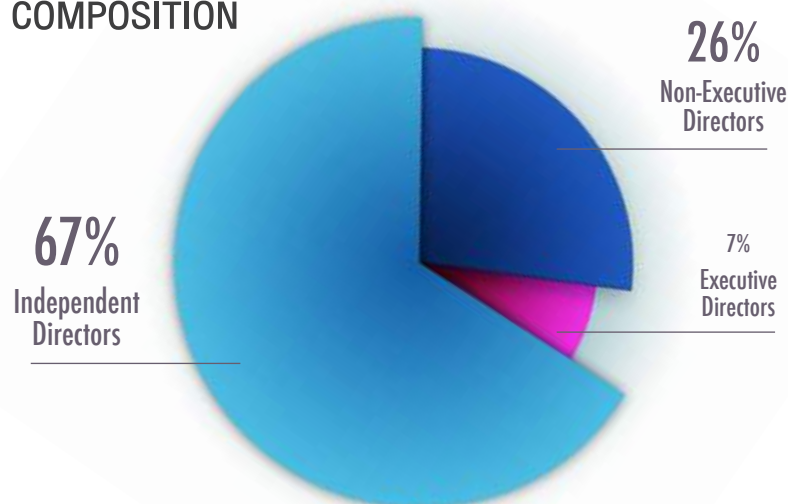
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- | | | | |
|--|--|--|---|
| 1. Mr. Krairit Euchukanonchai
Independent Director/ Chairman | 5. Professor Dr. Kittipong Kittayarak
Independent Director/
Chairman of the Corporate Governance Committee | 9. Professor Dr. Supot Teachavorasinskun
Independent Director/ Member of the Nominating
Committee/ Member of the Remuneration Committee | 12. Mr. Chumpol Rimsakorn
Director/ Member of the Remuneration
Committee/ Member of the Enterprise
Risk Management Committee |
| 2. Mr. Vichai Assarasakorn
Independent Director/
Chairman of the Audit Committee | 6. Mr. Supattanapong Punmeechaow
Director/
Chairman of the Enterprise Risk Management Committee | 10. Professor Dr. Surapon Nitikraipot
Independent Director/ Member of the Nominating Committee/
Member of the Corporate Governance Committee | 13. Mr. Nuttachat Charuchinda
Director/ Member of the Enterprise
Risk Management Committee |
| 3. Mr. Don Wasantapruerk
Independent Director/
Chairman of the Nominating Committee | 7. Mrs. Nuntawan Sakuntanaga
Independent Director/ Member of the Audit Committee | 11. Mr. Thon Thamrongnawasawat
Independent Director/ Member of the Corporate
Governance Committee/ Member of the Enterprise
Risk Management Committee | 14. Mr. Sarawut Kaewtathip
Director |
| 4. GEN Teerawat Boonyawat
Independent Director/
Chairman of the Remuneration Committee | 8. Mr. Danucha Pichayanan
Independent Director/ Member of the Audit Committee | | 15. Mr. Chansin Treenuchagron
Director/ Secretary to the Board/
President and Chief Executive Officer |

BOARD DIVERSITY

BOARD COMPOSITION



DIVERSE SKILLS & EXPERIENCES

MARKETING



4
Persons

ECONOMIC



7
Persons

LAW



4
Persons

BUSINESS MANAGEMENT



15
Persons

INTERNATIONAL BUSINESS



6
Persons

ACCOUNTING



4
Persons

IT



6
Persons

FINANCE



8
Persons

ENGINEERING



9
Persons

SCIENCE ENERGY & TECH. INNOVATION, AI



10
Persons

SUSTAINABLE DEVELOPMENT



9
Persons

POLITICAL SCIENCE/ RISK MANAGEMENT

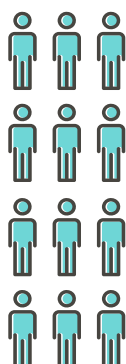


6
Persons

GENDER

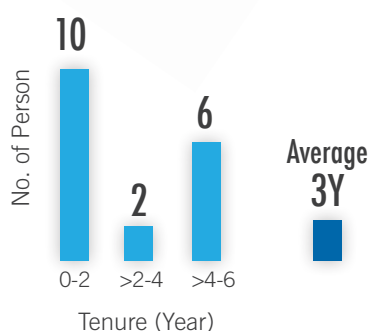


1
Persons



14
Persons

TENURE



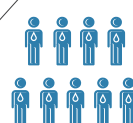
INDUSTRY EXPERIENCES (ENERGY)

Power Oil & Gas

Academic
(Person)



Practical work experiences
(Person)




PTT Board of Directors


* As of December 31, 2019

PTT Board of Directors

As of December 31, 2019


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Krairit Euchukanonchai</div> <div>Independent Director/ Chairman</div> <div></div> <div><ul style="list-style-type: none">Appointed as Independent Director - July 11, 2018 - April 11, 2019 (re-elected)Appointed as Chairman September 7, 2018</div>	64	None	None	Education	2011 - 2012	• Director	• PTT Exploration and Production Public Company Limited
				• Bachelor of Science, Chulalongkorn University	2011 - 2012	• Director/ Member of the Audit Committee	• PTT Public Company Limited
				• Master of Business Administration (Banking and Finance), North Texas State University, Texas, USA	2010 - 2011 2006 - 2012	• Director • Chairman/ Chairman of the Risk Management Committee	• State Enterprise Policy Committee • Krung Thai Asset Management Public Company Limited
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Director Certification Program (DCP 59/2005), Role of the Chairman Program (RCP 16/2007), Thai Institute of Directors Association (IOD)	2018 - Present 2015 - Present	• Independent Director/ Chairman, PTT Public Company Limited • Vice Chairman/ Chairman of the Executive Board/ Chairman of the Risk Oversight Board, Krungthai Bank Public Company Limited	
				• Citibank: Various Professional Training Courses	2014 - Present	• Independent Director/ Chairman of Audit and Risk Committee/ Member of Nomination and Corporate Governance Committee, Advanced Info Service Public Company Limited	
				• Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 12/2018), Thailand Energy Academy (TEA)	Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					2017 - 2019 2014 - Present 1998 - Present	• Chairman, Mass Rapid Transit Authority of Thailand • Director, Advanced Wireless Network Company Limited • Chairman, V.Group Honda Cars Co., Ltd. and its Subsidiaries and its Associates	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					-	-	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Vichai Assarasakorn Independent Director/ Chairman of the Audit Committee 	59	None	None	Education	2014 - 2017	• Qualified Director	• Financial Institutions Policy Committee, Bank of Thailand
				• Bachelor of Engineering, University of New South Wales, Australia	2011 - October 2014	• Secretary-General	• Anti-Corruption Organization of Thailand
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Director Certification Program (DCP 215/2016), Thai Institute of Directors Association (IOD)	2014 - Present	• Independent Director, PTT Public Company Limited	
				• Top Executive Program (Class of 12 th), Capital Market Academy (CMA)	2014 - April 11, 2019	• Member of the Audit Committee, PTT Public Company Limited	
<ul style="list-style-type: none"> • Appointed as Independent Director - September 4, 2014 - April 28, 2017 (re-elected) • Appointed as Member of the Audit Committee - September 4, 2014 (Changed to Chairman of the Audit Committee since April 11, 2019) 				• Diploma, The Joint State - Private Sector Course (Class of 22 nd), National Defence College	April 11, 2019 - Present	• Chairman of the Audit Committee, PTT Public Company Limited	
				• Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 7/2015), Thailand Energy Academy (TEA)	February 20, 2018 - April 11, 2019	• Chairman of the Remuneration Committee, PTT Public Company Limited	
				• Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 7/2015), Thailand Energy Academy (TEA)	2017 - Present	• Independent Director/ Chairman of the Audit Committee/ Member of the Corporate Governance and Social Responsibility Committee, Krungthai Bank Public Company Limited	
				• Top Executive Program in Commerce and Trade (TEPCoT), Commerce Academy, University of the Thai Chamber of Commerce (Class 8/2015)	Relevant Important Positions in Non Listed Company/ Other Organizations (In the Previous Year)		
				• Year 2013, ASEAN Executive Management Programme, Sasin Graduate Institute of Business Administration of Chulalongkorn University (Sasin)	2017 - Present	• Reform Commission of Thailand on Anti-Corruption	
				• Cybersecurity, Cyber Resilience & Privacy Risk in the Era of Digital Transformation Year 2018, ACIS Professional Center	2017 - Present	• Academic Directorial Members (Business Administration Branch), Office of Insurance Commission	
				• Thailand's 5 th National Conference on Collective Action Against Corruption "Tackling Corruption through Public-Private Collaboration" (October 16, 2014)	2016 - Present	• Chairman of the Sub-committee for the Private Sector Mobilization of the National Anti-Corruption Strategy under National Anti-Corruption Commission	
					2015 - Present	• Member, Anti-Corruption Committee	
					2014 - Present	• Director, Panel Plus Company Limited	
					2014 - Present	• Director, Panel Plus MDF Company Limited	
					October 2014 - Present	• Vice President, Anti-Corruption Organization of Thailand	
					March 2013 - Present	• Vice Chairman, The Thai Chamber of Commerce	
					1995 - Present	• Director, Shiang Heng International Company Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Vichai Assarasakorn (Continued) Independent Director/ Chairman of the Audit Committee				<ul style="list-style-type: none"> Seminar “Role and Function of Board of Directors of State Enterprise”, State Enterprise Policy Office (June 5, 2015) Seminar “Re-energizing Growth through Better Governance”, IOD (June 18, 2015) Seminar “Incorporation of State Investment Corporation” (July 13, 2015) Seminar PTT Group AC Forum 2015 Briefing on International Anti-Corruption... International Cases and Practices, IOD (October 14, 2015) CG Forum 4/2015-Thailand CG Forum “Governance as a Driving Force for Business Sustainability”, SET SEC and IOD (October 28, 2015) Seminar Anti-Corruption: Leadership Role of the Board in Driven the Organization toward the Draft of the Development of Corporate Governance and Enterprise Management Act... and Good Corporate Governance (October 17, 2016) PTT Board Briefing Seminar “Electric Vehicles & Future Energy System:Recent Development and Implications” Petroleum Institute of Thailand (PTIT) 	Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					-	-	



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Don Wasantapruerk</div> <div>Independent Director/ Chairman of the Nominating Committee/ Authorized Director</div> <div></div> <div><ul style="list-style-type: none">Appointed as Independent Director - July 26, 2014 - April 11, 2016 (re-elected) - April 11, 2019 (re-elected)Appointed as Chairman of the Nominating Committee - December 23, 2018Appointed as Authorized Director - August 19, 2016</div>	61	None	None	Education	2018 - 2019	• Director to the Nomination and Remuneration Committee	• PTT Global Chemical Public Company Limited
				<ul style="list-style-type: none">Bachelor of Industrial Engineering, University of New South Wales, Sydney, AustraliaMaster of Industrial Engineering, University of New South Wales, Sydney, Australia	2015 - 2018	• Director to the Corporate Governance Committee	• PTT Global Chemical Public Company Limited
					2009 - Present	• Self-employed	
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				<ul style="list-style-type: none">Director Accreditation Program (DAP 117/2015), Role of the Nomination and Governance Committee Program (RNG 7/2015), Thai Institute of Directors Association (IOD)	2014 - Present	• Independent Director, PTT Public Company Limited	
				<ul style="list-style-type: none">Thailand’s 5th National Conference on Collective Action Against Corruption “Tackling Corruption through Public-Private Collaboration” (October 16, 2014)	December 23, 2018 - Present	• Chairman of the Nominating Committee, PTT Public Company Limited	
				<ul style="list-style-type: none">Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 6/2015), Thailand Energy Academy (TEA)	November 1, 2015 - Present	• Independent Director, PTT Global Chemical Public Company Limited	
				<ul style="list-style-type: none">Seminar “Incorporation of State Investment Corporation” (July 13, 2015)	November 1, 2019 - Present	• Chairman of the Nomination and Remuneration Committee, PTT Global Chemical Public Company Limited	
				<ul style="list-style-type: none">Briefing on International Anti-Corruption... International Cases and Practices, IOD (October 14, 2015)	Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					-	-	
Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)							
	-	-					


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Don Wasantapruek (Continued) Independent Director/ Chairman of the Nomination Committee/ Authorized Director				<ul style="list-style-type: none"> Seminar Anti-Corruption: Leadership Role of the Board in Driven the Organization toward the Draft of the Development of Corporate Governance and Enterprise Management Act... and Good Corporate Governance (October 17, 2016) PTT Board Briefing 			
GEN Teerawat Boonyawat Independent Director/ Chairman of the Remuneration Committee 	59	None	None	Education <ul style="list-style-type: none"> Bachelor of Science Program, Chulachomklao Royal Military Academy Master of Business Administration, Kasetsart University 	2018 - Present	<ul style="list-style-type: none"> Chief of Staff Deputy Chief of Staff Director of Civil Affairs Director of the Operation Office Deputy Director of Joint Operations 	<ul style="list-style-type: none"> Royal Thai Army Royal Thai Army Directorate of Civil Affairs Directorate of Operations Directorate of Operations
				Certification <ul style="list-style-type: none"> Diploma, The National Defence Course (Class of 58th), National Defence College Joint War College (Class of 41st) 	2012 - Present	<ul style="list-style-type: none"> Royal Guard 	
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					April 11, 2019 - Present	<ul style="list-style-type: none"> Independent Director/ Chairman of the Remuneration Committee, PTT Public Company Limited 	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					-	-	
<ul style="list-style-type: none"> Appointed as Independent Director - April 11, 2019 Appointed as Chairman of the Remuneration Committee - April 11, 2019 					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					Present	<ul style="list-style-type: none"> Secretary, General of Internal Security Operations Command (ISOC) 	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Professor Dr. Kittipong Kittayarak</div> <div>Independent Director/ Chairman of the Corporate Governance Committee</div> <div></div> <div><ul style="list-style-type: none">Appointed as Independent Director - July 1, 2014 - April 28, 2017 (re-elected)Appointed as Chairman of the Corporate Governance Committee - April 11, 2019</div>	61	None	None	Education	2015 - Present	• Executive Director	• Thailand Institute of Justice (TIJ)
				<ul style="list-style-type: none">Bachelor of Laws (Honor), Chulalongkorn UniversityMaster of Laws (LL.M.), Cornell University, USA (Royal Thai Government Scholarship)Master of Laws (LL.M.), Harvard University, USA (Fulbright Scholarship)Doctor of the Science of Laws (J.S.D.), Stanford University, USA (Fulbright Scholarship)	2016 - August 10, 2018	• Audit Committee Member	• Dusit Thani Public Company Limited
					2014 - 2017	• Chairman of the Audit Committee	• Krungthai Bank Public Company Limited
					2014 - 2015	• Advisor to the Prime Minister	• Secretariat of the Prime Minister
					2008 - 2014	• Permanent Secretary	• Ministry of Justice
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				<ul style="list-style-type: none">Director Accreditation Program (DAP 112/2014), Advanced Audit Committee Program (AACP 18/2015), Thai Institute of Directors Association (IOD)Barrister-at-Law, Institute of Legal Education Thai Bar AssociationPolitics and Government in Democracy for Executives (Class of 5th), King Prajadhipok's InstituteDiploma, The National Defence Course (Class of 49th), National Defence College	2014 - Present	• Independent Director, PTT Public Company Limited	
					2014 - April 11, 2019	• Chairman of the Audit Committee, PTT Public Company Limited	
					April 11, 2019 - Present	• Chairman of the Corporate Governance Committee, PTT Public Company Limited	
				2014 - Present	• Independent Director, Krungthai Bank Public Company Limited		
April 2019 - Present	• Chairman of the Corporate Governance and Social Responsibility Committee/ Member of the Compliance Committee, Krungthai Bank Public Company Limited						
2016 - Present	• Independent Director, Dusit Thani Public Company Limited						
June 2019 - Present	• Nomination, Remuneration and Corporate Governance Committee Member, Dusit Thani Public Company Limited						
Relevant Important Positions In Non-Listed Companies (In the Previous Year)							
August 1, 2018 - Present	• Committee, Ramathibodi Foundation Under the Royal Patronage of His Majesty the King, Her Royal Highness Princess Maha Chakri Sirindhorn						
2018 - Present	• Director, Chakri Naruebodindra Medical Institute and Ramathibodi Chakri Naruebodindra Hospital						

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Professor Dr. Kittipong Kittayarak (Continued) Independent Director/ Chairman of the Corporate Governance Committee				<ul style="list-style-type: none">• Top Executive Program (Class of 8th), Capital Market Academy (CMA)• Certificate, Executive Program in “Energy Literacy for a Sustainable Future” (Class of 1st), Thailand Energy Academy (TEA)• Certificate in Rule of Law and Democracy (Class 1/2013), Office of the Constitutional Court• Top Executive Program in Justice Administration (Class 10/2006), Judicial Training Institute• Cybersecurity, Cyber Resilience & Privacy Risk in the Era of Digital Transformation Year 2018, ACIS Professional Center• Thailand’s 5th National Conference on Collective Action Against Corruption “Tackling Corruption through Public - Private Collaboration” (October 16, 2014)• Seminar “Role and Function of Board of Directors of State Enterprise”, State Enterprise Policy Office (June 5, 2015)• Seminar Strengthen Good Governance of Directors of Public Enterprises, State Enterprise Policy Office (September 30, 2016)• Seminar PTT Group AC Forum 2015• PTT Board Briefing	2017 - Present October 25, 2016 - Present 2014 - Present 2014 - Present 2011 - Present 2010 - Present	<ul style="list-style-type: none">• Executive Director/ Vice Chairman, Friends in Need (of “PA”) Volunteers Foundation Thai Red Cross• Chairman of the Audit Committee, Mahidol University• Director of the Civil Service Sub-commission on Human Resource Management System Development, Office of the Civil Service Commission• Director, Consider Improvement on the Code of Criminal Procedure, Office of the Council of State• Executive Director/ Chairman (Thailand Branch), ASIA Crime Prevention Foundation (ACPF)• Member of the Board of Committee, Thai Bar under the Royal Patronage	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					November 2019 - Present 2017 - Present August 26, 2016 - Present 2014 - Present 2009 - Present	<ul style="list-style-type: none">• Chairman, Board of Trustees, King Mongkut’s Institute of Technology Ladkrabang• Sub-Committee on Foreign Affairs, The Court of Justice• Professor of Law, Faculty of Law, Chulalongkorn University• Chairman, Board of Trustees, Bangkok University• Member of Mahidol University Council	






Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Supattanapong Punmeechaow</div> <div>Director/ Chairman of the Enterprise Risk Management Committee</div> <div></div> <div><ul style="list-style-type: none">Appointed as Director - October 1, 2019Appointed as Chairman of the Enterprise Risk Management Committee - October 1, 2019</div>	60	None	None	Education	October 1, 2014 - September 30, 2019	<ul style="list-style-type: none">Senior Executive Vice President, PTT, working on a secondment as President and Chief Executive Officer	<ul style="list-style-type: none">PTT Global Chemical Public Company Limited
				<ul style="list-style-type: none">Bachelor of Engineering (Chemical Engineering), Chulalongkorn UniversityMaster of Business Administration, Chulalongkorn University	May 2015 - March 2018	<ul style="list-style-type: none">Committee Member	<ul style="list-style-type: none">Thai Listed Companies Association
				Certification	November 27, 2014 - July 19, 2017	<ul style="list-style-type: none">Vice Chairman	<ul style="list-style-type: none">Vinythai Public Company Limited
				<ul style="list-style-type: none">Director Certification Program (DCP 131/2010), Role of Chairman Program (RCP 30/2013), Thai Institute of Directors Association (IOD)Advanced Management Program, INSEAD University, FranceDiploma, The National Defence Course (Class of 50th), National Defence CollegeThe Joint State-Private Sector Course (Class of 20th), National Defence CollegeOxford Energy Seminar 2013, United KingdomCertificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 4th), Thailand Energy Academy (TEA)	May 2015 - May 2017 2016	<ul style="list-style-type: none">ChairmanDirector	<ul style="list-style-type: none">The Community PartnershipThe Center of Excellence on Environmental Health and Toxicology (EHT), Mahidol University
					August 10, 2015 - January 20, 2016	<ul style="list-style-type: none">Chairman	<ul style="list-style-type: none">Thai Fatty Alcohol Company Limited
	2014 - November 19, 2015	<ul style="list-style-type: none">Chairman	<ul style="list-style-type: none">Sport Services Alliance Limited				
	August 1, 2014 - December 31, 2014	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Islamic Bank of Thailand				
	April 1, 2012 - September 30, 2014	<ul style="list-style-type: none">Senior Executive Vice President, Corporate Strategy	<ul style="list-style-type: none">PTT Public Company Limited				
	October 30, 2013 - September 25, 2014	<ul style="list-style-type: none">Director/ Director of the Nomination and Remuneration Committee	<ul style="list-style-type: none">Bangchak Petroleum Public Company Limited				
	May 27, 2011 - September 19, 2014	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Sakari Resources Limited				
	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)						
	October 1, 2019 - Present	<ul style="list-style-type: none">Director/ Chairman of the Enterprise Risk Management Committee, PTT Public Company Limited					
	2014 - Present	<ul style="list-style-type: none">Director/ Director to the Risk Management Committee, PTT Global Chemical Public Company Limited					

- **Appointed as Director**
- October 1, 2019
- **Appointed as Chairman of the Enterprise Risk Management Committee**
- October 1, 2019


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Supattanapong Punmeechaow (Continued) Director/ Chairman of the Enterprise Risk Management Committee				<ul style="list-style-type: none"> Corporate Governance for Directors and Senior Executives of State Enterprises and Public Organizations (Class 12/2014), Public Director Institute (PDI), King Prajadhipok's Institute Rule of Law for Democracy Course (Class 3/2015), College of the Constitutional Court Top Executives Program (Class 23/2016), Capital Market Academy Business Revolution and Innovation Network "BRAIN" (Class 2/2018), The Federation of Thai Industries 	April 1, 2019 - September 18, 2019	Chairman, Global Power Synergy Public Company Limited	
					2014 - October 1, 2019	Director, Global Power Synergy Public Company Limited	
					2015 - Present	Chairman, Global Green Chemicals Public Company Limited	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					2014 - 2019	Director, PTTGC International Private Limited	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					Present	Commission Member, National Administration under the Framework of National Reform, Strategy, and Reconciliation Prime Minister's Delivery Unit	
					Present	Commission Member (Business Administration), Office of the Public Sector Development Commission (OPDC)	
					April 9, 2018 - September 2019	Vice Chairman, The Federation of Thai Industries (Term 2018 - 2019)	
					February 26, 2018 - Present	Director, Thai Institute of Directors (IOD)	
					February 10, 2018 - Present	President, Chulalongkorn University Engineering Alumni	
					December 2014 - September 2019	Vice President, Thailand Swimming Association	
					February 2015 - September 2019	Member of Kamnoetvidya Science Academy	
					May 12, 2015 - September 2019	Honorary Member of Vidyasirimedhi Institute Council	
					November 2014 - September 2019	Vice President, Power of Innovation Foundation and Power of Learning Foundation	
					November 2014 - September 2019	Member, Council of Trustees, Petroleum Institute of Thailand (PTIT)	



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mrs. Nuntawan Sakuntanaga</div> <div>Independent Director/ Member of the Audit Committee</div> <div></div> <div><ul style="list-style-type: none">Appointed as Independent Director - July 1, 2014 - April 9, 2015 (re-elected) - April 12, 2018 (re-elected)Appointed as Member of the Audit Committee - July 5, 2014</div>	61	None	None	Education	October 2017 - September 30, 2018	Permanent Secretary	Ministry of Commerce
				<ul style="list-style-type: none">Bachelor of Accounting in Finance and Banking, Chulalongkorn UniversityM.B.A. in Marketing and International Business, University of Wisconsin at Madison (Wisconsin, USA)	October 2016	Director General	Department of Internal Trade, Ministry of Commerce
					October 2015	Director General	Department of Intellectual Property, Ministry of Commerce
					October 2013	Director General	Department of International Trade Promotion, Ministry of Commerce
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				<ul style="list-style-type: none">Director Certification Program (DCP 166/2012), Audit Committee Program (ACP 43/2013), Financial Statements for Directors (FSD 31/2016), Boardroom Success through Financing and Investment (BFI 7/2019), Board that Make a Difference (BMD 9/2019) Thai Institute of Directors Association (IOD)	2014 - Present	Independent Director/ Member of the Audit Committee, PTT Public Company Limited	
				<ul style="list-style-type: none">Certificate, The Civil Service Executive Program for Senior Civil Servants (Class 38/2003), Office of the Civil Service Commission	September 18, 2018 - Present	Independent Director/ Chairman of the Corporate Governance Committee, Asset World Corp Public Company Limited	
				<ul style="list-style-type: none">Diploma, The National Defence Course (Class of 49th) (2006 - 2007), National Defence College	Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
				<ul style="list-style-type: none">Leaders in Development Program- Managing Political & Economic Reform, Kennedy School of Government, Harvard University, Boston, 2008, USA	May 11, 2019 - Present	Commissioner, Securities and Exchange Commission, Thailand	
					April 2019 - Present	Chairman, The Gem and Jewelry Institute of Thailand/ (Public Organization)	
Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)							
				October 17, 2018 - March 2019	Sub-Committee on State Revenue Collection, under the Committee on Economics, Monetary Affairs and Finance, National Legislative Assembly		


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mrs. Nuntawan Sakuntanaga (Continued) Independent Director/ Member of the Audit Committee				<ul style="list-style-type: none"> • Top Executive Program in Commerce and Trade (TEPCoT) (Class of 2nd), Commerce Academy • Top Executive Program (Class 14/2012), Capital Market Academy (CMA) • Corporate Governance Program for Directors and Executives of State Enterprises and Public Organization (Class 12/2013), Public Director Institute (PDI) • Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class 5/2014), Thailand Energy Academy (TEA) • Seminar PTT Group AC Forum 2018 • Briefing on International Anti-Corruption... International Cases and Practices, IOD (October 14, 2015) • Seminar Global Financial Market Outlook 2016, IOD (November 17, 2015) • Seminar “Electric Vehicles & Future Energy System: Recent Development and Implications” Petroleum Institute of Thailand (PTIT) 			



Name/ Position	Age (Year)	(% of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Danucha Pichayanan Independent Director/ Member of the Audit Committee 	49	None	None	Education <ul style="list-style-type: none"> Bachelor of Engineering, Chulalongkorn University M.S. Engineering Management, George Washington University, USA 	October 1, 2016 - Present	Deputy Secretary - General National Economic and Social Development Council	Office of the National Economic and Social Development Council (NESDC)
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 211/2015) Thai Institute of Directors Association (IOD) Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 10th), Thailand Energy Academy (TEA) Certificate, The Civil Service Executive Program for Senior Civil Servants (Class 78/2013), Office of the Civil Service Commission Senior Executive Certificate in Anti-Corruption Strategic Management (Class 7/2016), Office of the National Anti-Corruption Commission 	December 16, 2013	Senior Advisor in Policy and Plan (Plan and Policy Analyst, Advisory Level)	Office of the National Economic and Social Development Council (NESDC)
					October 1, 2013	Acting, Senior Advisor in Policy and Plan (Plan and Policy Analyst, Advisory Level)	Office of the National Economic and Social Development Council (NESDC)
					February 19, 2010	Director Infrastructure Project Office (IPO) (Policy and Strategic Analyst 9)	Office of the National Economic and Social Development Council (NESDC)
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					April 12, 2018 - Present	Independent Director, PTT Public Company Limited	
					April 11, 2019 - Present	Member of the Audit Committee, PTT Public Company Limited	
<ul style="list-style-type: none"> Appointed as Independent Director - April 12, 2018 Appointed as Member of the Audit Committee - April 11, 2019 					April 25, 2018 - April 11, 2019	Member of the Enterprise Risk Management Committee, PTT Public Company Limited	
					April 11, 2019 - Present	Director/ Member of the Risk Management Committee/ Chairman of the Steering Committee of TG MRO Campus Project and TG Business Development at U-Tapao Airport Project, Thai Airways International Public Company Limited	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					2013 - Present	Director, Provincial Electricity Authority	


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Danucha Pichayanan (Continued) Independent Director/ Member of the Audit Committee					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					2016 - Present	• Board Member, National Electronics and Computer Technology Center (NECTEC)	
					2016 - June 2019	• Board Member, Broadcasting and Telecommunications Research and Development Fund for the Public Interest (BTFP)	
					2016 - June 2019	• Sub-Committee of the Project Evaluation and Research Fund, Broadcasting and Telecommunications Research and Development Fund for the Public Interest (BTFP)	
					2016 - June 2019	• Sub-Committee of the Research Fund Policy and Strategic, Broadcasting and Telecommunications Research and Development Fund for the Public Interest (BTFP)	
					2015 - Present	• Member, Public Service Obligation Committee	




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Professor Dr. Supot Teachavorasinskun</div> <div>Independent Director/ Member of the Nominating Committee/ Member of the Remuneration Committee/ Authorized Director</div> <div></div> <div><ul style="list-style-type: none">Appointed as Independent Director - January 18, 2018 - April 11, 2019 (re-elected)Appointed as Member of the Nominating Committee - April 25, 2018Appointed as Authorized Director - April 25, 2018Appointed as Member of the Remunerating Committee - October 1, 2019</div>	54	None	None	Education	2016 - Present	<ul style="list-style-type: none">Dean	<ul style="list-style-type: none">Faculty of Engineering, Chulalongkorn University
				<ul style="list-style-type: none">Bachelor of Engineering (Civil Engineering), Chulalongkorn UniversityMaster of Engineering (Civil Engineering), University of Tokyo, JapanDoctor of Engineering (Civil Engineering), University of Tokyo, Japan	2003	<ul style="list-style-type: none">Associate Professor	<ul style="list-style-type: none">Department of Civil Engineering, Faculty of Engineering, Chulalongkorn University
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				<ul style="list-style-type: none">Director Certification Program (DCP 269/2019), Financial Statements for Directors (FSD 38/2019), Thai Institute of Directors Association (IOD)Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 10th), Thailand Energy Academy (TEA)	2018 - Present April 25, 2018 - Present October 1, 2019 - Present	<ul style="list-style-type: none">Independent Director, PTT Public Company LimitedMember of the Nominating Committee, PTT Public Company LimitedMember of the Remuneration Committee, PTT Public Company Limited	
				Relevant Important Positions In Non-Listed Companies (In the Previous Year)			
				May 23, 2017 - May 22, 2019	<ul style="list-style-type: none">Board Member, Thailand Institute of Scientific and Technological Research		
				Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)			
				2018 - Present	<ul style="list-style-type: none">Member, Chulalongkorn University Engineering Alumni		



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Professor Dr. Surapon Nitikraipot (Continued) Independent Director/ Member of the Nomination Committee/ Member of the Corporate Governance Committee/ Authorized Director				<ul style="list-style-type: none"> Diploma, National Defence Course for the Joint State-Private Sector (Class of 23rd), The National Defence College, 2010 Certificate, Executive Program on Energy Literacy for a Sustainable Future (TEA) (Class of 7th), Thailand Energy Academy 	Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					2018 - Present	Chairman, Heng Leasing Limited Company	
					2017 - Present	Chairman, J.D. Food Products Company Limited	
					2017 - 2019	Chairman of the Board, Kamnoetvidya Science Academy	
					2019 - Present	Vice Chairman of the Board, Kamnoetvidya Science Academy	
					2007 - Present	Chairman of the Executive Directors, Thammasat University Hospital	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					Present	Board Member of the Commission for the Development of Public Organization	
					2016 - Present	Chairman, Navamindradhiraj University Council	
					2012 - Present	Member of the 8 th Committee of Council of State, Office of the Council of State	


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div><div>Mr. Thon Thamrongnawasawat</div><div>Independent Director/ Member of the Corporate Governance Committee/ Member of the Enterprise Risk Management Committee</div><div></div><div><ul style="list-style-type: none">Appointed as Independent Director - November 18, 2016 - April 12, 2018 (re-elected)Appointed as Member of the Corporate Governance Committee - October 1, 2019Appointed as Chairman of the Enterprise Risk Management Committee - April 25, 2018Changed to Member of the Enterprise Risk Management Committee since - October 1, 2019</div></div>	53	None	None	<div>Education</div> <ul style="list-style-type: none">Bachelor of Science, Marine Science, Chulalongkorn UniversityMaster of Science, Marine Science, Chulalongkorn UniversityPh.D, Marine Science, James Cook University, Australia <div>Certification</div> <ul style="list-style-type: none">Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 9th), Thailand Energy Academy (TEA)Seminar “Electric Vehicles & Future Energy System: Recent Development and Implications” Petroleum Institute of Thailand (PTIT)	July 2015 - Present	<ul style="list-style-type: none">Deputy Dean	<ul style="list-style-type: none">Faculty of Fisheries Kasetsart UniversityNational Legislative Assembly
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					2016 - Present April 25, 2018 - September 30, 2019 October 1, 2019 - Present	<ul style="list-style-type: none">Independent Director, PTT Public Company LimitedChairman of the Enterprise Risk Management Committee, PTT Public Company LimitedMember of the Corporate Governance Committee/ Member of the Enterprise Risk Management Committee, PTT Public Company Limited	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					-	-	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					2017 - Present	<ul style="list-style-type: none">Reform Commission of Thailand on Natural Resources and Environment Management	
					2017 - Present July 5, 2016 - Present	<ul style="list-style-type: none">National Strategic Plan CommitteeHonorary Board Member, Marine and Coastal Resources Policy Committee, Department of Marine and Coastal Resources	


- **Appointed as Independent Director**
- November 18, 2016
- April 12, 2018 (re-elected)
- **Appointed as Member of the Corporate Governance Committee**
- October 1, 2019
- **Appointed as Chairman of the Enterprise Risk Management Committee**
- April 25, 2018
Changed to Member of the Enterprise Risk Management Committee since
- October 1, 2019

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Chumpol Rimsakorn</div> <div>Director/ Member of the Remuneration Committee/ Member of the Enterprise Risk Management Committee</div> <div></div> <div><ul style="list-style-type: none">Appointed as Director - December 21, 2018 - April 11, 2019 (re-elected)Appointed as Member of the Remuneration Committee - December 23, 2018Appointed as Member of the Enterprise Risk Management Committee - October 17, 2019</div>	59	None	None	Education	2015 - Present	<ul style="list-style-type: none">Deputy Permanent Secretary	<ul style="list-style-type: none">Ministry of Finance
				<ul style="list-style-type: none">Bachelor of Laws, Ramkhamhaeng UniversityMaster of Public and Private Management Program, National Institute of Development Administration (NIDA)	June 2017 - May 2018	<ul style="list-style-type: none">Chairman	<ul style="list-style-type: none">Public Debt Restructuring and Domestic Bond Market Development Fund
				Certification	June 2017 - May 2018	<ul style="list-style-type: none">Board Member	<ul style="list-style-type: none">National Health Security Committee
					June 2017 - May 2018	<ul style="list-style-type: none">Board Member	<ul style="list-style-type: none">Emergency Medicine Committee
					June 2017 - May 2018	<ul style="list-style-type: none">Board Member	<ul style="list-style-type: none">National Metrology Committee
					February 2016 - November 30, 2018	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Electricity Generating Authority of Thailand
					July 2014 - July 2018	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Thailand Tobacco Monopoly
					2015 - 2017	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Thailand Post Company Limited
					2015	<ul style="list-style-type: none">Director	<ul style="list-style-type: none">Thailand Privilege Card Company Limited
					2014 - 2015	<ul style="list-style-type: none">Chief Information Officer (CIO)	<ul style="list-style-type: none">Ministry of Finance
2014 - 2015	<ul style="list-style-type: none">Inspector General	<ul style="list-style-type: none">Office of the Permanent Secretary, Ministry of Finance					
2013 - 2014	<ul style="list-style-type: none">Chief Information Office (CIO)	<ul style="list-style-type: none">The Excise Department, Ministry of Finance					
2013 - 2014	<ul style="list-style-type: none">Principal Advisor on Tax Development Administration	<ul style="list-style-type: none">The Excise Department, Ministry of Finance					
2011 - 2013	<ul style="list-style-type: none">Deputy Director-General	<ul style="list-style-type: none">The Excise Department, Ministry of Finance					

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chumpol Rimsakorn (Continued) Director/ Member of the Remuneration Committee/ Member of the Enterprise Risk Management Committee				<ul style="list-style-type: none"> • Senior Executive Program (Class of 60th), Office of the Civil Service Commission • Good Governance for Directors and Executives of State Enterprises and Public Organization (Class of 10th), King Prajadhipok's Institute • Advanced Master of Management Program (AMM) (Class of 1st), 2018, Graduate School of Public Administration, National Institute of Development Administration (NIDA) • Bangkok Sustainable Banking Forum 2018, Bank of Thailand 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					December 21, 2018 - Present	• Director/ Member of the Remuneration Committee/ Member of the Enterprise Risk Management Committee, PTT Public Company Limited	
					December 23, 2018 - Present	• Member of the Remuneration Committee, PTT Public Company Limited	
					October 17, 2019 - Present	• Member of the Enterprise Risk Management Committee, PTT Public Company Limited	
					April 7, 2017 - Present	• Director/ Chairman of the Credit Committee/ Member of the Board of Executive Directors/ Member of the Nomination, Remuneration and Corporate Governance Committee, TMB Bank Public Company Limited	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					December 17, 2019 - Present	• Director, Thanachart Bank Public Company Limited	
					December 18, 2018 - Present	• Director, Don Muang Tollway Public Company Limited	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					May 2018 - Present	• Chairman, Vayupak 1 Mutual Fund Investment Committee	
					May 2018 - Present	• Chairman, Performance Assessment Committee (PAC)	
					May 2018 - Present	• Chairman, Public Service Obligation Committee (PSO)	
					May 2018 - Present	• Board Member, Vayupak Mutual Fund Supervisory Committee	
					May 2018 - Present	• Board Member, Thailand Future Fund Steering Committee	




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Nuttachat Charuchinda</div> <div>Director/ Member of the Enterprise Risk Management Committee</div> <div></div> <div><ul style="list-style-type: none">• Appointed as Director - January 16, 2019• Appointed as Member of the Enterprise Risk Management Committee - April 11, 2019</div> <div>Mr. Nuttachat Charuchinda will be retired from the directorship of PTT due to his completion of sixty five years of age, effective from January 17, 2020.</div>	64	0.000002 (own 0.000002; spouse 0)	None	Education	May 2014 - April 2016	• Chairman	<ul style="list-style-type: none">• PTT Energy Resources Company Limited• Thai Oil Public Company Limited• PTT Exploration and Production Public Company Limited• PTT Public Company Limited• PTT Public Company Limited• PTT Public Company Limited
				<ul style="list-style-type: none">• Bachelor of Engineering (Civil Engineering), Chiang Mai University• Master of Business Administration, Thammasat University	2013 - April 2016	• Director	
				Certification	2013 - November 2015	• Director	
					2013 - 2015	• Chief Operating Officer, Upstream Petroleum and Gas Business Group	
				<ul style="list-style-type: none">• Director Certification Program (DCP 129/2010), Thai Institute of Directors Association (IOD)• Program for Global Leadership (PGL), Harvard Business School, USA• Oxford Energy Seminar, UK• Break Through Program for Senior Executives (BPSE), IMD Institute, Switzerland• The Joint State – Private Course, (Class of 20th), Thailand National Defence College• Top Executive Program (Class of 15th), Capital Market Academy (CMA)• Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 3rd), Thailand Energy Academy (TEA)	2011 - 2013	• Chief Operating Officer, Downstream Petroleum Business Group	
					2010 - 2011	• Senior Executive Vice President, Corporate Strategy	
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				January 16, 2019 - Present	• Director, PTT Public Company Limited		
				April 11, 2019 - Present	• Member of the Enterprise Risk Management Committee, PTT Public Company Limited		
				April 29, 2016 - Present	• Director/ Chairman of the Risk Management Committee, IRPC Public Company Limited		
Relevant Important Positions In Non-Listed Companies (In the Previous Year)							
December 2017 - Present	• Chairman, RITTA Holdings Company Limited						
August 2017 - Present	• Director, National Power Supply Public Company Limited						
July 2017 - June 2019	• Chairman, Bangkok Mass Transit Authority						
Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)							
-	-						

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Sarawut Kaewtathip</div> <div>Director</div> <div></div> <div><div>• Appointed as Director</div><div>- December 16, 2019</div></div>	45	None	None	Education	November 2019 - Present	• Director - General	• Department of Mineral Fuels, Ministry of Energy
				• B.S. in Chemical Engineering, California State Polytechnic University, USA	April - November 2019	• Deputy Permanent Secretary	• Ministry of Energy
				• M.S. in Chemical Engineering, University of Southern California, USA	2016 - 2019	• Deputy Director-General	• Department of Mineral Fuels, Ministry of Energy
				• Ph.D in Chemical Engineering, University of Southern California, USA	2014 - 2016	• Director	• Strategy Planning Division, Office of the Permanent Secretary, Ministry of Energy
				Certification	2011 - 2013	• Director	• Office of Public Participation Promotion, Ministry of Energy
				• Director Certification Program (DCP 267/2018), Thai Institute of Directors Association (IOD)	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Senior Executive Program in Energy Science (Class of 11 th), Thailand Energy Academy (TEA)	December 16, 2019 - Present	• Director, PTT Public Company Limited	
				• Strategist Course, National Defence Studies Institute	Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
				• Senior Executive Program (Class of 83 rd), Office of the Civil Service Commission (OCSC)	March 9, 2018 - December 16, 2019	• Director/ Member of the Enterprise Risk Management Committee, PTT Oil and Retail Business Public Company Limited	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
-	-						



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Sarawut Kaewtathip (Continued) Director				<ul style="list-style-type: none"> • LPG Economics and International Trading, Oxford Princeton Program, Oxford, UK • International Program for Development Evaluation Training by The World Bank and Carleton University, Ottawa, Canada • Public Utilities Regulations and Strategies by The World Bank and University of Florida, Gainesville, Florida, USA • International Meeting: International Energy Forum, Doha, Qatar 			

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Chansin Treenuchagron</div> <div>Director/ Secretary to the Board/ President and Chief Executive Officer</div> <div></div> <div><ul style="list-style-type: none">Appointed as Director/ Secretary to the Board - August 31, 2018Appointed as Authorized Director - August 31, 2018Appointed as President and Chief Executive Officer, PTT Public Company Limited - August 31, 2018</div>	59	None	None	<div>Education</div> <ul style="list-style-type: none">Bachelor of Economics, Thammasat UniversityMaster of Economics, Chulalongkong UniversityHonorary Doctorate of Science (Technology Management), Thammasat University <div>Certification</div> <ul style="list-style-type: none">Director Certification Program (DCP 85/2007), Financial Statements for Directors (FSD 12/2011), Director Accreditation Program (DAP 93/2011), Chartered Director Class (CDC 11/2015), Thai Institute of Directors Association (IOD)Executive Relationship Development Course (ERDC) (Class of 1st), Directorate of Civil AffairsAir War College (Class 35/2006)Senior Executive Program (SEP) (Class of 20th), Sasin Graduate Institute of Business Administration of Chulalongkorn University	August 31, 2018 - Present January 1, 2018 - August 30, 2018 December 13, 2017 - August 30, 2018 October 18, 2017 - August 30, 2018 October 1, 2017 - December 30, 2017 April 2017 - December 2017 January 1, 2016 - September 30, 2017 2015 - August 2018 November 2015 - December 2017 November 2015 - March 2017 October 1, 2015 - December 31, 2015	<ul style="list-style-type: none">President and Chief Executive OfficerChief Technology and Engineering OfficerChairmanDirector/ Member of the Risk Management Committee/ Member of the Nomination and Remuneration CommitteeChief Operating Officer, Infrastructure and Sustainability Management Business GroupChairmanSenior Executive Vice President, Downstream Business Group AlignmentDirector/ Member of Risk Management CommitteeChairmanChairmanSenior Executive Vice President, Petrochemicals and Refining Business Unit	<ul style="list-style-type: none">PTT Public Company LimitedPTT Public Company LimitedPTT Digital Solutions Company LimitedGlobal Power Synergy Public Company LimitedPTT Public Company LimitedPTT Asahi Chemical Company LimitedPTT Public Company LimitedIRPC Public Company LimitedPTT Polymer Marketing Company LimitedPTT Polymer Logistics Company LimitedPTT Public Company Limited



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chansin Treenuchagron (Continued) Director/ Secretary to the Board/ President and Chief Executive Officer				<ul style="list-style-type: none"> • PTT Executive Leadership, General Electric, GE, New York, USA • Advance Senior Executive Program (ASEP-5), (Class 5/2010), KELLOGG & SASIN, Chicago, USA • Advanced Certificate Course in Public Economics Management for Executives (Class of 10th) King Prajadhipok's Institute • Leadership Excellence through Awareness and Practice (LEAP), INSEAD, France & Singapore • Leadership Development Program III (LDP III), (Class 1/2014), PLLI, PTT Public Company Limited • Diploma, The National Defence Course (Class 57/2014), National Defence College • Seminar "Briefing on International Anti-Corruption... International Cases and Practices", IOD (October 14, 2015) 	April 2015 - October 2015 October 2014 - September 30, 2015 October 2014 - December 2015 March 2013 - September 2014 November 2012 - September 2014 June 2012 - September 2014 April 2012 - July 2015 February 2012 - September 2014 December 2011 - June 2014 November 2011 - September 2014 November 2011 - August 2014	<ul style="list-style-type: none"> • Director • Senior Executive Vice President, Corporate Strategy • Chairman • Executive Vice President, PTT Public Company Limited, working on a secondment as Senior Executive Vice President Corporate Commercial and Marketing • Director • Director • Director • Director • Director • Chairman 	<ul style="list-style-type: none"> • Thai Oil Public Company Limited • PTT Public Company Limited • PTT Green Energy (Thailand) Company Limited • IRPC Public Company Limited • PTT Polymer Marketing Company Limited • UBE Chemical (Asia) Public Company Limited • PTT Polymer Logistics Company Limited • Rayong Acetylene Company Limited • Technology IRPC Company Limited • IRPC Polyol Company Limited • Rak Pa Sak Company Limited

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chansin Treenuchagron (Continued) Director/ Secretary to the Board/ President and Chief Executive Officer				<ul style="list-style-type: none"> Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 7th), 2015 - 2016, Thailand Energy Academy (TEA) Reward for Thammasat Best Economics Alumni 2015, The Thammasat Economics Association Reward for Thammasat Distinguished Alumni 2017, Thammasat University Distinguished Alumni Awards 2018, King Prajadhipok's Institute Distinguished Alumni Awards, Executive Relationship Development Course (ERDC), Directorate of Civil Affairs Distinguished Alumni Awards 2019, Air War College, Directorate of Education and Training, Royal Thai Air Force 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					August 31, 2018 - Present	• Director/ Secretary to the Board/ President and Chief Executive Officer, PTT Public Company Limited	
					September 1, 2018 - Present	• Director, PTT Exploration and Production Public Company Limited	
					2016 - Present	• Director/ Chairman, IRPC Public Company Limited (Chairman since August 31, 2018)	
					Relevant Important Positions In Non-Listed Companies (In the Previous Year)		
					-	-	
					Relevant Important Position in Other Experiences/ Other Activities (In the Precious Year)		
					2019 - Present	• President, Thammasat Association (Term 2019 - 2020)	
					2019 - Present	• Member of Advisory Board of Sasin Graduate Institute of Business Administration of Chulalongkorn University	
					2019 - Present	• Member, The State Enterprise Labour Relations Committee, Department of Labour Protection and Welfare, Ministry of Labour	
					August 2019 - Present	• Member, Green Globe Institute	
					2018 - Present	• Member of Thailand Foundation Committee, Thailand Foundation	
					2018 - Present	• Member of the PTIT Council of Trustees, Petroleum Institute of Thailand (PTIT)	
					2018 - Present	• Director and Vice Chairman, Thai Listed Company Association (Term 2017 - 2019)	
					2018 - Present	• Board Member, National Science and Technology Development	
					2018 - Present	• Member of Committee, Social Participation Committee, Princess Maha Chakri Award Foundation	
					2018 - Present	• Board Member, Thammasat University Council	
					2018 - Present	• Board Member, Vidyasirimedhi Institute of Science and Technology Council (VISTEC)	
					2018 - Present	• Vice Chairman, Thailand Energy Academy	
					September 2018 - Present	• Chief Advisor, PTT Saving and Credit Cooperation Limited	



PTT Executives

As of December 31, 2019



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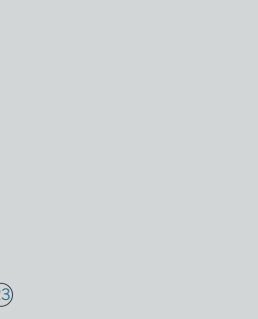
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1. Mr. Chansin Treenuchagron
President and Chief Executive Officer
2. Mr. Atikom Terbsiri
Chief Operating Officer,
Upstream Petroleum and Gas Business Group
3. Mr. Auttapol Rerkpiboon
Chief Operating Officer,
Downstream Petroleum Business Group
4. Mr. Wittawat Svasti-xuto
Chief Technology and Engineering Officer
5. Miss Pannalin Mahawongtikul
Chief Financial Officer
6. Mrs. Arawadee Photisaro
Senior Executive Vice President, Corporate Strategy

7. Mr. Preecha Pocatanawat
Senior Executive Vice President,
Organization Management and Sustainability
8. Miss Duangporn Thiengwatanatham
Senior Executive Vice President,
Corporate Governance and Regulatory Affairs
9. Miss Peangpanor Boonklum
Senior Executive Vice President, Office of General Counsel
10. Mr. Wuttikorn Stithit
Senior Executive Vice President, Gas Business Unit
11. Mr. Kris Imsang
Senior Executive Vice President,
Downstream Business Group Alignment
12. Mr. Disathat Panyarachun
Senior Executive Vice President,
International Trading Business Unit

13. Mr. Worawat Pitayasiri
Senior Executive Vice President, Innovation and Digital
14. Mr. Phongsthorn Thavisin
President and Chief Executive Officer,
PTT Exploration and Production Public Company Limited
15. Mr. Kongkrapan Intarajang
Chief Executive Officer,
PTT Global Chemical Public Company Limited
16. Mr. Wirat Uanarumit
Chief Executive Officer and President,
Thai Oil Public Company Limited
17. Mr. Noppadol Pinsupa
President, IRPC Public Company Limited
18. Mr. Chawalit Tippawanich
President and Chief Executive Officer,
Global Power Synergy Public Company Limited

19. Miss Jiraphon Kawswat
Acting President and Chief Executive Officer,
PTT Oil and Retail Business Public Company Limited
20. Miss Duangkamol Settanung
Senior Executive Vice President PTT working as
Executive Vice President - Finance and Accounting,
PTT Global Chemical Public Company Limited
21. Mr. Yongyos Krongphanich
Executive Vice President, Group Corporate Finance and Strategy
22. Miss Wilaiwan Kanjanakanti
Executive Vice President,
Group Finance and Accounting Policy
23. Mr. Chienvit Udomwatwong
Executive Vice President, Global Business Services

PTT Executives

As of December 31, 2019

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chansin Treenuchagron President and Chief Executive Officer <i>(Appointed: August 31, 2018)</i>	59	None	None	Education <ul style="list-style-type: none"> Bachelor of Economics, Thammasat University Master of Economics, Chulalongkorn University Honorary Doctorate of Science (Technology Management), Thammasat University 	August 31, 2018 - Present	<ul style="list-style-type: none"> President and Chief Executive Officer 	<ul style="list-style-type: none"> PTT Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 85/2007), Financial Statements for Directors (FSD 12/2011), Director Accreditation Program (DAP 93/2011), Chartered Director Class (CDC 11/2015), Thai Institute of Directors Association (IOD) Executive Relationship Development Course (ERDC) (Class of 1st), Directorate of Civil Affairs Air War College (Class 35/2006) Senior Executive Program (SEP) (Class of 20th), Sasin Graduate Institute of Business Administration of Chulalongkorn University 	January 1, 2018 - August 30, 2018 December 13, 2017 - August 30, 2018 October 18, 2017 - August 30, 2018 October 1, 2017 - December 30, 2017 April 2017 - December 2017 January 1, 2016 - September 30, 2017 2015 - August 2018 November 2015 - December 2017 November 2015 - March 2017 October 1, 2015 - December 31, 2015	<ul style="list-style-type: none"> Chief Technology and Engineering Officer Chairman Director/ Member of the Risk Management Committee/ Member of the Nomination and Remuneration Committee Chief Operating Officer, Infrastructure and Sustainability Management Business Group Chairman Senior Executive Vice President, Downstream Business Group Alignment Director/ Member of Risk Management Committee Chairman Chairman Senior Executive Vice President, Petrochemicals and Refining Business Unit 	<ul style="list-style-type: none"> PTT Public Company Limited PTT Public Company Limited PTT Digital Solutions Company Limited Global Power Synergy Public Company Limited PTT Public Company Limited PTT Asahi Chemical Company Limited PTT Public Company Limited IRPC Public Company Limited PTT Polymer Marketing Company Limited PTT Polymer Logistics Company Limited PTT Public Company Limited

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chansin Treenuchagron (Continued) President and Chief Executive Officer				<ul style="list-style-type: none"> • PTT Executive Leadership, General Electric, GE, New York, USA • Advance Senior Executive Program (ASEP-5), (Class 5/2010), KELLOGG & SASIN, Chicago, USA • Advanced Certificate Course in Public Economics Management for Executives (Class of 10th) King Prajadhipok's Institute • Leadership Excellence through Awareness and Practice (LEAP), INSEAD, France & Singapore • Leadership Development Program III (LDP III), (Class 1/2014), PLLI, PTT Public Company Limited • Diploma, The National Defence Course (Class 57/2014), National Defence College • Seminar "Briefing on International Anti-Corruption... International Cases and Practices", IOD (October 14, 2015) 	April 2015 - October 2015 October 2014 - September 30, 2015 October 2014 - December 2015 March 2013 - September 2014 November 2012 - September 2014 June 2012 - September 2014 April 2012 - July 2015 February 2012 - September 2014 December 2011 - June 2014 November 2011 - September 2014 November 2011 - August 2014	<ul style="list-style-type: none"> • Director • Senior Executive Vice President, Corporate Strategy • Chairman • Executive Vice President, PTT Public Company Limited, working on a secondment as Senior Executive Vice President Corporate Commercial and Marketing • Director • Director • Director • Director • Director • Chairman 	<ul style="list-style-type: none"> • Thai Oil Public Company Limited • PTT Public Company Limited • PTT Green Energy (Thailand) Company Limited • IRPC Public Company Limited • PTT Polymer Marketing Company Limited • UBE Chemical (Asia) Public Company Limited • PTT Polymer Logistics Company Limited • Rayong Acetylene Company Limited • Technology IRPC Company Limited • IRPC Polyol Company Limited • Rak Pa Sak Company Limited





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chansin Treenuchagron (Continued) President and Chief Executive Officer				<ul style="list-style-type: none"> Certificate, Executive Program on Energy Literacy for a Sustainable Future (Class of 7th), 2015 - 2016, Thailand Energy Academy (TEA) Reward for Thammasat Best Economics Alumni 2015, The Thammasat Economics Association Reward for Thammasat Distinguished Alumni 2017, Thammasat University Distinguished Alumni Awards 2018, King Prajadhipok's Institute Distinguished Alumni Awards, Executive Relationship Development Course (ERDC), Directorate of Civil Affairs Distinguished Alumni Awards 2019, Air War College, Directorate of Education and Training, Royal Thai Air Force 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					August 31, 2018 - Present	• Director/ Secretary to the Board/ President and Chief Executive Officer, PTT Public Company Limited	
					September 1, 2018 - Present	• Director, PTT Exploration and Production Public Company Limited	
					2016 - Present	• Director/ Chairman, IRPC Public Company Limited (Chairman since August 31, 2018)	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					-	-	
					Relevant Important Positions in Other Companies/ Organizations (In the Previous Year)		
					2019 - Present	• President, Thammasat Association (Term 2019 - 2020)	
					2019 - Present	• Member of Advisory Board of Sasin Graduate Institute of Business Administration of Chulalongkorn University	
					2019 - Present	• Member, The State Enterprise Labour Relations Committee, Department of Labour Protection and Welfare, Ministry of Labour	
					August 2019 - Present	• Member, Green Globe Institute	
					2018 - Present	• Member of Thailand Foundation Committee, Thailand Foundation	
					2018 - Present	• Member of the PTIT Council of Trustees, Petroleum Institute of Thailand (PTIT)	
					2018 - Present	• Director and Vice Chairman, Thai Listed Company Association (Term 2017 - 2019)	
					2018 - Present	• Board Member, National Science and Technology Development	
					2018 - Present	• Member of Committee, Social Participation Committee, Princess Maha Chakri Award Foundation	
					2018 - Present	• Board Member, Thammasat University Council	
					2018 - Present	• Board Member, Vidyasirimedhi Institute of Science and Technology Council (VISTEC)	
					2018 - Present	• Vice Chairman, Thailand Energy Academy	
					September 2018 - Present	• Chief Advisor, PTT Saving and Credit Cooperation Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Atikom Terbsiri Chief Operating Officer, Upstream Petroleum and Gas Business Group <i>(Appointed: September 1, 2019)</i> 	57	None	None	Education	September 1, 2019 - Present	• Chief Operating Officer, Upstream Petroleum and Gas Business Group	• PTT Public Company Limited
				<ul style="list-style-type: none"> • Bachelor of Business Administration, Assumption University • Master of Business Administration (Finance & International Business), High Distinction, Armstrong University, USA 	October 1, 2014 - August 31, 2019	• Senior Executive Vice President, PTT, working on a secondment as Chief Executive Officer and President	• Thai Oil Public Company Limited
				Certification	2013 - September 30, 2014	• Senior Executive Vice President, Petrochemicals & Refining Business Unit	• PTT Public Company Limited
				<ul style="list-style-type: none"> • Director Certification Program (DCP 125/2009), Risk Management Program for Corporate Leaders (RCL 4/2016), Role of the Chairman Program (RCP 41/2017), Thai Institute of Directors Association (IOD) • The State, Private Sector and Political Sectors Course, Class of 5th, National Defence College 	2011 - 2013	• Senior Executive Vice President, PTT, working on a secondment as President	• IRPC Public Company Limited
					2009 - 2011	• Senior Executive Vice President, Corporate Strategy & Planning, Acting Senior Executive Vice President Port & Asset Management Business Unit	• IRPC Public Company Limited





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Atikom Terbsiri (Continued) Chief Operating Officer, Upstream Petroleum and Gas Business Group				<ul style="list-style-type: none"> Advanced Security Management Program, Class of 1st, National Defence College Capital Market Academy Leader Program, Class of 17th, Capital Market Academy Executive Education Program, Harvard Business School, Harvard University, USA The Executive Program in Energy Literacy for a Sustainable Future, Class of 6th, Thailand Energy Academy 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					October 1, 2019 - Present	• Director/ Member of the Risk Management Committee, PTT Exploration and Production Public Company Limited	
					2015 - August 31, 2019	• Member of the Risk Management Committee, Global Power Synergy Public Company Limited	
					2014 - August 31, 2019	• Director/ Member of the Risk Management Committee and the Secretary to the Board of Directors, Thai Oil Public Company Limited	
					2014 - August 31, 2019	• Director, Global Power Synergy Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					October 1, 2019 - Present	• Chairman, PTT LNG Company Limited	
					October 1, 2019 - December 31, 2019	• Chairman, Sakari Resources Limited	
					2014 - September 14, 2019	• Chairman, TOP SPP Company Limited	
					2014 - August 31, 2019	• Chairman, Thai Lube Base Public Company Limited	
					2014 - August 31, 2019	• Chairman, Thairoil Marine Company Limited	
					2014 - August 31, 2019	• Chairman, Thairoil Solvent Company Limited	
					2014 - August 31, 2019	• Chairman, Thairoil Power Company Limited	
					2014 - August 31, 2019	• Chairman, LABIX Company Limited	
					2014 - August 31, 2019	• Chairman, Thai Paraxylene Company Limited	
					2014 - March 29, 2019	• Chairman, TOP Solvent Company Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Atikom Terbsiri (Continued) Chief Operating Officer, Upstream Petroleum and Gas Business Group					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					2018 - Present February 2018 - February 2019 January 9, 2018 - August 31, 2019 2018 - Present April 2017 - April 2019 May 18, 2015 - August 31, 2019 November 20, 2014 - August 31, 2019 January 31, 2012 - Present 2012 - August 31, 2019	<ul style="list-style-type: none"> Member, Backdoor Listing Transaction Committee, The Stock Exchange of Thailand Chairman, Petroleum Refining Industry Club, The Federation of Thai Industries Executive Director, Thailand Swimming Association Director, The Federation of Thai Industries (Term 2018 - 2020) Director, Thai Listed Companies Association Member of Council, Vidyasirimedhi Institute of Science and Technology Director, Power of Innovation Foundation and Power of Learning Foundation Executive Director, Thailand Energy Academy Member of Trustee (as Company representative), Petroleum Institute of Thailand 	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Auttapol Rerkpiboon Chief Operating Officer, Downstream Petroleum Business Group <i>(Appointed: October 1, 2017)</i>	54	0.000939 (own 0.000788; spouse 0.000151)	None	Education <ul style="list-style-type: none"> Bachelor of Engineering (Civil Engineering), Chulalongkorn University Master of Economics Program, National Institute of Development Administration Diploma of Petroleum Management, College of Petroleum Studies, Oxford, University, UK (British Council Scholarship) 	October 1, 2017 - Present	<ul style="list-style-type: none"> Chief Operating Officer, Downstream Petroleum Business Group (October 1, 2017 - September 30, 2018) Acting Senior Executive Vice President, Downstream Business Group Alignment) 	<ul style="list-style-type: none"> PTT Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 173/ 2013), Company Secretary Program (CSP 14/2005) Thai Institute of Directors Association (IOD) Executive Development Program (EDP), Class of 1st, Thai Listed Companies Association (TLCA) The National Defence Course (Class of 58th), National Defence College Advanced Certificate Course in Politics and Governance in Democratic System for Executives, Class of 14th, King Prajadhipok's Institute Capital Market Academy Leadership Program, Class of 20th, Capital Market Academy 	October 1, 2015 - October 1, 2018 November 2015 - September 2017 October 1, 2015 - September 30, 2017 June 2015 - October 2015 February 2015 - May 2015 December 2014 - November 2015 October 1, 2014 - September 30, 2015 November 2013 - September 30, 2014 October 2013 - October 2014 August 2012 - October 2014	<ul style="list-style-type: none"> Director/ Director to the Corporate Governance Committee/ Director to the Risk Management Committee Chairman Senior Executive Vice President - Oil Business Unit Director Director Director Senior Executive Vice President, Sustainability Management and Project Engineering Executive Vice President, Retail Marketing Director Chairman 	<ul style="list-style-type: none"> PTT Global Chemical Public Company Limited PTT Retail Management Company Limited PTT Public Company Limited IRPC Public Company Limited Bangchak Petroleum Public Company Limited Energy Complex Company Limited PTT Public Company Limited PTT Public Company Limited PTT Retail Management Company Limited PTT (Cambodia) Limited



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Auttapol Rerkpiboon (Continued) Chief Operating Officer, Downstream Petroleum Business Group				<ul style="list-style-type: none"> Certificate, Executive Program on Energy Literacy for a Sustainable Future, Class of 12nd, Thailand Energy Academy (TEA) Executive Program on Rule of Law and Development: RoLD (Class of 2nd), Thailand Institute of Justice: TIJ NIDA-Wharton Executive Leadership Program 2009, The Wharton School of the University of Pennsylvania, USA PTT Executive Leadership, General Electric, GE, New York, USA 	June 2012 - October 2013	• Chairman	• PTT (LAO) Company Limited
					May 2012 - October 2014	• Chairman	• Subic Bay Energy Company Limited (Philippines)
					2011 - 2013	• Executive Vice President, Commercial and International Marketing	• PTT Public Company Limited
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					April 11, 2018 - Present	• Director/ Chairman of the Risk Management Committee/ Member of the Nomination and Remuneration Committee, Thai Oil Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					December 12, 2018 - Present	• Chairman, PTT Tank Terminal Company Limited	
					December 22, 2015 - Present	• Chairman, PTT Oil and Retail Business Public Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					July 27, 2018 - Present	• Committee Member, Payment Systems Committee (PSC), Bank of Thailand	
					May 1, 2018 - Present	• President, Marketing Association of Thailand	
					February 26, 2018 - Present	• Committee of Big Data, Data Center and Cloud Computing, Ministry of Digital Economy and Society	
					June 27, 2017 - Present	• Committee, Board of Trade of Thailand	
					October 6, 2017 - Present	• Director, The Royal Automobile Association of Thailand under Royal Patronage	
					November 6, 2016 - Present	• Vice President, Swimming Association Thailand	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wittawat Svasti-xuto Chief Technology and Engineering Officer <i>(Appointed: September 16, 2018)</i>	58	0.001941 (own 0.001941; spouse 0)	None	Education <ul style="list-style-type: none"> Bachelor of Engineering (Chemical Engineering), Chulalongkorn University Master of Science (Industrial Engineering), The University of Rhode Island, USA 	September 16, 2018 - Present	<ul style="list-style-type: none"> Chief Technology and Engineering Officer 	<ul style="list-style-type: none"> PTT Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 146/2011), Financial Statements for Director (FSD 12/2011) Thai Institute of Directors Association (IOD) Capital Market Academy Leadership Program Class 27/2018, Capital Market Academy Certificate, Executive Program on Energy Literacy for a Sustainable Future (TEA), Class 11/2018, Thailand Energy Academy The National Defence Course (Class of 59th), National Defence College Strategy and Innovation for Business in Asia (SIBA) Class 5/2016 	January 1, 2018 - September 15, 2018 2017 - 2018 2017 - 2018 January 1, 2017 - December 31, 2017 2016 - 2018 October 1, 2016 - December 31, 2016 January 1, 2016 - September 30, 2016 2015 - 2018 August 1, 2014 - December 31, 2015	<ul style="list-style-type: none"> Senior Executive Vice President, Innovation and Digital Director Director Senior Executive Vice President, Sustainability Management and Project Engineering Director Senior Executive Vice President, Sustainability Management Executive Vice President, Downstream Business Group Alignment Director Executive Vice President, Strategy Management, Downstream Business Unit 	<ul style="list-style-type: none"> PTT Public Company Limited PTT Public Company Limited Business Professional Solutions Company Limited District Cooling System and Power Plant Company Limited PTT Public Company Limited Business Services Alliance Company Limited PTT Public Company Limited PTT Public Company Limited Energy Complex Company Limited PTT Public Company Limited




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wittawat Svasti-xuto (Continued) Chief Technology and Engineering Officer					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					February 19, 2018 - Present	• Director/ Director to the Nomination and Remuneration Committee, PTT Global Chemical Public Company Limited	
					September 19, 2018 - Present	• Director/ Chairman of the Nomination and Remuneration Committee and Member of the Risk Management Committee, Global Power Synergy Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					2019 - Present 2017 - 2019	• Chairman, PTT Energy Solutions Company Limited • Chairman, PTT Digital Solutions Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					February 23, 2018 - Present	• Member, Chulalongkorn Engineering Alumni (Term 2018 - 2019)	
Miss Pannalin Mahawongtikul Chief Financial Officer <i>(Appointed: October 1, 2018)</i> <i>(The person supervising Finance and Accounting)</i>	55	0.001009 (own 0.001009)	None	Education	October 1, 2018 - Present January 1, 2016 - September 30, 2018 May 8, 2018 - September 30, 2018 January 1, 2016 - September 30, 2018 January 1, 2016 - September 30, 2018	• Chief Financial Officer • Executive Vice President, PTT working on a secondment as Executive Vice President, Finance and Accounting Group • Director • Director • Director	• PTT Public Company Limited • PTT Exploration and Production Public Company Limited • PTTEP Energy Holding (Thailand) Company Limited • Energy Complex Company Limited • PTTEP Canada International Finance Limited
				• Bachelor of Accounting, Thammasat University • Master of Business Administration, Thammasat University			
				Certification • Director Certification Program (DCP 279/2019), Thai Institute of Directors Association (IOD) • Capital Market Academy Leader Program, Class of 24 th , Capital Market Academy			





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Pannalin Mahawongtikul (Continued) Chief Financial Officer				<ul style="list-style-type: none">Leadership Succession Program (LSP), Class of 6th, Institute of Research and Development for Public EnterprisesCMA-Greater Mekong Subregion (CMA-GMS), Class of 1st, Capital Market AcademyPTT-HBS Leadership Development Program II, Harvard Business SchoolNIDA-Wharton Executive Leadership Program (ELP), The Wharton School, University of PennsylvaniaExecutive Program for Senior Management (EX - PSM) Class of 3rd, Fiscal Policy Research Institute FoundationExecutive Development Program (EDP) Class of 2nd, Thai Listed Companies AssociationLeadership Development Program (LDP) III, PTT Leadership and Learning Institute (PLLI)	January 1, 2016 - March 19, 2017	• Director	• PTTEP Australia International Finance Pty Ltd.
					October 20, 2014 - February 1, 2016	• Director	• PTT Green Energy Pte. Ltd.
					September 1, 2014 - February 1, 2016	• Director	• PTT Regional Treasury Center Pte. Ltd.
					2014 - 2015	• Executive Vice President, Corporate Finance	• PTT Public Company Limited
					2012 - 2014	• Vice President, Financial Strategy and Policy	• PTT Public Company Limited
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					October 1, 2018 - Present	• Director/ Member of the Risk Management Committee, Thai Oil Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					-	-	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
-	-						


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mrs. Arawadee Photisaro Senior Executive Vice President, Corporate Strategy <i>(Appointed: October 1, 2018)</i> 	58	0.000004 (own 0; spouse 0.000004)	None	Education	October 1, 2018 - Present	• Senior Executive Vice President, Corporate Strategy	• PTT Public Company Limited
				• Bachelor of Accounting, Thammasat University	2017 - September 30, 2018	• Executive Vice President, PTT working on a secondment as Managing Director	• PTT Digital Solutions Company Limited
				• Master of Business Administration (Management Information System), The University of Dallas, USA	2016 - 2017	• Executive Vice President, Strategy and Portfolio Management and Director of ExpresSo Project	• PTT Public Company Limited
				Certification	2013 - 2016	• Executive Vice President, Strategy and Portfolio Management	• PTT Public Company Limited
				• Director Certification Program (DCP 253/2018) Thai Institute of Directors Association (IOD)	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Leadership Development Program for Sustainability (LDP) III, PTT Leadership and Learning Institute (PLLI)	October 22, 2018 - Present	• Director/ Director to the Risk Management Committee, PTT Global Chemical Public Company Limited	
				• Breakthrough Program for Senior Executives, International Leading Business School (IMD), Lausanne, Switzerland	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
				• Study Mission to a Nonmember Country on Regional Innovation Strategies and Knowledge Productivity, Office of Thailand Quality Award	2017 - 2019	• Director, PTT Digital Solutions Company Limited	
				• Leadership Succession Program (LSP) Class of 4 th , Institute of Research and Development for Public Enterprises (IRDP)	Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
				• TLCA Executive Development Program (EDP) Class of 5 th , Thai Listed Companies Association	-	-	




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mrs. Arawadee Photisaro (Continued) Senior Executive Vice President, Corporate Strategy				<ul style="list-style-type: none"> Mitsui-HBS Global Management Academy, Harvard Business School, USA Top Management Program in Governmental Legal, Class of 3rd, Office of the Council of State Certificate, Executive Program on Energy Literacy for a Sustainable Future, Class of 13rd, Thailand Energy Academy (TEA) 			
Mr. Preecha Pocatanawat Senior Executive Vice President, Organization Management and Sustainability <i>(Appointed: October 1, 2018)</i>	59	None	None	Education	October 1, 2018 - Present	<ul style="list-style-type: none"> Senior Executive Vice President, Organization Management and Sustainability 	<ul style="list-style-type: none"> PTT Public Company Limited
				<ul style="list-style-type: none"> Bachelor of Laws, Ramkhamhaeng University Barrister-at-Law, The Institute of Legal Education, Thai Bar Association Bachelor of Business Administration (Accounting), Ramkhamhaeng University 	2016 - 2018 2014 - September 30, 2018 2014	<ul style="list-style-type: none"> Director Executive Vice President, Corporate Human Resources Vice President under The Office of Chief Financial Officer 	<ul style="list-style-type: none"> IRPC Technology Company Limited PTT Public Company Limited
				Certification	2012 - 2015	<ul style="list-style-type: none"> Vice President, PTT, working on a secondment as Vice President, Accounting and Corporate Support 	<ul style="list-style-type: none"> PTT Public Company Limited HMC Polymers Company Limited
				<ul style="list-style-type: none"> Director Certification Program (DCP 261/2561) Thai Institute of Directors Association (IOD) Leadership Development Program III (LDP III) 2018, Singapore Leadership Development Program II (LDP II) 2014, China 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					April 2019 - Present September 2018 - February 28, 2019	<ul style="list-style-type: none"> Director, Thai Oil Public Company Limited Director/ Member of Nomination and Remuneration Committee, IRPC Public Company Limited 	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Preecha Pocatanawat (Continued) Senior Executive Vice President, Organization Management and Sustainability				<ul style="list-style-type: none"> Management Development Program (MDP 3): Level 13 - 14 Business Management, PTT Leadership and Learning Institute (PLLI) Strategy and Innovation for Business in Asia (SIBA) (Class 4/2015), College of Management, Mahidol University Senior Executive Certificate in Anti-Corruption Strategic Management (Class 8/2017), Sanya Dharmasakti National Anti-Corruption Institute (SDI) IRDP Leadership & Effective Corporate Culture Program 2018, Institute of Research & Development for Public Enterprises (IRDP) 	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					2018 - Present	Chairman, Business Services Alliance Company Limited	
					2018 - Present	Chairman, Business Professional Solutions Company Limited	
					2015 - 2019	Director, Energy Complex Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div><div><div>Miss Duangporn Thiengwatanatham</div><div>Senior Executive Vice President, Corporate Governance and Regulatory Affairs <i>(Appointed: November 1, 2019)</i></div><div></div></div></div> <div></div>	58	0.000270 (own 0.000270)	None	<div><div>Education</div><div><ul style="list-style-type: none">Bachelor of Engineering (Chemical Engineering), Chulalongkorn UniversityMaster of Engineering (Chemical Engineering), The University of British Columbia, CanadaMaster of Management (Management), Sasin Graduate Institute of Business Administration of Chulalongkorn University</div><div>Certification</div><div><ul style="list-style-type: none">Director Certification Program (DCP 135/2010) and Financial Statements for Directors (FSD 8/2010), Thai Institute of Directors Association (IOD)Leadership Development Program (LDP) III, PTT Leadership and Learning Institute (PLLI)PTT Executive Leadership Program, General Electric, New York, USAEnterprise Risk Management Framework, PricewaterhouseCoopersStrategic Marketing Management, Stanford Graduate School of Business, USA2018 PTIT Annual Dinner: Clean Energy and Smart Transportation: Global Trend for Sustainable World</div></div>	<div>November 1, 2019 - Present</div> <div>October 1, 2018 - October 31, 2019</div> <div>2017 - September 30, 2018</div> <div>2016 - 2017</div> <div>2016</div> <div>2013 - 2015</div> <div>2011 - 2013</div> <div>Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)</div> <div>October 1, 2018 - Present</div> <div>Relevant Important Positions in Non-listed Companies (In the Previous Year)</div> <div>2019 - Present</div> <div>March 31, 2017 - 2019</div> <div>Relevant Important Position in Other Companies/ Organizations (In the Previous Year)</div> <div>-</div>	<div><ul style="list-style-type: none">Senior Executive Vice President, Corporate Governance and Regulatory AffairsSenior Executive Vice President, Downstream Business Group AlignmentExecutive Vice President, Innovation InstituteExecutive Vice President, Downstream Business Group CollaborationExecutive Vice President, Downstream Business Group PlanningExecutive Vice President, Subsidiary Planning and Management Petrochemical and Refining Business UnitExecutive Vice President PTT, working on a secondment as Deputy CEO - Administration (DA)</div> <div><ul style="list-style-type: none">Director, Thai Oil Public Company Limited</div> <div><ul style="list-style-type: none">Chairman, Sarn Palung Social Enterprise Company LimitedDirector, PTT Energy Solutions Company Limited</div> <div>-</div>	<div><ul style="list-style-type: none">PTT Public Company LimitedPTT Public Company LimitedPTT Public Company LimitedPTT Public Company LimitedPTT Public Company LimitedPTT Public Company LimitedStar Petroleum Refining Public Company Limited</div>


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div><div><div>Miss Peangpanor Boonklum</div><div>Senior Executive Vice President, Office of General Counsel <i>(Appointed: October 1, 2017)</i></div><div></div></div></div> <td>53</td> <td>None</td> <td>None</td> <td><div><div>Education</div><div><ul style="list-style-type: none">Bachelor of Laws (Second Class Honor), Chulalongkorn UniversityMaster of Laws (Business Law), Chulalongkorn UniversityMaster of Laws (LL.M.) Columbia University School of Law, New York, USA</div><div>Certification</div><div><ul style="list-style-type: none">Director Certification Program (DCP 7/2001), Anti-Corruption: The Practical Guide (ACPG 38/2017), Ethical Leadership Program (ELP 15/2019), Risk Management Program for Corporate Leaders (RCL 18/2019), Board Nomination and Compensation Program (BNCP 7/2019), Thai Institute of Directors (IOD)Leadership Development Program 3 (LDP3) (Class 4/2019), PTT Leadership and Learning Institute (PLLI)TIJ Executive Program on The Rule of Law and Development (TIJ RoLD 3/2019), Thailand Institute of Justice (TIJ)</div></div></td> <td><div><div>October 1, 2017 - Present</div><div>October 30, 2017 - September 30, 2018</div><div>July 1, 2017 - September 30, 2017</div><div>February 2017 - January 2018</div><div>March 2016 - June 2017</div><div>2013 - March 15, 2018</div><div>February 3 - August 31, 2017</div><div>2009 - February 29, 2016</div><div>Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)</div><div>April 3, 2017 - December 31, 2019</div><div>April 27, 2017 - December 31, 2019</div></div><td><div><ul style="list-style-type: none">Senior Executive Vice President, Office of General CounselDirectorExecutive Vice President, Office of Corporate LegalMember - Legal ExpertSenior CounselAdvisor/ LecturerIndependent Director and Audit CommitteePartner and AssociateDirector, Global Power Synergy Public Company LimitedMember of the Corporate Governance Committee, Global Power Synergy Public Company Limited</div></td><td><div><ul style="list-style-type: none">PTT Public Company LimitedEast Mediterranean Gas Company S.A.E.PTT Public Company LimitedFinances and Assets Policy Committee, Srinakharinwirot UniversityWeerawong, Chinnavat & Partners Company Limited (Former Company Name: "Weerawong, Chinnavat & Peangpanor Company Limited", Changed to the current name on April 3, 2017)Investment Banking Club, Association of Thai Securities CompaniesBangkok Commercial Asset Management Public Company LimitedWeerawong, Chinnavat & Peangpanor Company Limited</div></td></td>	53	None	None	<div><div>Education</div><div><ul style="list-style-type: none">Bachelor of Laws (Second Class Honor), Chulalongkorn UniversityMaster of Laws (Business Law), Chulalongkorn UniversityMaster of Laws (LL.M.) Columbia University School of Law, New York, USA</div><div>Certification</div><div><ul style="list-style-type: none">Director Certification Program (DCP 7/2001), Anti-Corruption: The Practical Guide (ACPG 38/2017), Ethical Leadership Program (ELP 15/2019), Risk Management Program for Corporate Leaders (RCL 18/2019), Board Nomination and Compensation Program (BNCP 7/2019), Thai Institute of Directors (IOD)Leadership Development Program 3 (LDP3) (Class 4/2019), PTT Leadership and Learning Institute (PLLI)TIJ Executive Program on The Rule of Law and Development (TIJ RoLD 3/2019), Thailand Institute of Justice (TIJ)</div></div>	<div><div>October 1, 2017 - Present</div><div>October 30, 2017 - September 30, 2018</div><div>July 1, 2017 - September 30, 2017</div><div>February 2017 - January 2018</div><div>March 2016 - June 2017</div><div>2013 - March 15, 2018</div><div>February 3 - August 31, 2017</div><div>2009 - February 29, 2016</div><div>Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)</div><div>April 3, 2017 - December 31, 2019</div><div>April 27, 2017 - December 31, 2019</div></div> <td><div><ul style="list-style-type: none">Senior Executive Vice President, Office of General CounselDirectorExecutive Vice President, Office of Corporate LegalMember - Legal ExpertSenior CounselAdvisor/ LecturerIndependent Director and Audit CommitteePartner and AssociateDirector, Global Power Synergy Public Company LimitedMember of the Corporate Governance Committee, Global Power Synergy Public Company Limited</div></td> <td><div><ul style="list-style-type: none">PTT Public Company LimitedEast Mediterranean Gas Company S.A.E.PTT Public Company LimitedFinances and Assets Policy Committee, Srinakharinwirot UniversityWeerawong, Chinnavat & Partners Company Limited (Former Company Name: "Weerawong, Chinnavat & Peangpanor Company Limited", Changed to the current name on April 3, 2017)Investment Banking Club, Association of Thai Securities CompaniesBangkok Commercial Asset Management Public Company LimitedWeerawong, Chinnavat & Peangpanor Company Limited</div></td>	<div><ul style="list-style-type: none">Senior Executive Vice President, Office of General CounselDirectorExecutive Vice President, Office of Corporate LegalMember - Legal ExpertSenior CounselAdvisor/ LecturerIndependent Director and Audit CommitteePartner and AssociateDirector, Global Power Synergy Public Company LimitedMember of the Corporate Governance Committee, Global Power Synergy Public Company Limited</div>	<div><ul style="list-style-type: none">PTT Public Company LimitedEast Mediterranean Gas Company S.A.E.PTT Public Company LimitedFinances and Assets Policy Committee, Srinakharinwirot UniversityWeerawong, Chinnavat & Partners Company Limited (Former Company Name: "Weerawong, Chinnavat & Peangpanor Company Limited", Changed to the current name on April 3, 2017)Investment Banking Club, Association of Thai Securities CompaniesBangkok Commercial Asset Management Public Company LimitedWeerawong, Chinnavat & Peangpanor Company Limited</div>



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Peangpanor Boonklum (Continued) Senior Executive Vice President, Office of General Counsel				<ul style="list-style-type: none"> • TIJ Workshop for Emerging Leaders on the Rule of Law and Policy (Class 3/2019), Thailand Institute of Justice (TIJ) • Certificate in Anti-Corruption Strategic Management for Senior Executives (Class 9/2018), Office of the National Anti-Corruption Commission • TLCA Executive Development Program (Class 1/2008), Thai Listed Companies Association (TLCA) 	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					December 4, 2019 - Present	• Chairman, Energy Complex Company Limited	
					March 9, 2018 - Present	• Director, PTT Oil and Retail Business Public Company Limited	
					October 24, 2018 - Present	• Member of the Nomination and Remuneration Committee, PTT Oil and Retail Business Public Company Limited	
					May 14, 2019 - Present	• Member of the Enterprise Risk Management Committee, PTT Oil and Retail Business Public Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					June 18, 2019 - Present	• Vice President, Chulalongkorn University Alumni Association Under the Royal Patronage of His Majesty the King (CUAA) (Term 2019 - 2021)	
					2012 - Present	• Guest Lecturer, “Business Law: Business Organization and Corporate Governance”, Executive MBA and MBA Programs, Sasin Graduate Institute of Business Administration of Chulalongkorn University	
					2019	• Lecturer, “Role of the Promotion, Prevention, and Respect for Human Rights”, Certificate of Human Rights for Executives, King Prajadhipok’s Institute	
					2018 - Present	• Lecturer, “Corporate Compliance for CFO”, CFO in Practice, Federation of Accounting Professions Under the Royal Patronage of His Majesty the King (TFAC)	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wuttikorn Stithit Senior Executive Vice President, Gas Business Unit <i>(Appointed: February 1, 2019)</i> 	55	0.000812 (own 0.000494; spouse 0.000318)	None	Education	February 1, 2019 - Present	• Senior Executive Vice President, Gas Business Unit	• PTT Public Company Limited
				<ul style="list-style-type: none"> • Bachelor of Engineering (Electrical Engineering), King Mongkut's Institute of Technology Ladkrabang • Master of Science (Industrial & System Engineering), Ohio University, USA • Master of Business Administration (Finance and Banking), Kasetsart University 	November 1, 2015 - January 31, 2019	• Executive Vice President, Natural Gas Supply and Trading	• PTT Public Company Limited
					November 1, 2014 - October 31, 2015	• Executive Vice President, Natural Gas Distribution	• PTT Public Company Limited
					July 1, 2011 - October 31, 2014	• Vice President, Natural Gas Wholesales Marketing	• PTT Public Company Limited
				Certification	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				<ul style="list-style-type: none"> • Director Certification Program (DCP 158/2012), Thai Institute of Directors (IOD) • Leadership Development Program III (LDP III), PTT Leadership and Learning Institute (PLLI) • Leadership Succession Program (LSP), Class 9/2018, Institute of Research and Development for Public Enterprises (IRDPE) • Senior Executive Education Program, SIBA 2017, College of Management, Mahidol University • Power of the Kingdom (Class 4/2015) (Bhumipalung Phandin), Chula Unisearch, Chulalongkorn University • Leadership Development Program II, PTT Leadership and Learning Institute • Senior Executive Program (SEP) 2011, Sasin Graduate Institute of Business Administration of Chulalongkorn University (SASIN) 	April 1, 2019 - Present	• Director, Global Power Synergy Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					September 30, 2019 - Present	• Chairman, PTT Natural Gas Distribution Company Limited	
					2019 - Present	• Chairman, PTT Global LNG Company Limited	
					2017 - 2019	• Director, TTM Sukuk Berhad	
					2016 - 2018	• Director, PTT LNG Company Limited	
					March 30, 2015 - 2019	• Chairman, Trans Thai-Malaysia (Thailand) limited	
					March 30, 2015 - 2019	• Chairman, Trans Thai-Malaysia (Malaysia) Sdn. Bhd.	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Kris Imsang</div> <div>Senior Executive Vice President, Downstream Business Group Alignment <i>(Appointed: November 1, 2019)</i></div> <div></div>	54	0.000350 (own 0.000350; spouse 0)	None	Education	November 1, 2019 - Present	• Senior Executive Vice President, Downstream Business Group Alignment	• PTT Public Company Limited
				• Bachelor of Engineering (Civil Engineering), Chulalongkorn University	October 1, 2018 - October 31, 2019	• Senior Executive Vice President, Corporate Governance and Regulatory Affairs	• PTT Public Company Limited
				Certification	January 1, 2018 - September 30, 2018	• Senior Executive Vice President, Organization Management and Sustainability	• PTT Public Company Limited
				• Director Certification Program (DCP 139/2010), Thai Institute of Directors Association (IOD)	2017 - 2019	• Member of Corporate Governance Committee	• IRPC Public Company Limited
				• Leadership Development Program III, Class of 2 nd , PTT Leadership and Learning Institute (PLLI)	February 1, 2016 - December 31, 2017	• Senior Executive Vice President, Human Resources and Organization Excellence	• PTT Public Company Limited
				• Certificate in Top Executives in the PoomPalungPandin Program, Chulalongkorn University	2015 - 2017	• Deputy Secretary General (Term 2015 - 2017)	• Chulalongkorn University Alumni Association
				• Top Executive Program, (Class of 23 rd), Capital Market Academy (CMA)	2015 - January 31, 2016	• Executive Vice President, Retail Marketing	• PTT Public Company Limited
				• Certificate, Executive Program on Energy Literacy for a Sustainable Future (TEA), (Class of 9 th), Thailand Energy Academy	2013 - 2015	• Executive Vice President, Petroleum Terminal Operations	• PTT Public Company Limited
					2012 - 2013	• Executive Vice President, Lubricant Business	• PTT Public Company Limited
					2009 - 2011	• Vice President, Leadership and Talent Management	• PTT Public Company Limited
				Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)			
				December 2, 2017 - Present	• Director/ Member of Nomination and Remuneration Committee, IRPC Public Company Limited		
				Relevant Important Positions in Non-Listed Companies (In the Previous Year)			
				December 2018 - October 31, 2019	• Director, Sport Services Alliance Company Limited		
				September 8, 2017 - October 31, 2019	• Chairman, Sarn Palung Social Enterprise Company Limited		
December 23, 2015 - November 30, 2019	• Chairman, Energy Complex Company Limited						

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Kris Imsang (Continued) Senior Executive Vice President, Downstream Business Group Alignment					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					August 22, 2019 - Present	• Honorary Board Member, Social Enterprise Promotion Board	
					July 2, 2019 - October 31, 2019	• Strategic Committee on Anti-corruption and Good Governance Enhancement (Term 2019 - 2020)	
					January 23, 2019 - Present	• Vice Chairman, Power For Sustainable Future Foundation	
					August 9, 2019 - October 31, 2019	• Executive Board, Green Globe Institute	
					August 9, 2019 - October 31, 2019	• Member, Green Globe Institute	
					July 18, 2019 - October 31, 2019	• Sustainable OUR Khung BangKaChao Working Team	
					July 3, 2019 - October 31, 2019	• Sustainable OUR Khung BangKaChao Advisory Board	
					July 3, 2019 - October 31, 2019	• Sustainable OUR Khung BangKaChao Steering Committee	
					2017 - Present	• Advisor, Chulalongkorn University Alumni Association under the King's Patronage (Term 2017 - 2019)	
					November 2018 - Present	• Chairman, Social Enterprise Club	
					October 29, 2018 - Present	• Committee, Vidyasirimedhi Institute of Science and Technology	
					July 11, 2018 - October 31, 2019	• Chairman, Water Resource Management Committee (TBCSD)	
					March 30, 2016 - August 31, 2019	• Committee, Kamnoetvidya Science Academy	






Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Disathat Panyarachun</div> <div>Senior Executive Vice President, International Trading Business Unit <i>(Appointed: October 1, 2018)</i></div> <div></div>	55	None	None	Education	October 1, 2018 - Present	• Senior Executive Vice President, International Trading Business Unit	• PTT Public Company Limited
				• Bachelor of Social Science, Silpakorn University	February 1, 2016 - September 30, 2018	• Executive Vice President, International Trading	• PTT Public Company Limited
				• Master of Public Administration (Political Science), National University, San Diego, USA	August 1, 2015 - January 31, 2016	• Vice President acting as Executive Vice President, International Trading	• PTT Public Company Limited
				Certification	2012 - 2015	• Vice President, PTT, working on a secondment as Managing Director	• PTT International Trading Pte. Ltd.
				• Director Certification Program (DCP 206/2015), Thai Institute of Directors Association (IOD)	November 1, 2011 - 2018	• Chairman	• PTT International Trading DMCC
				• Leadership Development Program III, PTT Leadership and Learning Institute (PLLI)	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Certification of Oil Futures Program, The Oxford Princeton, UK	October 22, 2018 - Present	• Director/ Director to the Corporate Governance Committee, PTT Global Chemical Public Company Limited	
				• Certificate, Executive Program on Energy Literacy for a Sustainable Future, (Class of 14 th), Thailand Energy Academy (TEA)	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					October 24, 2016 - Present	• Chairman, PTT International Trading London Ltd. (PTTT LDN)	
					November 1, 2012 - Present	• Director/ Acting Chairman, PTT International Trading Pte. Ltd. (PTTT) (Acting Chairman since October 3, 2018)	
Relevant Important Position in Other Companies/ Organizations (In the Previous Year)							

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Worawat Pitayasiri Senior Executive Vice President, Innovation and Digital <i>(Appointed: September 16, 2018)</i> 	53	None	None	Education	September 16, 2018 - Present	• Senior Executive Vice President, Innovation and Digital	• PTT Public Company Limited
				• Bachelor of Engineering (Chemical Engineering), Chulalongkorn University	October 1, 2016 - September 15, 2018	• Executive Vice President, Downstream Business Group Planning	• PTT Public Company Limited
				• Master of Business Administration (Management), Thammasat University	March 31, 2016 - September 30, 2016	• Executive Vice President under Senior Executive Vice President, Downstream Business Group Alignment	• PTT Public Company Limited
				Certification	July 1, 2015 - March 30, 2016	• Executive Vice President, PTT, working on a secondment as President	• PTT MCC Biochem Company Limited
				• Director Certification Program (DCP) (Class of 2012) Thai Institute of Directors Association (IOD)	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Asia Petrochemical Industry Conference (APIC) (Class 2/2017), Japan Petrochemicals Industry Association	September 2018 - Present	• Director/ Member of Risk Management committee, IRPC Public Company Limited	
				• PTT Group VP Leadership Development Program, PTT Public Company Limited	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
				• NIDA-Wharton Executive Leadership Program (Class of 2009), The Wharton School of the University of Pennsylvania, USA	October 2019 - Present	• Chairman, PTT Digital Solutions Company Limited	
				• Senior Executive Program (Class 26/2012), Sasin Graduate Institute of Business Administration, Chulalongkorn University	November 2019 - Present	• Director, InnoSpace (Thailand) Company Limited	
				• Democratic Politics and Governance for High-Level Administrators Program, (Class of 22 nd), King Prajadhipok's Institute	June 2019 - August 2019	• Director, PTT Energy Solutions Company Limited	
					May 2018 - November 2018	• Director, PTT Tank Terminal Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					February 28, 2019 - Present	• Member of the Executive Board, Vidyasirimedhi Institute of Science and Technology	
					November 27, 2017 - November 4, 2019	• Committee, Community Partnership Association	



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Phongsthorn Thavisin President and Chief Executive Officer, PTT Exploration and Production Public Company Limited <i>(Appointed: October 1, 2018)</i>	60	0.000088 (own 0.000035; spouse 0.000053)	None	Education <ul style="list-style-type: none"> Bachelor of Science (Petroleum and Natural Gas Engineering), The Pennsylvania State University, USA 	January 1, 2019 - Present	<ul style="list-style-type: none"> Senior Executive Vice President, PTT, reporting to Chief Operating Officer, Upstream Petroleum and Gas Business Group working on a secondment as President and Chief Executive Officer 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 223/2016), Thai Institute of Directors Association (IOD) Capital Market Leader Program (Class of 27th), Capital Market Academy Energy Literacy Leadership Program (Class of 7th), Thailand Energy Academy Senior Executive Program (SEP-19), Sasin Graduate Institute of Business Administration of Chulalongkorn University Advanced Naval Studies Program (Class 40/2008), Institute of Advanced Naval Studies PTT Group EVP Leadership Development, PTT PTT Executive Leadership, General Electric, GE, New York, USA Breakthrough Program for Senior Executive, IMD The National Defense Course (2013 - 2014), Thai National Defense College 	October 1, 2018 - December 31, 2018 November 1, 2017 - September 30, 2018 January 1, 2016 - October 31, 2017 January 1, 2015 - December 31, 2015 2012 - 2014	<ul style="list-style-type: none"> Senior Executive Vice President, PTT, working on a secondment as Chief Executive Officer President, Exploration and Production/ Acting Executive Vice President, Business Transformation and Organization Group Chief Operating Officer, Production Asset and Operations Support Group/ Acting Executive Vice President, Operations Support Group Executive Vice President, Technology and Sustainability Development Group Executive Vice President, Engineering and Development Group 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited PTT Exploration and Production Public Company Limited PTT Exploration and Production Public Company Limited PTT Exploration and Production Public Company Limited PTT Exploration and Production Public Company Limited



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Phongsthorn Thavisin (Continued) President and Chief Executive Officer, PTT Exploration and Production Public Company Limited					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					October 1, 2018 - Present	• Director/ President and Chief Executive Officer, PTT Exploration and Production Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					-	-	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	
Mr. Kongkrapan Intarajang Chief Executive Officer, PTT Global Chemical Public Company Limited <i>(Appointed: October 1, 2019)</i> 	52	None	None	Education	October 1, 2019 - Present	• Senior Executive Vice President, PTT, reporting to Chief Operating Officer, Downstream Petroleum Business Group working on a secondment as Chief Executive Officer	• PTT Global Chemical Public Company Limited
				• Bachelor of Engineering (Chemical Engineering) (2 nd Class Honor), Chulalongkorn University			
				• Ph.D. Chemical Engineering, University of Houston, USA			
				Certification	April 2017 - September 30, 2019	• Chief Operating Officer - Upstream Petrochemical Business	• PTT Global Chemical Public Company Limited
				• Director Certification Program (DCP 119/2009), Role of the Chairman Program (RCP 21/2009) Thai Institute of Directors Association (IOD)	October 2014 - March 2017	• Executive Vice President - International Business Operations	• PTT Global Chemical Public Company Limited
				• Breakthrough Program for Senior Executives, IMD Business School	September 2014 - December 2018	• Director	• NatureWorks LLC
				• Diploma, The National Defence College of Thailand, (Class of 60 th) (NDC 60)	September 2014 - December 2018	• Director/ Vice President	• PTTGC International (USA) Inc.
				• The Executive Program in Energy Literacy for a Sustainable Future, (TEA Class 14/2019) Thailand Energy Academy	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				• Leadership Development Program III (LDP 3 Class 4/2019), PTT Leadership and Learning Institute (PTT PLLI)	October 1, 2019 - Present	• Director/ Secretary to the Board of Directors/ Director to the Risk Management Committee/ Chief Executive Officer, PTT Global Chemical Public Company Limited	
					November 6, 2019 - Present	• Director, Global Green Chemicals Public Company Limited	
					August 15, 2017 - Present	• Director/ Member of the Risk Management Committee, Global Power Synergy Public Company Limited	



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Kongkrapan Intarajang (Continued) Chief Executive Officer, PTT Global Chemical Public Company Limited					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					April 2017 - Present	• Director, Thai Tank Terminal Limited	
					July 2015 - Present	• Chairman, PTTGC America LLC	
					July 2015 - Present	• Chairman, PTTGC America Corporation	
					September 2008 - Present	• Director, PTTGC International Private Limited	
					July 2015 - September 2019	• Director/ President & CEO, PTTGC America Corporation	
					April 2015 - September 2019	• Director, PTTGC Innovation America Corporation	
					February 2015 - September 2019	• Director, PTTGC International (Netherlands) B.V.	
					January 2015 - September 2019	• Director, Vencorex Holding	
					November 2008 - September 2019	• Director, Emery Oleochemicals (M) Sdn. Bhd.	
					November 2008 - September 2019	• Director, Emery Specialty Chemicals Sdn. Bhd.	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					November 2019 - Present	• Director, Power of Innovation Foundation	
					October 2019 - Present	• Director, Power of Learning Foundation	
					August 2019 - President	• Director, Kamnoetvidya Science Academy (KVIS)	
					July 2017 - Present	• Co-Chairman, France – Thailand Business Forum	


Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wirat Uanarumit Chief Executive Officer and President, Thai Oil Public Company Limited <i>(Appointed: September 1, 2019)</i>	57	0.000543 (own 0.000543; spouse 0)	None	Education <ul style="list-style-type: none"> Bachelor of Engineering (Electrical Engineering), Chulalongkorn University Master of Business Administration, with Emphasis in Financial Management, Pennsylvania State University, Pennsylvania, USA 	September 1, 2019 - Present	<ul style="list-style-type: none"> Chief Operating Officer reporting to Chief Operating Officer, Downstream Petroleum Business Group, PTT working on a secondment as Chief Executive Officer and President 	<ul style="list-style-type: none"> Thai Oil Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 8/2001), Director Certification Program Update (DCPU 5/2015), Audit Committee Program (ACP 38/2012), Ethical Leadership Program (ELP 7/2017), Thai Institute of Directors (IOD) GE Global Customer Summit Crotonville Member, Beta Gamma Sigma (US National Scholastic Honour Society in Business) Advance Management Programme, INSEAD Business School, Fontainebleau, France Advanced Management Program (Class of 184th), Harvard Business School, USA 	June 2017 - October 2017 October 1, 2016 - August 31, 2019 2016 - 2017 January - September 2016 2015 - 2016 2015 - 2016 2014 - 2015 2014 - 2015 May 1, 2014 - September 30, 2016 2012 - 2015 November 2011 - April 30, 2014	<ul style="list-style-type: none"> Chairman Chief Operating Officer, Upstream Petroleum and Gas Business Group Chairman Director Director Advisory Committee, Promoting and Supporting Office of Industries Director Director Chief Financial Officer Director Executive Vice President - Corporate Finance 	<ul style="list-style-type: none"> PTT Global LNG Company Limited PTT Public Company Limited PTT Energy Resources Company Limited Thai Oil Public Company Limited The Joint Standing Committee on Commerce, Industry and Banking The Federation of Thai Industries PTT International Trading Pte. Ltd. Bangchak Petroleum Public Company Limited PTT Public Company Limited Star Petroleum Refining Public Company Limited (SPRC) PTT Public Company Limited



Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wirat Uanarumit (Continued) Chief Executive Officer and President, Thai Oil Public Company Limited				<ul style="list-style-type: none"> Capital Market Academy Leader Program (Class of 4th), Capital Market Academy The Program for Senior Executives on Justice Administration (Class of 16th), Judicial Training Institute, National Justice Academy Advanced Security Management Program (Class of 2nd), The National Defence College Association of Thailand (NDCAT) Executive Development Program (EDP) (Class of 1st), Thai Listed Companies Association (TLCA) The Joint State – Private Sector Course (Class of 2013), National Defence College Executive Management with Business Development and Investment (Class of 2nd), Institute of Business and Industrial Development (IBID) Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives (Class of 20th) King Prajadhipok's Institute The Rules of Law for Democracy (Class of 6th), College of the Constitutional Court The Executive Program in Energy Literacy for a Sustainable Future, (Class of 13rd), Thailand Energy Academy Thailand CG Forum: Governance as a Driving Force for Business Sustainability, The Stock Exchange of Thailand 	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					September 1, 2019 - Present	• Director/ Secretary to the Board of Directors/ Member of the Risk Management Committee/ Chief Executive Officer and President, Thai Oil Public Company Limited	
					September 1, 2019 - Present	• Director/ Member of the Risk Management Committee, Global Power Synergy Public Company Limited	
					2015 - August 31, 2019	• Director/ Member of the Risk Management Committee, PTT Exploration and Production Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					November 2019 - Present	• Director, Thailoil Solvent Company Limited	
					November 2019 - Present	• Director/ Chairman, Labix Company Limited	
					September 2019 - Present	• Director/ Chairman of the Board, Thai Lube Base Public Company Limited	
					September 2019 - Present	• Director/ Chairman of the Board, TOP SPP Company Limited	
					September 2019 - Present	• Director/ Chairman of the Board, Thai Paraxylene Company Limited	
					September 2019 - Present	• Director/ Chairman of the Board, Thailoil Power Company Limited	
					September 2019 - Present	• Director/ Chairman of the Board, Thailoil Marine Company Limited	
					November 30, 2018 - 2019	• Director/ Chairman of the Board, PTT LNG Company Limited	
					October 2016 - 2019	• Director, Sakari Resources Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Wirat Uanarumit (Continued) Chief Executive Officer and President, Thai Oil Public Company Limited					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					November 2019 - Present	• Member of Council, Vidyasirimedhi Institute of Science and Technology	
					October 2019 - Present	• Director, Power of Innovation Foundation	
					October 2019 - Present	• Director, Power of Learning Foundation	
					September 2019 - Present	• Executive Director, Thailand Swimming Association	
					September 2019 - Present	• Member of Trustee (as Company Representative), Petroleum Institute of Thailand (PTIT)	
					September 2019 - Present	• Council of Trustee, Thailand Business Council of Sustainable Development (TBCSD)	
					2018 - Present	• Director, The Federation of Thai Industries (Term 2018 - 2020)	
					2017 - 2019	• Executive Director, Chulalongkorn University Alumni Association	
					August 2016 - Present	• Advisor to the President, Association of Capital Market Academy (ACMA)	
					May 2016 - Present	• Advisory Committee, Trade, Investment Promotion and Business Council, The Federation of Thai Industries	
					2015 - Present	• Chairman, Thailand - Malaysia Business Council, The Federation of Thai Industries (FTI)	
					2013 - Present	• Director/ Member of Audit Committee, Thailand Management Association (TMA)	




Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
<div>Mr. Noppadol Pinsupa</div> <div>President, IRPC Public Company Limited <i>(Appointed: February 1, 2019)</i></div> <div></div>	55	0.002255 (own 0.000476; spouse 0.001779)	None	Education	February 1, 2019 - Present	<ul style="list-style-type: none">Senior Executive Vice President, PTT, reporting to Chief Operating Officer, Downstream Petroleum Business Group working on a secondment as President	<ul style="list-style-type: none">IRPC Public Company Limited
				<ul style="list-style-type: none">Bachelor of Engineering (Electrical Engineering), Chulalongkorn UniversityMaster of Engineering (Electrical Engineering), Chulalongkorn University	October 1, 2015 - January 31, 2019	<ul style="list-style-type: none">Senior Executive Vice President, Gas Business Unit	<ul style="list-style-type: none">PTT Public Company Limited
				Certification	October 1, 2014 - September 30, 2015	<ul style="list-style-type: none">Executive Vice President, PTT, working on a secondment as President	<ul style="list-style-type: none">Global Power Synergy Public Company Limited
				<ul style="list-style-type: none">Director Certification Program (DCP 146/2011), Financial Statements for Directors (FSD 12/2011) Thai Institute of Directors Association (IOD)Leadership Development Program III, PTT Leadership and Learning InstituteBreakthrough Program For Senior Executives International Leading Business School (IMD), Lausanne, SwitzerlandAssessor Training Program, Thailand Quality Award (TQA)Financial Statement for Directors, PTT Public Company LimitedSeminar “Briefing on International Anti-Corruption...International Cases and Practices”(October 14, 2015), Thai Institute of Directors Association (IOD)	2012 - 2014	<ul style="list-style-type: none">Executive Vice President, Natural Gas for Vehicle	<ul style="list-style-type: none">PTT Public Company Limited
					2010 - 2012	<ul style="list-style-type: none">Executive Vice President, Natural Gas Distribution, Gas Business Unit	<ul style="list-style-type: none">PTT Public Company Limited
				Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)			
				February 1, 2019 - Present	<ul style="list-style-type: none">Director/ Member of the Risk Management Committee/ President/ Secretary of the Board of Directors, IRPC Public Company Limited		
				2015 - January 30, 2019	<ul style="list-style-type: none">Director/ Member of the Risk Management Committee, Thai Oil Public Company Limited		
				Relevant Important Positions in Non-Listed Companies (In the Previous Year)			
				2019 - Present	<ul style="list-style-type: none">Director, PTT Energy Solutions Company Limited		
2017 - 2019	<ul style="list-style-type: none">Chairman, PTT Global LNG Company Limited						
Relevant Important Position in Other Companies/ Organizations (In the Previous Year)							
-	-						

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Noppadol Pinsupa (Continued) President, IRPC Public Company Limited				<ul style="list-style-type: none"> • Mitsui-HBS Global Management Academy 2015 Japan - USA • G-20Y Summit 2015 France • Program for Senior Executive on Justice Administration, (Class of 19th), Judicial Training Institute • Top Executives Program, (Class 22/2016), Capital Market Academy. • The National Defence Course, (Class of 60th), National Defence College • Executive Program on Rule of Law and Development (RoLD Program), Thailand Institute of Justice (TIJ) (2017) • The Executive Program in Energy Literacy for a Sustainable Future (Class 14/2019), Thailand Energy Academy (2019) 			






Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chawalit Tippawanich President and Chief Executive Officer, Global Power Synergy Public Company Limited <i>(Appointed: October 1, 2018)</i> 	57	0.000035 (own 0.000035; spouse 0)	None	Education	October 1, 2018 - Present	• Senior Executive Vice President, PTT, reporting to Chief Technology and Engineering Officer working on a secondment as President and Chief Executive Officer	• Global Power Synergy Public Company Limited
				<ul style="list-style-type: none"> Bachelor of Engineering (Electrical – Telecommunication Engineering) (Second-Class Honors), King Mongkut's Institute of Technology Ladkrabang Master of Engineering (Industrial Engineering and Management), Asian Institute of Technology (AIT) 	2017 - September 30, 2018	• Executive Vice President, Downstream Business Group Alignment, PTT, working on a secondment as Executive Vice President - Organization Effectiveness	• Thai Oil Public Company Limited
				Certification	2015 - 2016	• Executive Vice President, Downstream Business Group Alignment, PTT, working on a secondment as President	• HMC Polymers Co., Ltd. (JV with LyondellBasell)
				<ul style="list-style-type: none"> Director Certification Program (DCP 152/2011), Thai Institute of Directors Association (IOD) Company Management Program The Great Manager - Thailand Quality Award GE Energy Customer Executive Leadership Program (GE: PTT Executive Leadership) - GE Global Learning Crotonville Leadership Institute, USA Advance Management Program (AMP 187) - Harvard Business School, Executive Education, USA Leadership Development Program III (Class of 2nd), PTT Leadership and Learning Institute (PLLI) 	2013 - 2015	• Executive Vice President, Business Development and Project Management	• PTT Public Company Limited
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					October 1, 2018 - Present	• Director/ Secretary to the Board/ Member of the Risk Management Committee/ President and Chief Executive Officer, Global Power Synergy Public Company Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chawalit Tippawanich (Continued) President and Chief Executive Officer, Global Power Synergy Public Company Limited				<ul style="list-style-type: none"> The Joint State-Private Sector Course (Class of 5th), Police College Energy Literacy Leadership Program (Class of 12nd), Thailand Energy Academy 	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					March 15, 2019 - Present	• Director, Glow Company Limited	
					March 15, 2019 - Present	• Director, Glow SPP2 Company Limited	
					March 15, 2019 - Present	• Director, Glow SPP3 Company Limited	
					March 15, 2019 - Present	• Director, Glow IPP2 Holding Company Limited	
					March 15, 2019 - Present	• Director, Glow SPP11 Company Limited	
					March 15, 2019 - Present	• Director, Glow IPP Company Limited	
					January 7, 2019 - Present	• Director, Ratchaburi Power Company Limited	
					November 6, 2018 - Present	• Director, Xayaburi Power Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Jiraphon Kawwat Acting President and Chief Executive Officer, PTT Oil and Retail Business Public Company Limited <i>(Appointed: July 1, 2018)</i> 	57	None	None	Education <ul style="list-style-type: none"> Bachelor of Science (Accounting), Kasetsart University Master of Accountancy (Cost Accounting), Chulalongkorn University Master of Business Administration (Financial Management), Kasetsart University 	July 1, 2018 - Present	<ul style="list-style-type: none"> Senior Executive Vice President, PTT, reporting to Chief Operating Officer, Downstream Petroleum Business Group working on a secondment as Acting President and Chief Executive Officer 	<ul style="list-style-type: none"> PTT Oil and Retail Business Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 180/2013), Director Certification Program Update (DCPU 2/2014), How to Develop a Risk Management Plan (HRP 6/2014), Successful Formulation & Execution of Strategy (SFE 21/2014), Thai Institute of Directors Association (IOD) Senior Executive Program, London Business School, UK Leadership Development Program III, (Class 2/2015), PTT Leadership and Learning Institute Strategic Thinking Through Case PTT Group VP Leadership Development Program 	February 14, 2018 - August 20, 2018	<ul style="list-style-type: none"> Director 	<ul style="list-style-type: none"> IRPC Public Company Limited
					October 1, 2017 - June 30, 2018	<ul style="list-style-type: none"> Senior Executive Vice President, Oil Business Unit 	<ul style="list-style-type: none"> PTT Public Company Limited
					2016 - September 30, 2017	<ul style="list-style-type: none"> Executive Vice President, PTT, working on a secondment Managing Director 	<ul style="list-style-type: none"> PTT Retail Management Company Limited
					2012 - 2016	<ul style="list-style-type: none"> Executive Vice President, Planning, Oil Business Unit 	<ul style="list-style-type: none"> PTT Public Company Limited
					2006 - 2012	<ul style="list-style-type: none"> Vice President, Managerial Accounting 	<ul style="list-style-type: none"> PTT Public Company Limited
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					-	-	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Jiraphon Kawswat (Continued) Acting President and Chief Executive Officer, PTT Oil and Retail Business Public Company Limited				<ul style="list-style-type: none">• TLCA Executive Development program (EDP), Thai Listed Companies Association• PTT Group PLLI 3 Leadership Greatness: Great Leaders, Great Teams, Great Results• Top Executive Program (Class 26/2018), Capital Market Academy (CMA)• Executive Program on Energy Literacy for a Sustainable Future (Class 12/2018), Thailand Energy Academy (TEA)• Executive Program on Rule of Law and Develoment (RoLD Program 3/2019), Thailand Institute of Justice• Corporate Governance Program for Directors and Executives of State Enterprises and Public Organization 20/2019, King Prajadhipok’s Institute	Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					2018 - Present	<ul style="list-style-type: none">• Director/ Member of the Enterprise Risk Management Committee/ Secretary to the Board/ Acting President and Chief Executive Officer, PTT Oil and Retail Business Public Company Limited	
					2015 - October 15, 2019	<ul style="list-style-type: none">• Chairman, PTT Retail Management Company Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	






Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Duangkamol Settanung Senior Executive Vice President PTT working as Executive Vice President - Finance and Accounting, PTT Global Chemical Public Company Limited <i>(Appointed: December 1, 2018)</i>	60	0.000280 (own 0.000280)	None	Education <ul style="list-style-type: none"> Bachelor of Science in Statistics (1st Class Honors), Kasetsart University Master of Business Administration, Thammasat University 	December 1, 2018 - Present	<ul style="list-style-type: none"> Senior Executive Vice President, PTT, reporting to Chief Financial Officer working as Executive Vice President - Finance and Accounting 	<ul style="list-style-type: none"> PTT Global Chemical Public Company Limited
				Certification <ul style="list-style-type: none"> Director Certification Program (DCP 155/2012), Thai Institute of Directors Association (IOD) Certificate Program for GE: PTT Executive Program, GE USA, 2012 Certification Program for “Leadership Development Program III (LDP III)”, PTT Leadership and Learning Institute, 2014 Capital Market Academy Leadership Program, (Class of 26th), Capital Market Academy 	November 1, 2016 - November 30, 2018 February 2015 - November 2015 November 2014 - June 2015 June 2013 - November 2015 December 2012 - December 2015 February 2012 - November 2015 December 2011 - November 2015 November 2011 - November 2015 November 2011 - November 2015 November 2011 - November 2015 October 2011 - November 2015	<ul style="list-style-type: none"> Executive Vice President PTT working as Executive Vice President - Finance and Accounting Director Director Director Director Director Director Director Director Senior Executive Vice President, Corporate Accounting and Finance 	<ul style="list-style-type: none"> PTT Global Chemical Public Company Limited IRPC - PCC Company Limited PTT Polymer Marketing Company Limited IRPC Clean Power Company Limited UBE Chemical (Asia) Public Company Limited IRPC Energy Company Limited IRPC A&L Company Limited Thai ABS Company Limited IRPC Oil Company Limited IRPC Polyol Company Limited IRPC Public Company Limited





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Duangkamol Settanung (Continued) Senior Executive Vice President PTT working as Executive Vice President - Finance and Accounting, PTT Global Chemical Public Company Limited					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					February 17, 2016 - Present	• Director/ Chairperson of the Business Advisory Committee, Vinythai Public Company Limited	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					October 31, 2019 - Present	• Director, PTTGC International (USA) Inc.	
					March 2, 2018 - Present	• Chairman, GC Treasury Center Company Limited	
					June 2, 2017 - Present	• Director, GC Polyols Company Limited	
					June 2, 2017 - November 13, 2019	• Director, GC Oxirane Company Limited	
					April 19, 2016 - Present	• Director, PTT Phenol Company Limited	
					March 2, 2016 - Present	• Director, Emery Specialty Chemicals Sdn. Bhd.	
					March 2, 2016 - Present	• Director, Emery Oleochemicals (M) Sdn. Bhd.	
					January 18, 2016 - Present	• Director, PTTGC America LLC	
					January 18, 2016 - Present	• Director, PTTGC America Corporation	
					January 18, 2016 - Present	• Director, PTTGC International Private Limited	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	





Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Yongyos Krongphanich Executive Vice President, Group Corporate Finance and Strategy <i>(Appointed: January 1, 2019)</i> 	59	0.000011 (own 0.000011; spouse 0)	None	Education <ul style="list-style-type: none"> Bachelor of Accounting, Chulalongkorn University Master of Accounting, Thammasat University 	January 1, 2019 - Present	<ul style="list-style-type: none"> Executive Vice President, PTT Exploration and Production Public Company Limited, working on a secondment as Executive Vice President, Group Corporate Finance and Strategy 	<ul style="list-style-type: none"> PTT Public Company Limited
				Certification <ul style="list-style-type: none"> The Corporate Governance: Regulation and Disclosure Training (2017), Thai Institute of Directors Association (IOD) ICT Management for Non-ICT Executive (2013), NSTDA Academy, National Science and Technology Development Agency 	1 October 2018 - 31 December 2018	<ul style="list-style-type: none"> Executive Vice President, Finance and Accounting Group/ Acting Senior Vice President, Finance Division 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited
					2014 - 30 September 2015	<ul style="list-style-type: none"> Senior Vice President, Finance Division/ acting Senior Vice President, Accounting Division 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited
					2013	<ul style="list-style-type: none"> Senior Vice President, Finance and Strategic Information Technology Division 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited
					2011 - 2012	<ul style="list-style-type: none"> Senior Vice President, Accounting Division 	<ul style="list-style-type: none"> PTT Exploration and Production Public Company Limited
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					-	-	
					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					April 2019 - Present	<ul style="list-style-type: none"> Chairman, PTT Regional Treasury Center Pte. Ltd. 	
					April 2019 - Present	<ul style="list-style-type: none"> Chairman, PTT Global Management Company Limited 	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					-	-	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Wilaiwan Kanjanakanti Executive Vice President, Group Finance and Accounting Policy <i>(Appointed: November 1, 2016)</i>	53	0.000130 (own 0.000130)	None	Education	November 1, 2016 - Present	• Executive Vice President, Group Finance and Accounting Policy	• PTT Public Company Limited
				• Bachelor of Accountancy, Chulalongkorn University	June 1, 2016 - October 31, 2016	• Vice President, Treasury	• PTT Public Company Limited
				• Master of Science in Accounting Information System (M.S. in AIS), Faculty of Commerce and Accountancy, Chulalongkorn University	May 2016 - Mar 2017	• Director	• PTT Regional Treasury Center Pte. Ltd
				Certification	February 25, 2016 - April 25, 2018	• Director	• PTT Retail Business Company Limited (Changed company name to PTT Oil and Retail Business Company Limited on December 15, 2016)
				• Director Certification Program (DCP 234/2017), Thai Institute of Directors Association (IOD)	September 1, 2014 - May 31, 2016	• Vice President, Managerial Accounting	• PTT Public Company Limited
				• Leadership Development Program II (LDP 2), Harvard Business School, USA	January 1, 2012	• Vice President, Accounting Policy and Advisory	• PTT Public Company Limited
				• Executive Development Program, The Stock Exchange of Thailand	August 31, 2014	• Committee of the Accounting Profession in Management Accounting Committee	• Federation of Accounting Professions under the Royal Patronage of His Majesty the King
				• Executive Development Program 2012 (Class of 8 th) (EDP-MOF 2012), Fiscal Policy Research Institute Foundation	2014 - 2017	• Sub-committee of the Accounting Technical Standards Sub-committee	• Federation of Accounting Professions under the Royal Patronage of His Majesty the King
				• Advanced Management Program 3 (AMP 3), PTT Leadership and Learning Institute (PLLI)	2011 - 2014	• Committee of the Accounting Profession in Bookkeeping Committee	• Federation of Accounting Professions under the Royal Patronage of His Majesty the King
				• Leadership Development Program III (LDP 3), IMD Singapore	2011 - 2014		
				• Financial and Fiscal Management for Senior Executive Program (FME-MOF)	Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
					April 24, 2017 - Present	• Director, Dhipaya Insurance Public Company Limited	

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Miss Wilaiwan Kanjanakanti (Continued) Executive Vice President, Group Finance and Accounting Policy					Relevant Important Positions in Non-Listed Companies (In the Previous Year)		
					April 25, 2018 - Present	• Director, PTT Oil and Retail Business Public Company Limited	
					February 1, 2017 - Present	• Director, PTT Green Energy Pte. Ltd.	
					Relevant Important Position in Other Companies/ Organizations (In the Previous Year)		
					Present 2017 - Present	• Treasurer, Marketing Association of Thailand • Sub-committee of the Accounting Technical Standards Sub-committee Federation of Accounting Professional, Federation of Accounting Professions under the Royal Patronage of His Majesty the King	
Mr. Chienvit Udomwatwong Executive Vice President, Global Business Services <i>(Appointed: October 1, 2016)</i> <i>(The person supervising accounting)</i> 	59	0.000053 (own 0.000053; spouse 0)	None	Education	October 1, 2016 - Present	• Executive Vice President, Global Business Services	• PTT Public Company Limited
				• Bachelor of Accountancy, Dhurakij Pundit University • Master of Business Administration (M.B.A.) (General Management), National Institute of Development Administration (NIDA)	June 1, 2016 - September 30, 2016	• Vice President under Executive Vice President, Global Business Services	• PTT Public Company Limited
					Certification	October 1, 2014 - May 31, 2016	• Vice President, Treasury
				• Director Certification Program (DCP 154), Thai Institute of Directors Association (IOD) • TLCA Executive Development Program (EDP), Thai Listed Companies Association • PTT-HBS Leadership Development Program (Harvard Business School) • Leadership Development Program II, PTT Leadership and Learning Institute, (PLLI)		2005 - 2014	• Vice Present, PTT, working on a secondment as Vice President, Finance and Administration
					Relevant Important Positions in Listed Companies - The Stock Exchange of Thailand (In the Previous Year)		
				-	-		
				Relevant Important Positions in Non-Listed Companies (In the Previous Year)			
				December 12, 2018 - Present	• Director, PTT International Trading Pte. Ltd.		
				November 6, 2018 - Present	• Chairman, PTT Treasury Center Company Limited		
				April 26, 2018 - Present	• Chairman, PTT Energy Resources Company Limited		
Relevant Important Position in Other Companies/ Organizations (In the Previous Year)							
-	-						

Name/ Position	Age (Year)	(%) of Share Possession	Family Relationship among Directors and Executives	Education/ Certification	Working Experiences in the 5 Preceding Years (As of December 31, 2019)		
					Time Period	Position	Organization/ Company
Mr. Chienvit Udomwatwong (Continued) Executive Vice President, Global Business Services				Continuing Professional Development			
				<ul style="list-style-type: none"> • TFRS 9 Sharing Experience in Impairment of Financial Assets (Focus on Simplified Approach), Valuation of Financial Instruments and Hedging Accounting for Non - bank business (class 1/2019) - CPD (Accounting) 6 hours • The challenging of auditor with AI Technogy and Blockchain - CPD (Accounting) 6 hours • National e-Payment with Tax - CPD (Other) 7 hours An Accountant with criteria Specified by the Department of Business Development			



Positions held by The Management and Authorized Controllers of PTT Plc., Subsidiaries, Joint Ventures, Associates and Other Related Companies for 2019

PTT Executive (As of December 31, 2019)				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
Company** (As of December 31, 2019)				Mr. Kairit Euekanonchai	Mr. Vichai Assarakorn	Mr. Don Wasantapruet	GEN. Teerawat Boonyawat	Professor Dr. Kittipong Kitayarak	Mr. Supattanasong Punmeeshaow	Mr. Nuntawan Sukuntanaga	Mr. Danucha Pichayanan	Professor Dr. Supot Teacharatsirakun	Professor Dr. Surapon Nilkeiphot	Mr. Thon Thamrongnawasawat	Mr. Chumpol Rimsakorn	Mr. Nuttachai Chanuchinda	Mr. Sarawat Kewathip	Mr. Chansin Teenuclagorn	Mr. Atikom Teetsri	Mr. Autapad Rerkpiboon	Mr. Witawat Saeat-xudo	Ms. Pannalin Mahawongkikul	Ms. Arawadee Pholsaro	Mr. Preecha Poodanawat	Ms. Duangporn Thengwanatham	Ms. Pengarnor Boonkum	Mr. Wuthikorn Sitthit	Mr. Kris Insang	Mr. Disathai Panyarachun	Mr. Worawat Piyasit	Mr. Phongsorn Thavisin	Mr. Kongkarn Intarajang	Mr. Wirat Uanarumit	Mr. Noppadol Pinsupa	Mr. Chawalt Tippawanich	Ms. Jiraphon Kawesat	Ms. Duangkamol Sattanung	Mr. Yongyos Krongphanch	Ms. Wilawan Kanjanakanti	Mr. Chienvit Udomwattwong		
PTT Public Company Limited			PTT	X	/	/	/	/	/	/	/	/	/	/	/	/	/	*0/	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	
Subsidiaries	E&P Business Group	PTT Exploration and Production Public Co., Ltd.	PTTEP														/	/												*0/												
	Gas	PTT Natural Gas Distribution Co., Ltd.	PTTNGD																								X															
		PTTLNG Co., Ltd.	PTTLNG															X																								
		PTT Global LNG Co., Ltd.	PTTGL																								X															
	International Business	PTT Green Energy Pte. Ltd.	PTTGE																																				/			
		PTT Energy Resources Co., Ltd.	PTTER																																						X	
		PTT Global Management Co., Ltd.	PTTGM																																				X			
	Oil	PTT Oil and Retail Business Public Co.,Ltd.	OR																	X						/									*0/		/					
	Petrochemical & Refining	PTT Tank Terminal Co., Ltd.	PTT TANK																	X			/																			
		PTT Global Chemical Public Co., Ltd.	GC			/		/													/		/						/			*/										
		Thai Oil Public Co., Ltd.	TOP																	/		/		/	/								*0/									
		IRPC Public Co., Ltd.	IRPC													/	X										/	/					0/									
	Trading	PTT International Trading Pte. Ltd.	PTTT																										/												/	
		PTT International Trading London Limited	PTTT LDN																										X													
	Others	PTT Regional Treasury Center Pte. Ltd.	PTTRTC																																					X		
		Business Services Alliance Co., Ltd.	BSA																					X																		
		PTT Treasury Center Co.,Ltd.	PTT TCC																																						X	
	Technology and Engineering Business Group	Global Power Synergy Public Co., Ltd.	GPSC																		/					/	/					/	/			*0/						
		PTT Digital Solutions Co., Ltd.	PTT DIGITAL																											X												
		Energy Complex Co., Ltd.	EnCo																							X																
		Thaioil Power Co., Ltd.	TP																														X									
		PTT Energy Solutions Co., Ltd.	PTTES																		X														/							



PTT Executive (As of December 31, 2019)				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
Company** (As of December 31, 2019)				Mr. Kairit Euehkanonchai	Mr. Vichai Assarasakorn	Mr. Don Wasantapruet	GEN. Teerawat Boonyawat	Professor Dr. Kittipong Kitayarak	Mr. Supattanapong Punmeschaow	Mrs. Nuntawan Sakuntanaga	Mr. Danucha Pichayanan	Professor Dr.Supot Teachawasinakun	Professor Dr. Surapon Nikitapont	Mr. Thon Thamrongnawasawat	Mr. Chumpon Rimsakorn	Mr. Nuttachai Chaichinda	Mr.Sarawat Kawatthip	Mr.Chansin Teenuchegorn	Mr. Atikom Terbsiri	Mr. Autapol Rerkpiboon	Mr. Wittawat Svasti-xudo	Ms. Pannalin Mahawongtikul	Mrs. Aravadee Protsaro	Mr. Preecha Pochanawat	Ms. Duangporn Thengwathanatham	Ms. Pongpanor Boonkum	Mr. Wuthikorn Sitthit	Mr. Kris Insang	Mr. Disathai Panyarachun	Mr. Worawat Pitayasin	Mr. Phongsithorn Thavisin	Mr. Kongkepan Intarajang	Mr. Wirat Uanarunit	Mr. Noppadol Pinsupa	Mr. Chawalit Tippawenich	Ms. Jiraphon Kawesat	Ms. Duangkamol Sattanung	Mr. Yongyos Krongphanch	Ms. Wilawan Kanjarakanti	Mr. Chiewat Udomwatwong			
Joint Ventures, Associates and Other Related Companies	Gas	Trans Thai-Malaysia (Thailand) Ltd.	TTM(T)																																								
		Trans Thai-Malaysia (Malaysia) Sdn. Bhd.	TTM(M)																																								
		Map Ta Phut Air Products Co.,Ltd.	MAP																																								
	Oil	Petro Asia (Maoming) Co., Ltd.	PA(Maoming)																																								
		Petro Asia (Sanshui) Co., Ltd.	PA(Sanshui)																																								
	Others	Dhipaya Insurance Public Co., Ltd.	TIP																																						/		
		Sarn Palung Social Enterprise Co., Ltd.	SPSE																						X																		
	Technology and Engineering Business Group	District Cooling System and Power Plant Co., Ltd.	DCAP																																								
		InnoSpace (Thailand) Co.,Ltd.	InnoSpace																											/													
		Baania (Thailand) Co., Ltd.	Baania																																								
		HG Robotics Co., Ltd.	HG Robotics																																								

Notes:

- Symbol X = Chairman – = Vice Chairman * = CEO O = President / = Director // = Executive
- The first four executives, excluding the President & CEO, under SEC's Announcement are Mr. Atikom Terbsiri, Mr. Autapol Rerkpiboon, Mr. Wittawat Svasti-xuto, and Ms. Pannalin Mahawongtikul

** The Company has classified new subsidiary in according to the International Financial Reporting Standards No. 10 Consolidated Financial Statement, effective since January 1, 2015.



PTT Public Company Limited

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PTT NEWS



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