



TPI POLENE Public Company Limited



WE BUILD THE FUTURE

Annual Registration Statement/Annual Report 2021
56-1 One Report 2021

TPI POLENE Public Company Limited



TPI Polene Public Company Limited

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VISION

TPI Polene is a leading manufacturer in construction materials and plastic resins and renewable clean energy power plant businesses, with excellence and international standards. It operates its businesses under the concept of sustainable development, adhering to Environmental, Social and Governance (ESG) criteria and embracing the Bio Circular Green Economy - BCG as a sustainable business model with innovation and technology in all dimensions of work to enhance its competitive advantage at the forefront of the industry.







Environmental Dimension

"Committed to developing into a low-carbon society, driving its Bio-Circular-Green Economy (BCG) strategy, with zero net greenhouse gas emissions targets for sustainable development."



Social Dimension

"Committed to developing knowledge skills, prioritizing occupational health and safety to enhance the sustainable strength of public well-being in surrounding communities and society."



Governance Dimension

"Adherence to good governance principles with a commitment to developing products and services based on technological advancements and delivering value to stakeholders under good corporate social responsibility."





M

essage from the Board of Directors

To: Shareholders

Core Policy of TPI Polene Plc and its subsidiaries Towards Sustainable Development (ESG & Bio Circular-Green Economy – BCG For Sustainability)

TPI Polene aims for sustainable development for its group of companies, to create balanced growth by adhering to Environmental, Social and Good Corporate Governance (ESG) criteria and has linked the environment dimension to all three segments of the operation, Circular economy, Green economy and Bio economy, which are mutually supportive - this is called Bio-Circular-Green Economy (BCG), a business model innovation that will be implemented at all stages of sustainability in the supply chain to reduce the use of natural resources. This includes the procurement of raw materials, production, sales, and transportation, and will employ reuse and recycling to reduce and minimize the use of natural resources as much as possible towards Zero Waste by recycling waste materials from one of the factories to be used at a factory within the TPI Polene group to reduce the impact on the environment. In addition, the Company adheres to the principle of conducting business operations by emphasizing the balanced consideration of all related parties, to create high returns on investment for shareholders in compliance with the principles of good corporate governance, codes of conduct and/or related regulations or any legal issues on the basis of business ethics.

TPI Polene Group's target to be Net Zero Greenhouse Gas Emission Producer by 2024

The Board of Directors and top management are committed to a Net Zero GHG Emission policy to achieve zero net greenhouse gas emissions, in order to reduce the impact on the climate to low carbon production, which is in line with the government's international pledge that Thailand will fully step up climate change response to tackle climate issues so that it meets its net zero greenhouse gas emissions target by 2050.

TPI Polene Group has continued to implement the Net Zero GHG Emission policy by continually improving the technology and efficiency of cement production. As a result, it can reduce heat consumption, reduce repair costs, and use waste as an alternative fuel for coal by up to 30-40%, making TPI Polene Thailand's first cement plant to use waste fuel to replace coal, which in addition to reducing the cost of cement production, can also reduce greenhouse gas emissions in the atmosphere.

At year ended 2021, TPI Polene Group by TPI Polene Power Plc. was registered by the Greenhouse Gas Administration ("TOR") (from the project to convert community solid waste into waste fuel) and certified for a decrease in greenhouse gases (carbon credits) of 82,056 tons of carbon dioxide equivalent, with a remaining amount of 59,526 tons of carbon dioxide equivalent (after partial sale) and under the process of attaining a reduced greenhouse gas registration (carbon credit) for the period from May 1, 2017 to December 31, 2020, for another 709,752 tons of carbon dioxide equivalent.

Besides, in 2021, TPI Polene Group recycled total of approximately 2.19 million tons of all types of waste as a replacement fuel for coal in the electricity generation of TPI Polene Power Plc. and used in the Company's cement production process, which can reduce greenhouse gas (carbon retention) emissions from landfill by approximately 5.08 million tons of carbon dioxide equivalent. TPI Polene Group is in the process of attaining greenhouse gas registration (carbon credit) with the TOR to ensure the amount of greenhouse gases reduction.

Technology and innovation to drive towards business development

As a result of the continuous development of technology, which enable to make the Company's fiber cement products to be acceptable in the European market, New Zealand, Australia and ASEAN region, where the market mainly accepts high-quality products, enabling the Company to generate steady foreign currency cash flow from abroad.

In addition, the Company is moving towards the EVA plastic resin market, a specialty grade (non-commodity), which is in demand for the production of Solar Cell, which is in demand and has a high growth trend, as all industries move towards alternative clean energy to reduce global warming. This enables the Company to export EVA plastic resins to international markets and revenues generated in foreign currency imports have steadily increased.

TPI Polene Group has used biotechnology and innovation to create value-added benefits for its products and to support the agricultural sector of the country by creating a bio-economy and new normal bio-sanitary products, including Bio Knox (dietary supplement of natural calcium and vitamin C), Mocrom Knox Solution (used to spray to reduce germs), TPI mouthwash (to reduce the accumulation of pathogens). All three healthcare products have been tested and certified by the Faculty of Medicine of Siriraj Hospital and the Academic Service Center of Chulalongkorn University, that they are effective in combating pathogens such as SARS-CoV2, PRRS, PDCoV, PCV2 and RVA, etc. This innovative biotechnology can help Thai people to avoid the costs of preventing current viral pathogen outbreaks. It also has a lower cost compared to medicines imported from abroad, which are relatively expensive over 100 times.

In addition, digital technology changes have been evolving in the economic system, resulting in various transactions that are increasingly used on online platforms with digital devices - this new consumer behavior has spread widely. TPI Polene Group has established adaptive approaches to support changing consumer behavior based on technological advancements by developing online ordering and online payment platforms.

2021 Operating Growth Results

In the midst of a long-running COVID-19 pandemic, it has affected the global economic systems, including Thailand. However, in 2021, the Company and its subsidiaries reported normal operating profit of Baht 7,067 million compared with Baht 4,379 million in 2020, an increase of Baht 2,688 million or 61.39%. In 2020, the Company and its subsidiaries registered a profit of Baht 6,918 million for the year compared with a profit for the year 2020 of Baht 2,839 million, an increase of Baht 4,079 million or 143.66%.

Profit for the year 2021 of Baht 6,918 million was comprised of normal operating profits of Baht 7,067 million and net foreign exchange gain of Baht 391 million and tax expense of Baht 539 million.

Sale offering of Baht 23,523.60 million debentures in 2021

In 2021, TPI Polene Group (the Company and its subsidiaries) successfully completed fundraising through the issuance and the sale offering of debentures in a total amount of Baht 23,523.60 million, with the TRIS affirmed credit rating of such debentures at BBB+ with a “stable” outlook. The proceeds from the fundraising were utilized mainly to refinance mature debentures and the remaining funds were used to invest in the purchase of machinery and equipment for production efficiency improvements in the cement business and as working capital for business operations.

Disposal of Contaminated Waste

TPI Polene Group has contributed to society by helping with the disposal of contaminated waste from healthcare service centers that require proper and effective management during the COVID-19 pandemic. From October to December 2021, TPI Polene Group was able to dispose of approximately 3,892 tons of contaminated waste to help preserve the environment and public hygiene.

Jointly help society, community and all employees.

In 2021, TPI Polene Group jointly helped to relieve the suffering of society, the community and employees from the COVID-19 pandemic and other social assistance projects, totaled approximately Baht 153.5 million to support “ Breath-restoration Projects” for purchasing “high flow machines” for Siriraj Foundation, support mobile X-ray vehicles for Chana Hospital, Songkhla province, to get through to the villages of the south and oxygen machines with high flow rates, clean air supply respiratory protection equipment (PAPR), isolator negative pressure crib, etc. to Public Health, Songkhla province, to be used in 6 hospitals, namely Chana Hospital, Somdej NaThavee Hospital Tepa Hospital, Sabayai Hospital Sadao Hospital, Padang Besar Hospital and support Excellent Mobile Vehicle for Prince of Songkla Hospital, Faculty of Medicine, Prince of Songkla University and donated healthcare products of TPI Polene Group to medical personnel, healthcare frontline officers and infected patients in Siriraj Hospital, and field hospitals in Saraburi province, for a total of 14 hospitals and the police hospital, supported TPI board to use to slab the shower rooms, to Busarakham Field Hospital (Muang Thong Thani), supported the construction of Lerdsin Hospital’s field hospital, supported 31,000 rice boxes for healthcare staffs, at Bang Sue Central Vaccination Center, including dry food, rice and healthcare products of TPI Polene group to Songkhla Provincial Administration and people in NaTab, Taling Chan, Sakom and Chana, Songkhla province.

In addition, the TPI Polene Group has made it a priority to ensure that employees and their families are tested for infection and vaccinated, and provide health products to prevent and raise their immunity to COVID-19.

ESG performance is appraised at “Gold Level” by Thaipat Institute

With a policy to focus on balanced growth in all dimensions of business operations and adhering to Environmental, Social and Governance (ESG) criteria, the Company and TPIPP received an ESG performance evaluation at the “Gold Level” by Thaipat Institute, with the use of 30 WFE ESG Metrics from the World Federation of Exchanges (WFE). TPI Polene Group also received awards in various fields, including the symbol standard of the industrial waste management factory, gold medal award for the year 2021 from the Department of Industrial Works, the 2021 Green Industry Level 4 (Green Culture) for cement line no.1-3, and total waste disposal plants from the Ministry of Industry.

The Company’s current success has been one of our proudest achievements as a Thai Corporation to be able to cope with the challenges of the COVID-19 pandemic including the rapid and widespread economic impact on the world and the impact of the disruptions on the global economy that profoundly changed business and marketing concepts. With the flexibility and agility of the management to adapt business concepts and processes to ensure business continuity and be ready to deal with the crisis appropriately, TPI Polene Group was successful in all dimensions by adhering to Environmental, Social and Governance (ESG) criteria under the standards of good corporate governance. This included preventing conflicts of interest, having a strong anti-corruption policy, mitigating risks throughout the organization, conducting business fairly with all stakeholders. TPI Polene prioritized occupational health management systems and the safety of employees and stakeholders, tried to improve and prevent all existing hazards, followed human rights principles, from employment to employee and personnel care, promoted safe work from COVID-19 so that all employees and staff felt safe and connected to the organization. In addition, the Company adheres to principles of cooperation with all partners in accordance with its sustainable guidelines.

On behalf of the Company, the Company’s Board of Directors would like to take this opportunity to thank all related parties for a well-coordinated effort and their ongoing trust in the Company to create unswerving progress for the organization. It is a major goal of the management team and the entire staff of the Company to move the business forward to overcome obstacles, to achieve the goal of creating stability for the organization, and to enhance the sustainable strength of the corporation, the community, and the country. This was achieved by emphasizing the balanced consideration of all related parties and conducting business with fairness for all stakeholders through a policy of reducing emissions to solve global warming, by consistently creating a good environment and by reducing the impact of climate change caused by natural disasters to further enhance the sustainable growth of the country.



Mr. Khantchai Vichakkana
Chairman of the Board and Independent Director

Sincerely Yours,



Mr. Prachai Leopaairatana
Chief Executive Officer

Financial Highlights

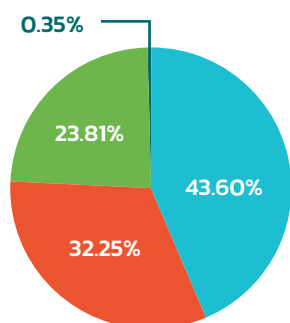
	Unit	2019	2020	2021
Operational Performance				
Total Revenue	(Baht Mil.)	39,268	36,187	41,279
Total Sales	(Baht Mil.)	37,041	34,276	38,920
Gross Profit	(Baht Mil.)	8,636	9,339	12,529
Operating Profit (Loss) before interest	(Baht Mil.)	4,297	6,394	9,128
and income tax	(Baht Mil.)	2,338	4,379	7,067
Operating Profit (Loss) before income tax	(Baht Mil.)	2,765	2,839	6,918
Net Profit (Loss)				
Financial Status				
Total Assets	(Baht Mil.)	114,368	123,909	135,714
Total Current Assets	(Baht Mil.)	25,378	27,295	35,517
Total Liabilities	(Baht Mil.)	62,875	71,737	78,152
Total Interest Bearing Debt	(Baht Mil.)	53,229	62,446	68,143
Net Interest Bearing Debt**	(Baht Mil.)	47,834	52,339	55,994
Total Shareholder's Equity	(Baht Mil.)	51,493	52,172	57,562
Key Financial Ratio				
Gross Profit Margin	(%)	23.32	27.25	32.19
Net Profit Margin	(%)	7.04	7.85	16.76
Paid-up Capital	(Baht Mil.)	19,181	19,181	19,127
Par Value per share	(Baht)	1.00	1.00	1.00
Book Value per share	(Baht)	2.68	2.72	3.01
Earnings per share	(Baht)	0.073	0.079	0.297
Dividend per share	(Baht)	0.06	0.06	0.09
Dividend payout Ratio *	(%)	82.19	75.95	30.30
Debt to Equity Ratio	(times)	1.22	1.38	1.36
Net Debt to Equity Ratio **	(times)	1.12	1.18	1.15
Interest Bearing Debt to Equity Ratio	(times)	1.03	1.20	1.18
Net Interest Bearing Debt to Equity Ratio **	(times)	0.93	1.00	0.97

Remarks: * Dividend payment rate based on Separated Financial Statements

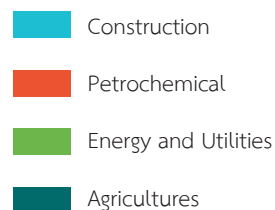
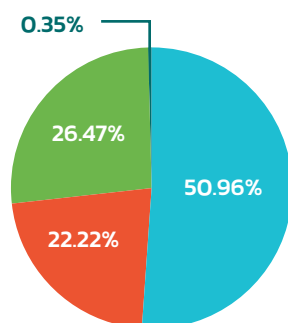
** After deducting Cash and Cash Equivalent and Current Investments.

Total Sales Revenues

Total Sales 2021



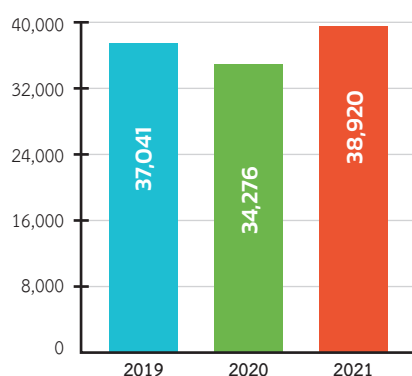
Total Sales 2020



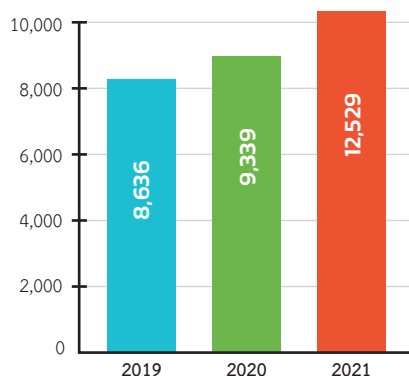
Total Revenues and Net Profit

Unit: Baht Mil

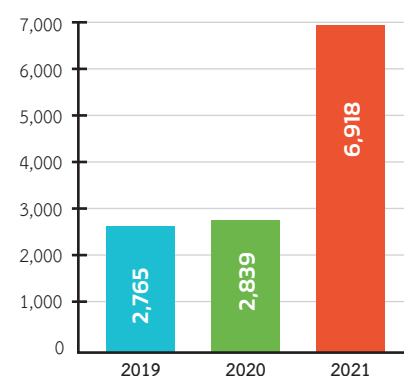
Sales Revenue



Gross Profit



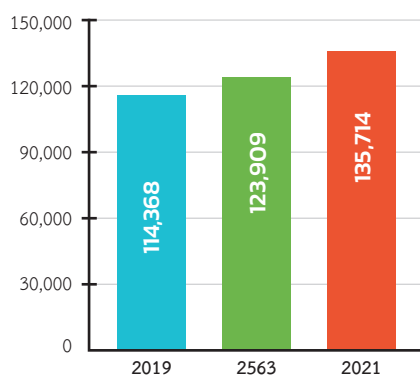
Net Profit



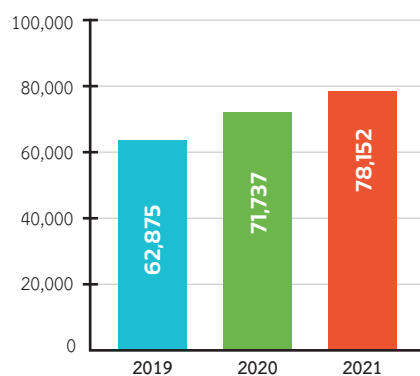
Financial Status

Unit: Baht Mil

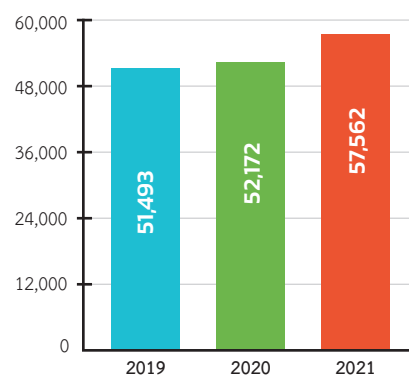
Total Assets



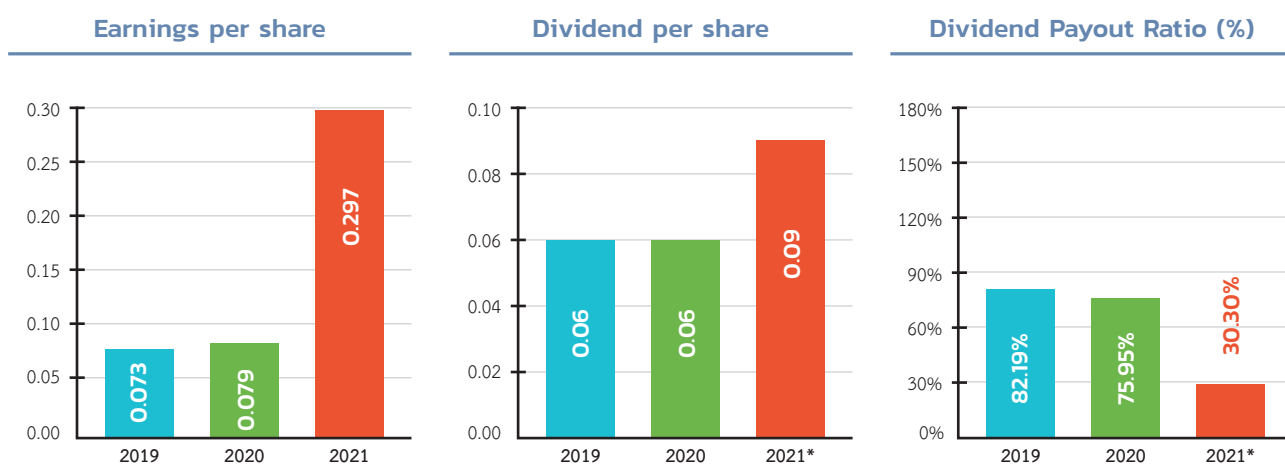
Total Liabilities



Total Shareholder's Equity



Profit and dividend



Remarks: *The dividend payment for the Company's 2021 operating results is divided into an interim dividend payment for the first half of 2021 of Baht 0.03 per share, which was already paid to shareholders, and the dividend payment for the second half of 2021 of Baht 0.06 per share, which was approved at the Company's Board of Directors' meeting no.2/2565, and is also required to be approved in the 2022 Annual General Shareholder's Meeting.

Financial Ratio

	Unit	2019	2020	2021
EBITDA/sales ratio	Times	0.20	0.27	0.31
Interest coverage ratio	Times	4.13	4.12	4.95
Debt to Equity ratio	Times	1.12	1.18	1.15
Return on Equity	%	5.40	5.48	12.61
Return on Assets	%	2.46	2.38	5.33

Our Pride Awards in 2021

ESG performance is appraised at “Gold Level” by Thaipat Institute.



TPIPL and TPIPP received an ESG performance assessment at the Gold Level by Thaipat Institute, with the use of 30 WFE ESG Metrics from the World Federation of Exchanges (WFE).

TPIPL received the symbol of the industrial waste management factory standard, “Gold Medal” Award 2021 from the Department of Industrial Works.



TPIPL and TPIPP have been awarded and received certificates under “the Project to promote industrial factories to have social responsibility and sustainable communities” in the CSR-DIW Award and CSR-DIW Continuous Award categories for the year 2021 from the Department of Industrial Works, Ministry of Industry, which complies with the policy of ESG and Bio Circular-Green Economy-BCG. TPI Polene Group adheres to a policy of driving the economy towards sustainable development (ESG and Bio Circular-Green Economy-BCG) by focusing on balanced growth in all dimensions by adhering to Environmental, Social and Governance (ESG) criteria and by embracing the Bio Circular Green Economy as a sustainable business model under the standards of good corporate governance. Five of the Company’s plants have received CSR-DIW awards, namely Cement Plant Line 4, Mortar Plant 1, 2, 3, 4, and our Light Weighted Concrete Plant, including Cement Plant Line 1, 2 and 3, which were certified with three CSR-DIW Continuous Awards.

Five TPIPP plants received CSR-DIW Awards, namely TG4 (30MW), TG5 (60MW), TG6 (70MW), TG7 (40MW) and TG8 (150MW). One other plant received the CSR-DIW Continuous Award, namely TG1-3 (60MW).

The Company received the 2021 Green Industry Level 4 (Green Culture)



The Company received the 2021 Green Industry Level 4 (Green Culture) certification from the Ministry of Industry for Cement Plants line 1, 2, 3 and Waste Disposal Plant whilst a “green culture” means having everyone in the organization cooperate to work in an environmentally friendly manner in all aspects of the business to become part of the corporate culture, which makes Green GDP in the country to be higher valued

The Company received the Green Industry Level 3 (Green System) certification



The Company received the Green Industry Level 3 (Green System) certification for Cement line 4, certified as Green Industry Level 3 (Green Culture). Green system involves systematic environmental management, which is monitored, evaluated, and reviewed for continuous development, including receiving accepted environmental awards and through the certification of various environmental standards by the Ministry of Industry.

The Company has been certified for the use of the Made in Thailand (MiT) logo



The Company has been certified for the use of the Made in Thailand (MiT) logo which can be displayed on publications such as labels, brochures, backgrounds or events for cement and construction materials products and agricultural products, healthcare products, livestock and fisheries. This logo is administered by the Federation of Thai Industries.

TPI Concrete Company Limited is the first Thai ready-mixed concrete manufacturer, certified as a “Made in Thailand” (MiT) product



TPI Concrete Company Limited is the first Thai ready-mixed concrete manufacturer, certified as a “Made in Thailand” (MiT) product by the Federation of Thai Industries, which emphasizes the use of raw materials for the production of ready-mixed concrete from domestic sources.

TPI Bio Pharmaceuticals Co., Ltd. was listed as one of 10 Thai innovations by the National Science and Technology Development Agency (NSTDA) on October 29, 2021.

Products that were listed on the Thai innovations list are TPI Probiotics, which is a biological enhancer, bacillus subtilize in liquid and powder formula for animals, etc.

The Company and TPIPP received the “Sustainability Disclosure Acknowledgement” award at the Sustainability Disclosure Awards 2021, Thaipat Institute,

to encourage listed companies and business organizations that are members of the Sustainability Disclosure Community (SDC) to recognize and focus on publicizing operational information, which covers economic, social and environmental operations or ESG (Environmental, Social and Governance) criteria.

Awards that the Company received for the Environmental categories

2020



Award-winning categories

CSR-DIW Continuous Awards: Standards for Corporate Social Responsibility of industrial entrepreneurs who comply with the standards of corporate social responsibility

Organizers

Department of Industrial Works, Ministry of Industry

2019



Award-winning categories

CSR-DIW Continuous Awards: Standards for Corporate Social Responsibility of industrial entrepreneurs who comply with the standards of corporate social responsibility

Organizers

Department of Industrial Works, Ministry of Industry

2018



Award-winning categories

CSR-DIW Continuous Awards: Standards for Corporate Social Responsibility of industrial entrepreneurs who comply with the standards of corporate social responsibility

Organizers

Department of Industrial Works, Ministry of Industry

2013



Award-winning categories

Certification for the use or production of alternative energy (Gold Label) for recovering waste heat from power plants to be used in the cement production process

Organizers

Thailand Business Sustainable Development (TBSD) and Thai Environment Institute

2009



Award-winning categories

Project “Quarry on the Star” in 2009

Organizers

Ministry of Natural Resources and Environment



Award-winning categories

Mining Type

Organizers

Department of Fundamental Industry and Mines, Ministry of Industry

2008



Award-winning categories

Project “Quarry on the Star” 2008

Organizers

Department of Greenhouse Gas Control, Ministry of Natural Resources and Environment

2006



Award-winning categories

Project “Quarry on the Star”
2006-2007

Organizers

Department of Greenhouse
Gas Control, Ministry of
Natural Resources and
Environment

2002



Award-winning categories

Provincial Excellence Awards

Organizers

Work Safety Organizing
Committee



1 Business Operations and Operating Results

1. Structure and Business Operations of TPI Polene Group

TPI Polene Public Company Limited (“TPI Polene” or “the Company”), TPI Polene Public Company Limited (abbreviated: TPIPL) in English, was incorporated on September 24, 1987. Subsequently, the Company’s ordinary shares were listed on the Stock Exchange of Thailand on November 20, 1990 and converted to a public company limited on February 17, 1994. Subsequently, the ordinary shares of TPIPP were listed (a 70.24% owned subsidiary company) on the Stock Exchange of Thailand on April 5, 2017. TPIPP is the largest power plant operator in Thailand. As of December 31, 2021, the Company has registered capital of Baht 23,751,500,000 (23,751,500,000 shares) and has issued and paid-up capital of Baht 19,126,500,000 (19,126,500,000 shares) with a par value of Baht 1 per share.

TPI Polene Group can be categorized by 4 types of businesses as follows:

1. Construction materials business sector: manufacture & sale of cement, mortar, clinker, ready-mixed concrete, CRT/FCB, lightweight concrete and cement paint, etc.
2. Petrochemical and Chemical Products business sector: manufacture & sale of EVA/LDPE plastic resins, EVA Emulsion and EVA Powder , EVA Encapsulant / EVA Interlayer / Solar Film), ammonium nitrate and nitric acid etc.
3. Energy and Utilities business sector: Waste-based fuel power plants, a waste heat recovery power plant, a coal-fired power plant, an Waste-based fuel power plant, Industrial Waste Disposal Plant, Pyrolysis plants, oil and NGV service stations, etc.
4. Agricultural business and others:
 - 4.1 Healthcare products such as Bio Knox, Microm Knox Solution, mouthwash, vegetable washing liquid, energy drink Pro-150 and Pro Vita, liquid soap, drinking water, dishwashing liquid, grease remover and Biosan, etc.
 - 4.2 Products for plants such as organic fertilizers and soil conditioners, etc.
 - 4.3 Products for animal such as bio-stimulants for livestock and fishery, etc.
 - 4.4 Other businesses such as life insurance business, etc.

1.1 Policy and Business Overview

TPI Polene Group operates its businesses by focusing on innovation development, applying technology to create added value to its products through its own research and development team, by adhering to policies towards sustainable development. TPI Polene Group focuses on policies that promote sustainable development (ESG & Bio Circular-Green Economy-BCG for Sustainability), aiming to reduce the impact on the climate of low carbon production. TPI Polene Group has a policy to create a balanced consideration of its business growth in parallel with environmental preservation and the strengthening of society, and to be an integral part in moving the Thai economy forward together with Thai society so as to be a part of driving the economy, as well as creating good returns on investment and creating a balance for the shareholders and stakeholders involved through a policy of good corporate governance.

1.1.1 Vision, Mission and Operational Strategy

Vision

A leading manufacturer in construction materials and plastic resins with excellence and international standards and operating its business under the concept of sustainable development, adhering to Environmental, Social and Governance (ESG) criteria (Environmental Social and Governance: ESG) and embracing the Bio Circular Green Economy- BCG) as a sustainable business model with innovation and technology in all dimensions of work to enhance its competitive advantage at the forefront of the industry.

Mission

Deliver superior value for products and services to customers and manage with flexibility to adapt to new business ideas; cover all aspects of risk management while focusing on investing effectively with an emphasis on efficient production processes; use resources appropriately, reduce greenhouse gas emissions to be environmentally-friendly along with managing costs and expenses to be at an appropriate level; create a balance of good returns on investment for the shareholders involved, including society, the community, shareholders, customers, partners, and employees.

Business strategy

1. Seek investment opportunities that yield good returns with the risk to be at a manageable level, focusing on investing effectively, reducing costs, reviewing investment plans and prioritizing investment projects by aiming to improve the higher returns on investment.
2. Have our own research and development team by leveraging technology and innovation to manage business continuity comprehensively and quickly.
3. Improve production efficiency to increase competitiveness, which includes using waste to be an alternative fuel for coal and as raw materials to reduce greenhouse gas coupled with efficient waste disposal.
4. Seek market opportunities including product development to create added value using international standards to be environmentally-friendly and respond to the needs of customers for product usage and services to achieve maximum efficiency.
5. Distribute products to the destination quickly and efficiently, including the addition of online trading models and “new normal” stores in the community to support the launch and expansion of the TPI Polene Group’s product market.
6. Develop work processes coupled with reducing administration costs for maximum efficiency.
7. Reduce financial costs as well as manage liquidity and financial risks to be at manageable levels.

8. Manage risks throughout the organization with good corporate governance, create flexibility and adapt to keep pace with business disruption and readiness to continuously increase competitiveness.
9. Create value for shareholders and investors with stable profit growth and generate good returns on investment so the business can expand and grow sustainably.
10. Operate the business with social responsibly and participate in the development of good quality of life for society and our communities, manage operations throughout the supply chain; manage relationships with partners and customers; continuously support the development of the abilities of our personnel; ensure that the quality of life and the work of our employees is equal to leading companies; and create a bond within the organization.

1.1.2 Major Events and developments

The Company was registered as a limited company in the name of “Polene Company Limited” on September 24, 1987 by the Leophairatana family as the founder and manager of the business until now with an initial registered capital of Baht 100,000. At the outset, it operated as an intermediary in the purchase of PE (Polyethylene) resins from Thai Petrochemical Industry Public Company Limited (“TPI”, which has now changed its name to IRPC Public Company Limited.)

Polene Company Limited changed its name to TPI Polene Company Limited on October 24, 1989 and consequently in March 1990, its LDPE plant, tax benefits, and other privileges under BOI promotional certificates were transferred to TPIPL from TPI. On November 20, 1990, TPIPL shares were listed on the Stock Exchange of Thailand and it was later converted to a public company on February 17, 1994. The Company has expanded into businesses as follows:

In 1991, TPI Concrete Co., Ltd. (a 99.99% owned-subsiary) was established to produce and distribute ready-mixed concrete.

In 1992, TPIPL expanded into the production and distribution of clinker and cement. In 1996, the Company expanded its business to include a mortar cement plant.

In 2009, TPIPP (a 99.99% owned-subsiary at that moment) commenced operations of a plant generating electricity from waste heat recovery (from the cement production process) and began selling power to TPIPL. In 2011, TPIPP commenced the operation of a waste-based fuel power plant and organic fertilizer plant, respectively

In 2012, TPIPL constructed a concrete roof tile plant and a fiber cement plant.

In early 2013, TPIPL constructed a mortar cement plant and constructed a lighted weight concrete plant in 2015.

In 2016, TPIPP was transformed into a public company through offering for sale the newly issued ordinary shares to the public. It was listed on the Stock Exchange of Thailand on April 2017, resulting in the Company’s shareholding in TPIPP moving from 99.99% to 70.24%. Presently, TPIPP is the largest waste-based fuel power plant operator in the country, with a total installed capacity of 440 MW.

Major Events and developments in the past 3 years

For the year 2019	
2019	<p>An investment in the installation of conveyor belts, limestone crushers and stone washers to construct an automated conveyor system, which can produce 215 kilowatts of electricity. It is able to reduce the use of fuel from transportation to higher efficiency electricity consumption and less greenhouse gas emissions, as well as reducing PM 2.5. The project will be completed in 2020.</p> <p>Additional investment in cement production machinery to use waste-based fuel to replace coal. This helps save production costs, increase competitiveness, and reduce greenhouse gases.</p> <p>New product development of fiber cement includes grooved wood floor tiles, jamb fiber cement, polished-surfaced cement mortar – TPI Loft: ready-mixed formula (M103), non-shrink grout TPI M670 and TPI special armour nano paint, TPI premium shield, concentrated water based film colors (breathing paint) etc.</p> <p>TPI Concrete invested in the purchase of more concrete mixer trucks to expand the delivery capacity of ready-mixed concrete.</p>
24 July 2019	<p>The Company registered a capital reduction of 1,009,500,000 shares (par value of Baht 1 per share) by writing off the Company's 1,009,500,000 unsold repurchase shares for financial management under the share repurchase scheme (Treasury Stock). After the registration of the above changes, the Company's new registered capital will be Baht 23,805,500,000, divided into 23,805,500,000 common shares, at a par value of Baht 1 per share, and new paid-up capital will be Baht 19,180,500,000, divided into 19,180,500,000 common shares, at a par value of Baht 1 per share.</p>
For the year 2020	
2020	<p>Installation of additional machinery in kiln plants to reduce energy consumption (heat consumption) and repair costs including the use of waste-based fuel to be used as a fuel instead of coal by up to 30-40%, which will result in a reduction in cement production costs by approximately Baht150-200 per ton.</p> <p>Investment expansion of specialty EVA grade with additional production capacity (with higher margin), of approximately 15,000 -20,000 tons/year. The project is completed in 2021.</p>
28 April 2020	<p>The Company's Board of Directors' meeting no. 4/2020, passed resolutions as follows:</p> <ol style="list-style-type: none"> 1. Postponed the 2020 Annual General Meeting of Shareholders until the COVID-19 situation is resolved.

For the year 2020

2. Approved payment of the interim dividend from the Company's unappropriated retained earnings as at December 31, 2019, at the rate of Baht 0.03 per share to shareholders, totaling Baht 575,415,000, plus interim dividend payments of Baht 0.03 per share from the Company's unappropriated retained earnings up to the nine-month period ended September 30, 2019, total dividend payment was Baht 0.06 per share.

For the year 2021

2021

Developing an ongoing project to use waste-based fuel to replace coal in all 4 cement plants in order to reduce cement production costs and increase competitive advantages. Increasing additional production capacity of EVA powder by 6,000 tons per annum, making the Company the only manufacturer in Thailand to produce and sell EVA emulsion and EVA powder to the market under the "Polene brand". The project is planned to be completed by 2022.

With consistent development of innovation and biotechnology, the Company has launched Bioknox, Microm Knox Solution and mouthwash, which have been tested and certified by the Faculty of Medicine, Siriraj Hospital and the Academic Service Center, Chulalongkorn University, and are effective in the destruction of viruses including SARS-CoV2, PRRS, PDCoV, PCV2 and RVA, etc.

Developing ready-mixed concrete that helps reduce environmental impact and reduce greenhouse gas emissions in the atmosphere. With the design of concrete using hydraulic cement, this is environmentally-friendly. It can help reduce greenhouse gas emissions by up to 5 – 10% and also develop concrete by using fly ash, a waste material from power plants, to replace cement by up to 50%.

18 June 2021

Registered a capital reduction of 54,000,000 shares at a par value of Baht 1 per share by writing off the Company's 54,000,000 unsold repurchase shares for financial management, resulting in the remaining registered capital of the Company 23,751,500,000 shares (par value of Baht 1 per share) and the Company's paid-up capital is Baht 19,126,500,000 divided into ordinary shares 19,126,500,000 shares, (par value of Baht 1 per share).

28 October 2021

The Company's Board of Directors' meeting no. 10/2564 passed a resolution to sell 129,999,995 common shares in TPI Refinery (1997) Co., Ltd., at the price of Baht 0.01 per share (book value of Baht -2.71 per share, and par value of Baht 10 per share), totaling Baht 1,299,999.95, to the third parties.

1.1.3 Report on the purpose of using the proceeds from the fundraising

1) Use of proceeds from the offering for sale of debentures

In 2021, the Company issued and sold 3 tranches of debentures, totaling Baht 16,000 million, which can be summarized as follows:

Proceeds Utilization	Amount (Million Baht)	Period of proceeds utilization	Progress of proceeds utilization
<u>Debentures no. 1/2021 for total amount of Baht 4,000 million</u>			
1. To refinance the matured debentures	2,600	April 2021	Fully settled on April 26, 2021
2. To invest in cement plant machinery to improve production efficiency.	<u>1,400</u>	within 2021	Fully settled in 2021
Total	4,000		
<u>Debentures no. 2/2021 for total amount of Baht 4,000 million</u>			
1. To refinance the matured debentures	3,580	August 2021	Fully settled on August 5, 2021
2. For working capital	<u>420</u>	within 2021	Fully settled in 2021
Total	4,000		
<u>Debentures no. 3/2021 for total amount of Baht 8,000 million</u>			
1. To refinance the matured debentures	4,830	April 2022	Settled on April 1, 2022
2. To repay partial debenture debts	1,429	July 2022	Settled on July 2022
3. To invest in cement plant machinery to improve production efficiency.	931	within the first quarter of 2023	Settled in the first quarter of 2023
4. For working capital	<u>810</u>	December 2021	Fully settled in 2021
Total	8,000		
Total amount	16,000		

In this regard, the Company utilized the proceeds from the issuance and offering for sale of debentures for each tranche for the purpose as specified in the Offering Circular of debentures.

The Company has utilized the proceeds from offering for sale the bill of exchange as working capital for business operations and has fully paid according to the bill of exchange period.

2) Related governing law for enforcement of debt instruments

Debt instruments are enforced and interpreted under related Thai governing law.

1.1.4 The commitments that the Company has made in the Offering Circular and/or the terms and conditions of the approval of the SEC (if any) and/or conditions for listing securities of the SET (if any).

-None-

1.1.5 Name, location of head office, business type, company registration number, telephone, fax, company website, total number and type of shares sold

Company's Name	
TPI Polene Public Company Limited	
Abbreviation in the SET	TPIPL
Registration Number	0107537000564 (formerly Bor. Mor. Jor. 303)
Nature of Business	<p>Manufacture and sale</p> <ol style="list-style-type: none"> 1. Construction materials business sector: manufacture & sale of cement, mortar, clinker, ready-mixed concrete, CRT/FCB, lightweight concrete and cement paint, etc. 2. Petrochemical and Chemical Products business sector: manufacture & sale of EVA/LDPE plastic resins, EVA Emulsion and EVA Powder, EVA Encapsulant /EVA Interlayer / Solar Film), ammonium nitrate and nitric acid etc. 3. Energy and Utilities business sector: Waste-based fuel power plants, a waste heat recovery power plant, a coal-fired power plant, an Waste-based fuel power plant, Industrial Waste Disposal Plant, Pyrolysis plants, oil and NGV service stations, etc. 4. Agricultural business and others, comprising products for plants products for farminh and healthcare products.
Registered Capital	<p>Baht 23,751,500,000</p> <p>Consisting of 23,751,500,000 ordinary shares, at the par value of Baht 1 each.</p>
Paid-up Capital	<p>Baht 19,126,500,000</p> <p>Consisting of 19,126,500,000 ordinary shares, at the par value of Baht 1 each.</p>
Accounting Period	1 January – 31 December
Head Office	
Location	26/56 Chan Tat Mai Road, Thungmahamek, Sathorn, Bangkok 10120
Tel. Number	+66 (0) 2213-1039-49, 285-5090-9
Fax Number	+66 (0) 2213-1035, 213-1038
Web Address	http://www.tpipolene.co.th
Cement Plant/Power Plant	
Location	299 Moo 5, Mittraparp Road, Tambol Tubkwang, Amphur Kangkhoy, Saraburi 18260
Cement Mortar Plant/Lightweight Concrete Plant/Pyrolysis and Waste-based fuel Plants	
Tel. Number	+66 (0) 3633-9111
Fax Number	+66 (0) 3633-9228-30

LDPE/EVA Plant and EVA powder

Location	999 Moo 5 Sukhumvit Road, Tambol Chuengnoen, Amphur Muang, Rayong 21000
Tel. Number	+66 (0) 3880-3090-9
Fax Number	+66 (0) 3880-3086

Concrete Roof Tiles and Fiber Cement Plants

Location	77 Moo 7, within CRT Plant sub-road from Sai Ban Kork Street, Banlardkaopoon and Highway no.1014, Tambol Ban Kang, Amphur Chaloem Phrakiat, Saraburi 18260
Tel. Number	+66 (0) 3667-0370-5
Fax Number	+66 (0) 3667-0377

Solar Film Plant

Location	49/1 Moo 1, Phichainarong Songkham Road, Tambol Nachong, Amphur Muang Saraburi, Saraburi 18260
Tel. Number	+66 (0) 3673-1724

Ammonium Nitrate and Nitric Acid Plant

Location	140/7 Moo 4, Sukhumvit Road, Tambol Tapong, Amphur Muang, Rayong 21000
Tel. Number	+66 (0) 3866-4724-7

Investors Relation Unit

Tel. Number	+66 (0) 2213-1039 Ext. 12983 and 12985
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Corporate Secretary

Tel. Number	+66 (0) 2213-1039 Ext. 12220
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Reference Person

Share Registrars	Thailand Securities Depository Company Limited
Office Location	The Stock Exchange of Thailand, 93 Rajadapisek Road, Khwang Dindaeng, Dindaeng, Bangkok 10110
Tel. Number	+66 (0) 2009-9000, Call Center +66 (0) 2009-9999
Fax Number	+66 (0) 2009-9991

Auditor	
KPMG Phoomchai Audit Limited	
Address	195 Empire Tower, Floor 48-50, South Sathorn, Yannawa Subdistrict, Sathorn District, Bangkok 10120
Tel. Number	+66 (0) 2677-2000
Fax Number	+66 (0) 2677-2222
Legal Advisor	
SCL Nishimura & Asahi Co., Ltd.	
Address	34th Floor, Athenee Tower, 63 Wireless Road, Lumpini, Pathumwan, Bangkok 10330
Tel. Number	02-126-9100
Fax Number	02-126-9120
Debenture Registrar	
CIMB THAI PUBLIC COMPANY LIMITED	
Location	44 Langsuan Road, Lumpini, Pathumwan, Bangkok 10330
Tel. Number	+66 (0) 2626-7507-8, +66 (0) 2626-7591
Fax Number	+66 (0) 2657-3390
BANK OF AYUDHYA PUBLIC COMPANY LIMITED	
Location	1222 Rama 3 Road, Bangpongpan, Yannawa, Bangkok 10120
Tel. Number	+66 (0) 296-2000, +66 (0) 296-5696
Fax Number	+66 (0) 638-1302
Legal Advisor for Issuing and Offering debentures	
Weerawong, Chinnavat and Partners Co., Ltd.	
Address	540 Mercury Tower, 22nd Floor, Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330
Tel. Number	+66 (0) 2264-8000
Baker & Mackenzie Co., Ltd.	
Address	990 Abdulrahim Place Building, 25th Floor, Rama IV Road, Silom, Bangrak, Bangkok 10500
Tel. Number	+66 (0) 2636-2000

1.2 Nature of Business

1.2.1 Revenue Structure

TPI Polene Group is principally engaged in the manufacture and supply of products, mainly in its core businesses and reciprocal businesses, which has helped strengthen the revenue and growth of TPI Polene Group, which can be summarized as follows:-

Unit: Million Baht

Product/Service	Operated by	% of TPIPL's Shareholding	2021		2020		2019	
			Mil. Baht	%	Mil. Baht	%	Mil. Baht	%
1. Construction Material	TPI Polene Plc. TPI Concrete Co., Ltd.	- 99.99	16,969	43.60	17,469	50.97	20,670	55.80
2. Petrochemical and Chemical Products	TPI Polene Plc. Thai Nitrate Co., Ltd.	- 99.99	12,550	32.25	7,616	22.22	7,902	21.33
3. Energy and Utilities	TPI Polene Power Plc.	70.24	9,266	23.81	9,072	26.47	8,364	22.58
4. Organic Products	TPI Polene Bio Organics Co., Ltd.	99.99	134	0.34	119	0.34	105	0.28
Total			38,920	100.00	34,276	100.00	37,041	100.00

Note: Revenues of the Company and its subsidiaries received from third parties

1.2.2 Product Information

Products of TPI Polene Group can be classified according to the type of business as follows:

I. Construction Material

TPIPL is the manufacturer and distributor of cement products, clinker, mortar cement, adhesive mortar, grout and ready-mixed concrete, concrete roof tiles, fiber cement, light weighted concrete and cement paint., ect under the logo “TPIPL”, which can be summarized as follows:

1. Product characteristics, production capacity, and strengths

Products	Production capacity, strengths, technology development, and innovation
1. Cement and clinker	
Total production capacity 13.5 million MTPA	
Market share	The largest manufacturer and distributor of cement 1 in 3 in the country. with a market share that accounts for 25 percent of the domestic market.
Brand name	TPIPL
Strengths	<ul style="list-style-type: none"> - TPIPL has the advantage of low production costs as machinery and equipment are located in the same area, adjacent to the Company's limestone quarry. - The first cement plant in the country that can use waste-based fuel as an alternative fuel for coal, which reduces the cost of cement production.

Products	Production capacity, strengths, technology development, and innovation
	<ul style="list-style-type: none"> - TPIPL is the first cement manufacturer in Thailand, awarded ISO 9002 Certification from the International Standard Institute, for surpassing industrial and environmental protection standards. This has enabled the Company to export cement to the state of California, where surrounding communities are highly aware of environmental conservation. - TPIPL is the first cement manufacturer in Thailand with approved Carbon Label for both cement and mortar products and with certified production processes that can reduce greenhouse gas emissions. - Have our own research and development team which has a competitive advantage over others. - TPIPL has a palletless cement packing system to reduce product delivery costs and increase lift time of the products. - A modern factory that focuses on automated operating systems to reduce production costs. - Production technology of TPI 197 has been developed to replace TPI green cement (mixed cement) to reduce greenhouse gases by 10-15% under TIS standards. - Developed technology to produce TPI 299 (hydraulic cement) to replace Portland cement to reduce greenhouse gas emissions by 10-15% under TIS standards. - The first cement manufacturer in the country to be certified with ISO 9001:2015 quality standards from international institutions. - The management system has been certified under four international standard systems, namely: Quality Management System Standard (ISO 9001:2015), Environmental Management System Standard (ISO 14001:2015), Occupational Health and Safety Management System Standard. (TIS18001:2011 and OHSAS 18001:2007) and energy management system standards (ISO50001:2011) by industrial standards of Thailand, the United States (ASTM), and the European Federation (EU). - Cement factory laboratories were certified by the Office of Industrial Standards to be in accordance with ISO/IEC 17025:2017 and TIS 17025:2018 standards.
2. Mortar Cement	
Total production capacity 3,000,000 MTPA	
Market share	One of the two largest mortar cement producers in the country.
Brand name	TPIPL
Strengths	<ul style="list-style-type: none"> - There are 43 kinds of products to respond the needs of customers. - Certified for quality management system standards (ISO 9001:2015), environmental management system standards (ISO 14001:2015), occupational health and safety management system standards (TIS18001:2011 and OHSAS 18001:2007) - Certified for the International Energy Management System (Energy Management System) ISO 50001: 2011 from the International Institute of AJA Registrars.

Products	Production capacity, strengths, technology development, and innovation
3. Ready-mixed concrete	
Total production capacity	There are 67 batching plants in operation with a total production capacity of approximately 3.88 million cubic meters per annum.
Market share	<ul style="list-style-type: none"> - TPI Concrete is one of the three largest manufacturers and distributors of ready-mixed concrete in the country. - With a market share of 10% and 18% of ready-mixed concrete demand in the country and in Bangkok and surrounding areas respectively. - Total ready-mixed concrete production capacity accounts for 9% in the country.
Brand name	TPIPL
Strengths	<ul style="list-style-type: none"> - Develop green ready-mixed concrete that can reduce greenhouse gas emissions by up to 5 – 10%. - Develop ready-mixed concrete by using fly ash, a waste material from power plants, to replace cement by 50%. - Certified for quality management system standards in the scope of production and services (TIS/ISO 9002), occupational health and safety management system standards (TIS 18001:2007), ready-mixed concrete industry standard, TIS 213-2560 and business management standard that affects the environment (ISO 14001:2015) in 2021 - The first Thai ready-mix concrete manufacturer to be certified “Made in Thailand “(MiT) product by the Federation of Thai Industries. which focuses on the use of raw materials in the country.
4. Construction Materials	
- Lighted Weight Concrete	<ul style="list-style-type: none"> - Production capacity of 300,000 cubic meters per annum - Certified for TIS 1505-2541 quality standards industrial standards
- Fiber cement (boards, ceilings, walls, floors and substitutes for wood and digital boards and door products, roof tiles etc.)	<ul style="list-style-type: none"> - A production capacity of 380,000 tons per annum - Environmentally friendly products: a green industry to reduce energy Consumption and help reduce the destruction of trees. - The first manufacturer in Thailand that uses digital printing technology to print various images on the surface of the products, designed with natural patterns or designs according to customer requirements. - Surpassed test EN12467:2002 and A1:2006 and received CE mark. - Certified International quality standard ISO 9001:2015 from British Standards Institution (BSI) and certified by TIS industrial product standard (quality standard). - Certified International quality standard ISO 9001:2015 from British Standards Institution (BSI) and certified by TIS industrial product standard (quality standard).

Products	Production capacity, strengths, technology development, and innovation
	<ul style="list-style-type: none"> - Has been selected as “White Factory” at the provincial level from the Department of Labor Protection and Welfare Saraburi under the “TO BE NUMBER ONE” project since 2019 - Received a certificate for products manufactured in Thailand MIT (Made in Thailand) from the Federation of Thai Industries.
- Concrete roof tiles and concrete floor tiles cover	<ul style="list-style-type: none"> - Production capacity of more than 45 million sheets per annum or more than 4 million square meters of roof area per annum - The product has been certified by TIS Industrial Standards. - Received a certificate for products manufactured in Thailand MIT (Made in Thailand) from the Federation of Thai Industries Thailand
- Cement paint and others	<ul style="list-style-type: none"> - A high quality product. There are a variety of products to choose for application purposes.

Details of each product and application purpose are as follows:

Product types	Application purpose
1. Cement	Consists of cement for structural work, molding work, foundation work, general construction work, construction work that does not require bearing heavy loads, plastering, masonry work that requires high compressive strength, oil well drilling work, anti-sulphate cement, and for decoration work, adhesive cement, etc.
2. Dry Mortar	There are about 43 types to choose according to the application purpose, well Suited for plastering, masonry and surface leveling work, plastering work on lightweight blocks, tile work, multipurpose repair work, etc.
3. Clinker	Raw material for the production of many types of cement
4. Ready mixed concrete	Main products in the construction of various buildings
5. Lighted weight concrete	For both load bearing walls and non-load bearing walls
6. Concrete roof tiles products	Concrete roof tiles and decorative tiles for concrete floors and walls, etc.
7. DIY products and others	A variety of prpducts types according to applications such as cement paint, sealant, etc.

2. Market and Competition and industry trends

2.1. Marketing Policy

2.1.1. Strategic Competition

Due to the COVID-19 pandemic, supply and demand for housing has declined, especially among investors and foreigners. Strategies for reaching target customers are not the same. Customers focus on the safety of life and stay at home and spend more money through online channels, making access to products faster and more convenient. The Company aims to develop a management system and increase the potential for using technology, especially digital online tech, so customers can access products faster and more conveniently. The Company aims to develop a management system and increase the potential of using digital online technology to reach customers as much as possible by organizing logistics systems to deliver standardized quality products and services at competitive costs to meet the demand of customers efficiently, quickly and with the highest level of satisfaction. The Company is always looking for new business channels or products in order to continually create value for the business with sustainable growth by taking care of existing customers and creating new customers. This includes creating after sales service and developing the potential of employees to accommodate and help achieve economic recovery.

Living in a “new normal” way of life and working from home, customers focused on safe housing, with an emphasis on home improvement, rather than buying new housing, and by choosing safe, environmentally-friendly construction materials that are convenient and easy to install. This has caused many manufacturers to accelerate product development in accordance with these changes. The Company sees opportunities for development and innovation, and the differentiation of products by launching DIY products: decorative products for beauty, safety, and semi-finished construction products for the market to meet the demand of customers. The Company also sees opportunities for developing channels for presenting and selling products to customers via online websites in various formats. This will support a market that will adjust according to customer needs and expand the new customer base, increase sales, and maintain our existing customer base.

- **Product quality:** The Company has a policy to develop production process efficiency as well as raw materials to produce quality products with modern technology and expand new product lines with valuable differentiated designs at competitive prices; and arrange transportation systems to deliver products to customers as needed and with precision.
- **Price and cost:** All four cement lines of the Company are located in the same area and adjacent to the Company’s limestone quarry. This gives the Company an advantage in cost competitiveness as the facilities are shared. The Company has applied new technology and production innovations to reduce heat consumption, reduce repair costs, use waste as a substitute for coal, reduce fuel consumption, as well as implement the BCG policy at every step of the value chain. This gives the Company an advantage in cement production costs.

Cement and aggregate (which are from the Company) are the main raw materials of ready-mixed concrete, fiber cement, concrete roof tiles, and lightweight concrete, which is the advantage of low production costs.

- **Quality management system and product quality development:** The Company still adheres to the quality policy with a “commitment to producing and selling quality products”, allowing the Company to be the first cement manufacturer to be certified ISO 9002 international quality standards from international institutions. All products are certified to industry standards and surpass the quality standards from the quality control team before introducing the products into the market. All products are certified MIT (Made In Thailand) from the Federation of Thai Industries.

The Company has developed M299: hydraulic cement that is environmentally friendly and reduces greenhouse gas. In addition, fiber cement products such as fiber cement girdle, synthetic wood door and furniture boards are lightweighted and have the same viscosity as natural wood and is environmentally friendly. They are suitable for producing furniture parts.

In 2021, the Company was also the first ready-mixed concrete manufacturer in Thailand to be certified Made in Thailand (MiT) by the Federation of Thai Industries to be used in the development of production processes to continuously obtain a variety of products.

- **Service:** The Company aims to create and develop a logistic system to deliver products and services to customers quickly and accurately. There are distribution centers for products and raw materials that are distributed in strategic locations throughout the country with a network to link inventory management. There are retail stores to support sales to customers for easier access to our products including roof removal and installation services for projects and general customers with a team of expert technicians under the brand “TPIPL”.
- **Reputation:** The Company sells construction material products under the brand “TPIPL”, whereby the Company has created a brand loyalty for the products by focusing on higher quality than general standards with good sales service and on-time delivery. A long term relationship with dealers has been established with competitive pricing. As for sales in the international market, the competition is mainly in terms of quality and price.
- **Advertising and product public relations:** Online sales channels are channels that the Company focuses on by developing application forms to reach all target groups through all online channels, including creating advertising media to promote products through social media, print media, website, mobile, Suvarnabhumi digital tv. This includes creating comprehensive awareness for customers, organizing sales promotion campaigns, and seminars with dealers with modern trade groups, using architects and engineers organizations to generate sales, utilizing design services from the architect team, and giving advice to customers in construction design and installation services from a quality installation team.

2.1.2 Characteristics of customers and target groups

(1) Cement products, mortar, lighted weight concrete, fiber cement, concrete roof tiles and cement paint

The Company sells cement and mortar, with approximately 70% through dealers and direct sales to construction projects, including contractors, and about 30% to consumers, without relying on sales to any particular customer as the sale of cement is distributed through approximately 1,200 dealers in the country. Approximately 30% of those are through sales representatives who only sell the Company’s products (Exclusive Agents). As of December 31, 2021, the first 10 major customers (excluding TPI Concrete Company Limited and raw materials for downstream products) accounted for approximately 27 % of the total sales volume.

As for concrete roof tiles and fiber cement, the Company sells them through over 600 dealers across the country through modern trade, project owners, contractors, direct users and through online channels without relying on any particular group.

For project customer management, the Company attaches great importance to monitoring progress as well as providing products and delivery of goods in project work closely for effective project management. Major target customers consist of:

1. Distributors for delivery to various construction projects, both private and government sectors.
2. Private and government construction projects.
3. Private and government construction contractors.
4. A manufacturer that uses it as a raw material to produce subsequent products.
5. Modern trade, such as Thai Watsadu, Boonthavorn, Homework, Do-Home, Cent Mall Global House, Grand Home Mart and Mecca Home, etc., such as fiber cement products concrete roof tile and DIY products (Do It Yourself) such as TPI high adhesive cement (M501), TPI tile adhesive (M500), TPI multipurpose repair mortar (M600), TPI super-fast drying cement (M800). As for architects' and decorators' usage, most of which are fiber cement products and concrete tiles.
6. For online customer groups, the Company has developed additional sales platforms in response to the changing market era so that small customers can access the Company's products quickly. This includes the development of retail channels by establishing "new normal" stores in order to distribute products of TPI Polene Group to reach the community thoroughly. This allows retail customers to access products and services faster and more conveniently.
7. Elderly customers are the target group that is expanding increasingly because an aging society, where the number of elderly are growire and there are more people choosing safe construction materials and this target group also has purchasing power.

(2) Ready-mixed Concrete

TPI Concrete Company Limited ("TPI Concrete") sells ready-mixed concrete through approximately 252 dealers (no exports) without relying on any particular sales agents. As at December 31, 2021, the proportion of ready-mixed concrete sales volume through dealers and direct sales accounted for 48% : 52% of total sales volume in the country.

The main market for TPI Concrete is in Bangkok and metropolitan areas, which is the country's largest ready-mix concrete market. The Company believes that TPI Concrete has a share of 18% in this market.

TPI Concrete has production units located along every major road in Bangkok and metropolitan areas, as well as in major provinces that are growing throughout the region to support large investment plans of the public and private sectors, resulting in a continuous increase in sales of large projects, which is a factor supporting the growth of TPI Concrete's ready-mixed concrete business. Its key target customers are as follows:-

1. Distributors to further deliver to smaller customers
2. Construction projects and contractors
3. Franchisees throughout the country with a production system and the distribution system in the form of business methods in the same standard as TPI Concrete.

2.1.3 Distribution and distribution channels

The Company sells cement and clinker through distribution channels in both domestic and international markets. Proportion of domestic to export is about 89%: 11% of the total sales volume of the Company.

For distribution of fiber cement products and concrete tiles, proportion of domestic sales to exports is approximately 36%: 64% of the total sales volume.

- Domestic sales

The Company delivers cement and mortar from the factory to customers through three delivery channels: trucks, rail, and by ships. Cement plants are located at Kaeng Khoi District, Saraburi province, with 13 warehouses strategically located throughout the country, with the delivery of cement both in bulk and packed in bagged cement. This allows the Company to deliver cement to approximately 1,200 dealers countrywide and distribute products to retail customers in different areas in the quantity that the customers require. The Company has used trains to transport cement by rail to warehouses and cement distribution terminals throughout the country. This can reduce transportation costs for TPI Polene Group and develop the Company's cement transportation system to be faster and more efficient.

Fiber cement and concrete roof tiles products and other construction materials are transported by truck.

The Company determines the average collection period with general customers whereby customers must place collateral, which can be summarized as follows:

- 1) A period of 60 days for domestic cement sales,
- 2) For the sale of cement to export borders, it will be sold only in cash.
- 3) A period of 60 days for selling fiber cement and concrete roof tiles products
- 4) A period of 60 days for the sale of ready-mixed concrete

- Overseas Export

The Company mainly exports in clinker form and there is some cement and mortar. The largest export markets are Bangladesh, China and ASEAN countries.

The Company also exports concrete roof tiles to Australia, New Zealand, the Middle East, Asia, and Europe. In 2021, the volume of construction materials exports has shrunk in parallel to a slowdown in the domestic real estate sector in the CLMV region (ASEAN Group in the Maekong Region). The Company has expanded its exports to new markets such as Australia, New Zealand and Europe.

For export sales transported by ship, the Company sells at FOB price or Ex-Factory price by accepting payment for goods through issuance of letters of credit and telegraphic transfers.

2.2 Market conditions and competition and industry trends

2.2.1 Market conditions and domestic competition

Estimated production capacity of cement manufacturers in Thailand ¹⁾

Company	Production capacity as of December 31, 2021 (mil.tons)	market share (%)
1. Siam Cement Group Public Company Limited	23.0	38.2
2. Siam City Cement Public Company Limited	14.7	24.4
3. TPI Polene Public Company Limited	13.5	22.4
4. Asia Cement Public Company Limited	5.0	8.3
5. Jalapathan Cement Public Company Limited	2.3	3.8
6. Thai Pride Cement Co., Ltd.	0.9	1.5
7. Cemex (Thailand) Co., Ltd.	0.8	1.4
Total	60.2	100.0

Source: Estimated from the Company

Note: ⁽¹⁾ A licensed or registered production capacity, which may differ from actual production capacity depending with machine maintenance and machine efficiency

As for the supply of cement in Thailand, the rated capacity of all cement manufacturers is approximately 60.2 million tons per annum, but practically, there are some manufacturers whose factories have a long-term, useful life and there are some machines that are no longer working. In addition, the above mentioned capacity figure is calculated based on the assumption that the production line does not stop for repairs or maintenance or for other reasons, or through production line stoppages when the machinery is obsolete or having higher production costs per unit. This does not benefit from the cost savings from the economies of scale, resulting in the actual production capacity not being equal to the rated capacity. The Company anticipates that the actual cement production capacity in the country is only 40 - 45 million tons per annum, with approximately 33 million tons of domestic demand, and the remaining 12 million tons of cement (or about 36% of the current Domestic Cement Demand) or equivalent to 10 million tons of clinker being exported for distribution in international markets.

Cement Industry

- Domestic Market

In 2021, cement demand consumption in Thailand was approximately 32 million tons or a decrease of 3 percent, from about 33 million tons in 2020 as the country's overall economy continued to stagnate due to the spread of the COVID-19 pandemic. This affected the operations of both public and private construction projects, which had to be postponed until the end of the outbreak cycle, especially in Bangkok and metropolitan areas. There were still ongoing construction projects in other areas in the country, but they were not as solid as in Bangkok and metropolitan areas. In addition, the price of agricultural produce, especially rice and fruit, is likely to fall over the previous year due to increased rice yields in the global market, but rice cannot be exported due to the COVID-19 pandemic. As a result, cement consumption has weakened accordingly, but it is expected to improve in 2022 as COVID-19 can be controlled in many areas, and exports are expected to increase accordingly.

In 2022, the Company expects the demand for cement in the country to grow accordingly, supported by investment in the construction of utilities, mass transit systems, and transportation networks in the central and regional areas of the public and private sectors to support the growth of GDP in the country. In addition, the entry into the ASEAN Economic Community (AEC) will result in increased investment in

facilities for special economic areas announced by the government: for instance, Mae Sot District, Tak Province, Aranyaprathet District, Sa Kaeo Province, Khlong Yai District, Trat Province, Mueang District, Mukdahan Province, and Sadao District, Songkhla province, which will increase demand for cement for both the public and private sectors.

- International Markets

In 2021, the export market for cement and other construction materials was consistently affected by the global COVID-19 pandemic. As a result, construction expansion in many Asian countries, the main market for clinker imports, has not recovered along the lines of the previous year. There have also been problems with freight price hikes and increased fuel and coal costs as well as a huge shortage of containers, which are all barriers to exports. As a result, the expansion of exports for clinker, cement, and other construction materials decreased compared to 2020. In addition, other cement producers in Asia continue to use strategies in terms of price competition in the export market; therefore, it affects the volume of exports. Thailand's clinker cannot expand to meet its goals.

The Company's main cement export markets are China, Bangladesh, and ASEAN countries where the demand consumption for cement continues to depend on the rate of expansion and infrastructure development of these countries.

Ready Mixed Concrete Industry

Major competitors are Construction Products & Materials Co., Ltd. CPAC, Metropolitan Concrete Co., Ltd. and Asia Concrete Co., Ltd.

In wave III of the COVID-19 pandemic, particularly at the end of June 2021, a month-long closure of major construction worker camps was announced throughout Bangkok and its metropolitan area, as well as major cities where outbreaks from worker camp clusters were observed. The ready-mixed concrete market is directly affected by the above mentioned circumstance and construction projects in the real estate sector, the entire condo market, high-rise buildings and horizontal housing continued to slow while demand consumption for concrete in this section has been reduced. However, there are still construction projects in the public sector to replace work in the private sector and we can continue to consistently push forward construction projects with a budget of Baht 514,000 million. The project with the highest construction value is the Phase 1 High-Speed Rail Project Bangkok-Nakhon Ratchasima (value amount of Baht 11,525 million). TPI Concrete has delivered ready-mixed concrete to projects along the 11-contract route, including setting up an onsite production unit for the project to support the use of concrete in Nongnam Khun Bua Khao, Khok Kruat, Nakhon Ratchasima, on the dual track railway Project, Saraburi province, the tunnel through Pha Sadet-Ban Hin (the longest dual track railway tunnel in Thailand with a distance 10.4 kilometers), and the Motorway Bangyai-Kanchanaburi under the Contract 1, Bang Yai. There was an acceleration of the construction work due to delays from land expropriation on the Rama 3 Expressway. Contract 1 and Contract 3 will begin construction at the end of 2021.

In 2022, it is anticipated that demand consumption for ready-mixed concrete in the market should begin to unravel and improve from late 2021, driven by the state policy of accelerating vaccinations 1,2,3 until herd immunity among the people is achieved throughout the country. In addition, "Open Country Policy for Tourists" along with the lifting of curfews, as well as a policy that is directly beneficial to property developers, is easing the LTV ceiling (loan-to-house price ratio) to 100% for new mortgages and refinancing and offering additional loans to stimulate the recovery of domestic purchase demand. Government construction work is also continuing pushing for the approval of projects, such as major highway projects, rural highways, expressways, motorways, drainage tunnel systems, electric trains, dual

track railways, high-speed trains, ports, and airports by the end of 2021. Condo and residential horizontal projects have also started construction work. Therefore, it is expected that from the beginning of 2022, this will result in an increase of sales of ready-mixed concrete from TPIPL in line with the trend of public sector work groups as mentioned above.

Lighted weight Concrete Business

There are about 6 major manufacturers with key trademarks, such as Siam Cement Plc., (Q-CON Brand), TPI Polene Plc. (TPI Block) Thai Light Block & Panel Plc. (Thai Con Brand), Diamong Building Products Plc. (Diamond Block Brand), Siam City Cement Plc. (Insee Super Block) and Smart Concrete Plc (Smart Block Brand)

In 2021, the Company's Lightweight Concrete business is in line with the overall construction materials market, with the Company maintaining its market share and expecting the market to improve in 2022.

Concrete Roof Tile/Fiber Cement Businesses

There are approximately 6 main manufacturers, such as, Siam Cement Plc., (SCG Brand) and (CPAC) Diamond Building Products Plc. (Diamond Brand), TPI Polene Plc. (TPI Brand), Siam City Cement Plc. (Conwood Brand), Mahaphan Fiber Cement Co., Ltd. (Mahaphan Brand) Co., Ltd. and Oran Tiles Co., Ltd. (Oran Brand). Major manufacturers with their own cement plants will have the competitive advantage of controlling production costs.

- Domestic Markets

Competition during the COVID-19 crisis led most property developers to adjust their plans by delaying work or stopping construction work in areas that have not yet been carried out, which has a direct impact on the main customer base, affecting both the distribution and installation services throughout the supply chain, with less demand than supply, and relatively higher price competition. All manufacturers are more focused on service or media coverage to access customers as a result of restrictions and lockdowns.

In 2022, it is anticipated that the COVID-19 pandemic will affect real estate sales and there are also market pressure factors, such as foreign construction worker regulations, labor shortages, agricultural prices, crop changes, floods, and higher living costs means less savings on housing purchases. Consumers are increasingly turning to housing repairs or renting as people are not confident in the economy. It has clearly affected the slowdown in the property sector. However, the government has implemented stimulus measures, such as middle-class consumers having access to more loans, and a reduction in mortgage rates to help boost more housing purchases has contributed to the expansion of the construction materials market.

- International Markets

The main export market for fiber cement is Australia, New Zealand, Middle East countries, Asia and Europe. The export market of fiber cement and concrete tiles is Myanmar. In 2021, export of fiber cement and concrete tiles to the Myanmar market is likely to be slowed due to political uncertainty, but the Company maintains its existing customer base in China, Bangladesh, and in ASEAN countries and aims to expand exports to Australia, New Zealand, Middle East countries and Asia and Europe., etc.

Factors affecting opportunities or constraints of business operations

As for competition from new entrepreneurs, the Company believes that barriers to entry are quite high since cement producers in Thailand must obtain a cement production license with a certain production volume. In addition, the cement business is capital intensive. Concurrently, limestone, main raw materials from limestone mining in Thailand for cement production is quite limited. Entrepreneurs should therefore receive concessions for business competition, creating barrier to entry for new competitors to enter the business.

As for the ready-mixed concrete, fiber cement, concrete roof tiles and light weighted concrete businesses, the main raw materials are cement. Therefore, most operators have cement plants themselves. This is an advantage in controlling the production costs. In addition, the construction of the batching plants must have permission from the relevant government agencies, in terms of machine types, unit sizes, and environmental protection that must meet standards. These plants must be licensed to store cement, and have utility consumption, both electricity and water supply, which all constitutes the limitations and obstacles of new manufacturers entering this business.

3. Sourcing of products or services

3.1. Production Facilities

TPI Polene Group operate plants as follows:

(1) Four cement production plants, with total capacity of 13.5 million tons per annum are located in Kaeng Khoi, Saraburi province, which uses a “dry production process” using rotary kilns and heating towers, cement storage silos, office filling lines, and joint production control tools for most machinery in cement plants. The Company bought this equipment from Krupp Polysius AG of the Republic of Germany, a company renowned for its mortar machinery. As for machine maintenance, the Company shuts down production plants to repair equipment and machinery every 11 months (mainly kiln maintenance), which takes about 20 days to close and repair.

(2) Three mortar cement plants with a total capacity of 3,000,000 tons per annum are located in Kaeng Khoi, Saraburi Province. The Company purchased mortar machinery from Krupp Polysius AG and PFT Putz-Und Fordertechnik GmbH. of the Republic of Germany, a company also renowned for mortar machinery.

(3) Lighted Weight Concrete plant with a production capacity of 300,000 cubic meters per annum, located in Kaeng Khoi, Saraburi province, with modern machinery from abroad. The plant can use more than 90 percent of the raw materials produced by the Company itself, including the use of electricity and steam surplus from existing power plants for use in the lighted weight concrete production processes, leading to a competitive advantage in terms of low production costs.

(4) Concrete roof tile plant and fiber cement plant are located in Chaloem Phra Kiat, Saraburi province, which consists of:

- (4.1) Concrete roof tile plants: manufacturing of concrete roof tiles and covers, including concrete slabs, with a production capacity of approximately 45 million sheets per annum.
- (4.2) The Company has four production lines of fiber cement. The production capacity is approximately 380,000 tons per annum, which consists of:
 - Board products and wood replacement materials with Autoclave System
 - Board Group Items with Autoclave System

- Product group wooden and digital board replacement materials with Autoclave System includes air cured tiles and air cured covers.
- Board products and wood replacement materials with Autoclave System

(5) **Ready-mixed concrete:** 67 batching plants with a total production capacity of approximately 3.88 million cubic meters per annum.

3.2 Procurement of main raw materials

The main raw materials used in the production process of clinker are limestone and alumina shale. The calculation of the components of raw materials in the production of cement depends on the quality and use of each type of cement.

The Company operates its own mining business and its own trucks, including equipment and conveyor systems, and limestone crushers used in mining operations. The Company has its own limestone and shale quarry in the area adjacent to the Company's cement plant for providing main raw materials from third parties used to produce cement and other construction materials as follows:

Raw material	Sources	No. of suppliers	Proportion of raw material purchases (%)	
			Domestic	International
Cement Production				
limestone	Limestone from the quarry under limestone concession	-	-	-
shale	Shale from the quarry under shale concession	-	-	-
Iron Ore (copper slag)	Imported from Japan	1	-	100
Gypsum	Purchased under 1 year contract	1	100	0
Bituminous	own processing plant/Purchase under contracts from time to time	2	100	0
Coal	Mostly imported from Indonesia under long-term contracts and spot price.	6	70	30
Waste-based fuel	Purchased from TPIPP.	1	100	0
Ready-mixed concrete production				
Cement	TPI Polene Plc	1	100	0
Aggregate	TPI Polene and 10 aggregate crusher companies	11	100	0
Sand	Tha Sai Contractor, Kanchanaburi Province, Chonburi, Rayong, Nakorn Ratchasima, Udon Thani, Ubon Ratchathani, Lamphun, Chiang Mai and Ang Thong Province	22	100	0

Raw material	Sources	No. of suppliers	Proportion of raw material purchases (%)	
			Domestic	International
water	Water Metropolitan Waterworks Commission	1	100	0
catalyste	Local suppliers	2	100	0
Fiber Cement Group				
Cement	TPI Polene Plc	1	100	0
Sand	Tha Sai Contractor, Kanchanaburi, Chonburi and Ang Thong Province	11	100	0
Cellulose fibers	Imported from New Zealand, Chile, Sweden and the United States of America	6	0	100
Synthetic Fiber (PVA)	Imported from China and Japan	3	0	100
Micro silica	Local suppliers	2	100	0
Water color	TPI Polene Plc/overseas suppliers	2	30	70
Concrete Roof Tile Group				
Cement	TPI Polene Plc	1	100	0
Crushed Stone	TPI Polene Plc	1	100	0
Sand	Local suppliers	6	100	0
Coated Paint	Local/overseas suppliers	4	30	70

In addition, the cement business operation requires a reserve of limestone and shale and long-term concessions must be permitted by governmental authorities. Details of the Company's concession are as follows:-

Location	Types of mineral substance	Number of limestone concession (issue)	Remaining lifetime of concession	Expiry date
Saraburi province	Limestone, shale and cement soil	29	1-27 years	2018 - 2046

Note: The Company's concession has been all renewed.

3.3 Raw material problems

As the Company has operated its cement business for a long time, we are able to manage raw materials procurement quite well, under short and long-term contracts with many vendors in the local and international markets, and have no policy of relying mainly on any particular supplier to ensure adequate raw material procurement.

II. Petrochemical and Chemical Industry

1. Product characteristics, production capacity and strengths

Products	Production Capacity, Strength, Technology development and innovation
(1) LDPE/EVA Plastic Resins Businesses	
Production capacity	158,000 MTPA
Market share	Market share of LDPE and EVA plastic resins account for approximately 10% and 60% of the total domestic consumption, respectively.
Proportion of domestic sales	Proportion of LDPE and EVA plastic resin sales in the domestic market to overseas sales are 100 : 0 and 20 : 80 respectively
Brand	Polene®
Strengths	<ul style="list-style-type: none"> - One of the top leading manufacturer of high quality LDPE (Low Density Polyethylene) resin in the domestic market. - The only manufacturer in the country that can develop EVA (Ethylene Vinyl Acetate) resin production technology for all types of applications. - Use tubular production technology, a continuous process that is twice as efficient as the autoclave system of its competitors, resulting in lower production costs per ton. - Consistently developing machine efficiency and production technology until high-cost special grade EVA can be produced and sold in the Niche Market continuously. - Efficient production system and flexibility, which can quickly adjust production plan according to market situation. - Certified to all three industry standards: Quality Management System (ISO 9001:2015), Occupational Health and Safety Management System Standard (ISO45001:2018) and Environmental Management System Standard (ISO 14001:2015) - Participated in the Green Industry Project of the Department of Industrial Works, Ministry of Industry to be the 3rd level green system factory with systematic environmental management with a follow-up and review for continuous development. - The product received MiT certificate (Made in Thailand) from the Federation of Thai Industries.
(2) ธุรกิจแผ่นฟิล์ม EVA	
Production capacity	20,100 TPA
Brand	Polene Solar® , Vistasolar® , VistaSafeTM
Strengths	<ul style="list-style-type: none"> - Manufactured and distributed by TPI All Seasons Co., Ltd. (99.99% owned- subsidiary Company) - Certified quality management system in accordance with ISO 9001:2015, ISO14001:2015 and ISO 45001:2018 - The main product is EVA Encapsulate film used in the production of solar panels.

Products	Production Capacity, Strength, Technology development and innovation
(3) EVA Emulsion and EVA Powder	
Production capacity	20,000 TPA
Market share	Market share of EVA Emulsion and EVA Powder account for approximately 40% and 30% of the total domestic consumption, respectively.
Proportion of domestic sales	Proportion of EVA Emulsion and EVA Powder sales in the domestic market to export sales are approximately 30 : 70, respectively.
Brand	Polene®
Strengths	<ul style="list-style-type: none"> - The first and only company in the country to have the propriately technology to produce and sell EVA Emulsion and EVA Powder to the market. - Utilize the infrastructure and core raw materials of the plastic resins plant, reduce construction costs, management and higher quantity of raw materials, also increase the negotiating power of imported raw materials from importers. - Ethylene gas and Vinyl Acetate must be disposed of from the process of producing plastic resins to be used as raw materials, enable to reduce production costs and reducing emissions to communities and the environment. - Certified quality management system (ISO 9001:2015), occupational health and safety management system standard (ISO45001:2018) and Environmental Management System Standard (ISO 14001:2015) - The product received MiT certificate (Made in Thailand) from the Federation of Thai Industries.
(4) Ammonium nitrate and nitric acid	
Production capacity	Annual production capacity of 95,000 tons of ammonium nitrate and 24,500 tons of nitric acid.
strengths	<ul style="list-style-type: none"> - Operated by Nitrate Thai Co., Ltd. (99.99% held by the Company) - A manufacturer of ammonium nitrate. Largest in Thailand - Received industry standard (TIS) and international standards for quality management systems including ISO9001:2015, ISO14001:2015, ISO45001:2018, ISO5001:2018, ISO17025-2017 and HALAL. - Received MiT certificate (Made in Thailand) from the Federation of Thai Industries. - Certified as Green Industrial Level 3 Green System from Department of Industrial Works, Ministry of Industry

Details of each product type and properties of the products are as follows:

Products	Properties of the products
(1) Plastic resins	
(1.1) LDPE (Low Density Polyethylene)	<p>(1) Film work such as plastic bags containing general merchandise, market bags. Clothing Bags Industrial Bags Food bags, films used to make shockproof materials, shrinking films, pond foundation films, nursery films, etc.</p> <p>(2) Blowing work such as blowing, making salt water bottles, drinking water bottles, foam tubes, face washes, etc.</p> <p>(3) Injection molding such as water stopper spray, vegetable oil bottle, canned cap, snack cans, and home appliances such as baskets and food containers, as well as toys that need soft workpiece characteristics.</p> <p>(4) Coating or splicing, such as film coating on paper sheets. Snack bags, coffee sachets and aluminum foil surfaces such as dry food packs, shampoo packets, etc.</p>
(1.2) EVA (Ethylene Vinyl Acetate)	<p>(1) Foam and tread of shoes such as foam, soles, healthcare slippers, foam for children's toys, etc.</p> <p>(2) Film coating, paper or splicing, such as multi-layer flexible packaging, plastic coated paper bag, plastic coated paper, etc.</p> <p>(3) Electrical and communication cable cladding to prevent electromagnetic waves from interfering and not releasing toxins when combustion occurs, such as medium-voltage power lines, subway power lines or in enclosed tunnels. Fiber Optics, Coaxial Cables, etc.</p> <p>(4) Hot melt is used to connect materials such as hot glue to book ridges, edge glue and furniture surfaces. Hot Glue To Product Box Labeling waterproof products, etc.</p> <p>(5) Glass films such as EVA Encapsulate are used in the production industry of solar panels, safety glass lamination films, etc.</p> <p>(6) Printing inks such as Gravure Ink Binder, silkscreen ink on shirts and sports equipment, etc.</p>
(2) EVA Solar Sheets	
(2.1) Polene Solar® and Vistasolar®	<p>It is a component in the production of photovoltaic modules, which act as adhesives to attach all components of solar panels. It has significant properties to protect the lifespan of solar panels in accordance with IEC61215 standards, consisting of 2 brands as follows:</p> <p>(1) Polene Solar® Film</p> <p>(2) Vistasolar® Film, the most famous and oldest plastic film in Europe, was established in 1982®TPI All Seasons Co., Ltd. acquired Vistasolar® Films in 1984 and relocated to Thailand..</p>

Products	Properties of the products
(2.2) EVA Interlayer under the brand VistaSafe™	For laminated and tempered glass, as well as building and automotive glass.
(2.3) Blown Film	It is a plastic film that uses the technology to blow the film in forming, divided into wrap film, top sheet and masking film.
(2.4) EVA solar sheets	It is a versatile plastic film and anti-slip pad for use in preventing slippage or scratch-out in the house, such as in the kitchen, in the living room or in the bathroom.
(3) EVA Emulsion and EVA powder	
(3.1) EVA Emulsion	<p>(1) Packaging adhesives, especially for smooth surface materials or glossy paper, such as waterproof coated box adhesives, premium box adhesives, waterproof labeling adhesives, etc.</p> <p>(2) Wood, furniture and carpet adhesives such as PVC lamination, plywood adhesive, carpet floor adhesive, etc.</p> <p>(3) Mixed-site construction to increase adhesion and flexibility, such as smooth surface adhesive mortar. Thin skin plastering road preparation work to reduce dust, etc.</p> <p>(4) (Non-woven fabric work</p> <p>(5) Building coatings free of volatile organics and odors such as indoor paints, etc.</p>
(3.2) EVA Powder	<p>EVA Powder is a soluble product that has adhesive properties using water glue, commonly used to mix in finished mortar products and construction materials in the form of powder.</p> <p>(1) Adhesion enhancement work such as adhesive mortar and high adhesion cement to help adhere to oily concrete surfaces and original tiles that do not absorb water well.</p> <p>(2) Flexible and waterproof work such as Plastering and Skim Coat for finish coat plaster on ultra-smooth and oily surfaces and protect against water.</p>
(4) Ammonium nitrate and Nitric acid	
(4.1) Ammonium nitrate	Used in cement manufacturing industry, coal mine, construction industry and production of Nitrous Oxides used in the medical field
(4.2) Nitric acid	It is used to clean metal surfaces in industries such as stainless steel, electronic industry, automobile industry, rubber glove industry, solar panel manufacturing industry, and used in the production of nitrocellulose for coating applications.

2. Marketing & Competition and Trends of the Industry

2.1. Marketing Policy

2.1.1 Competitive strategy

The Company has advanced production technology and machines that can support multi-grade production for all customers' purposes, so the Company has the advantage of producing products in grades that suit market demand situations and competitive prices. Furthermore, the Company also focuses on product quality to consistently have high qualified and stable properties. The Company has a skilled technical team to serve customers before and after the sale, monitoring product quality, as well as providing advice on the variety of plastic resin products. In addition, the Company has modified the machinery and thoroughly developed the customer's formulations, which helps to increase confidence and reliance. As a result, the Company can consistently and sustainably price products above the market price but also satisfy the demand of customers in the domestic market and international markets.

- **Price and cost:** The Company has developed production efficiency with its own R&D team, focusing on developing grade production that requires advanced technology. There are few competitors and a high proportion of profits, and with the use of high-efficiency production technologies as well as regular development and improvement of machinery. The Company can increase productivity, enabling the Company to have the advantage of the cost of raw materials per ton in these special grades. This reduces routine expenses and increases the profit margins of goods, thus gaining an advantage in terms of production costs.

In addition, the Company continues to improve machine efficiency by developing in-house technologies and its personnel with more than 40 years of manufacturing experience, together with the use of ERP: Enterprise Resources Planning technology and artificial intelligence data analysis. The Company plans to increase production rates without the need for a substantial investment to purchase all new machines, and has adopted an Enterprise Asset Management (EAM) system to increase efficiency and reduce the cost of systematic maintenance of machinery, as well as reduce the risk of stopping production due to damaged equipment. This contributes significantly to the Company's overall plastic resin production rate.

- **Quality and Quality Management System:** The Company has the policy to focus on producing quality products as the market situation is dynamic. The Company has adopted information management software and quality assurance systems to help plan, control, and operate to facilitate the organization's operations to be functioning efficiently. This ensures that the quality needs are met according to the Company's goals and with a management system that focuses on product quality and the quality of work safety of the organization. As a result, the Company has achieved various important ISO standards such as ISO 9001, quality system standards, which govern both the design and development of production, installation, and service; ISO 14001, environmental management system standards, focusing on the organization's continuous improvement of the environment; ISO 45001:2018, occupational health and safety system standards; and CSR-DIW, social responsibility standards.
- **To develop into a market that is more technology-driven:** with the transformation of the surrounding technology, the Company has increased production efficiency by using advanced production technology, being able to produce special grade products that cater to a more promising and environmentally-friendly market, such as solar panel production. The Company does not focus solely on the quantity in normal grade production but on technology, which is used in various processes with the linkage from starting to finishing process to increase growth and profitability. The Company also aims to create a green society for the future and research for the methods to reduce waste emissions, such as reusing ethylene released

from EVA plastic resin production processes to benefit the production of EVA emulsion. This reduces costs and reduces pollution to the surrounding communities and the environment. The Company also improved machines that can reduce the use of various types of energy, including some waste from production that occurs, such as waste from the production of water glue. The Company has also improved and delivered waste from production to be used as fuel for power generation in our Saraburi plant, and the Company continues to monitor and look for ways to deploy technologies to support the technology market that will change in the future.

- **Service:** The Company attaches importance to continuously managing good long-term relationships with customers. The Company can increase its production potential for high-value special grades that is already a trend of continued future growth. The Company continues to produce regular grades or produce some premium products to maintain existing customers who have long-standing relationships. The Company has also introduced customer relationship management (CRM) software to help manage intercompany relationships with customers to help create processes and develop new products according to customer needs systematically, and to collect complaints, ensuring that all issues are tracked and revised to respond to customer needs quickly, as well as increase the performance of the Company's agencies in another way.
- **Reputation:** The Company sells products under the trademark "Polene" with the policy of producing high-quality products and providing good sales service, including on-time and accurate delivery, creating good relationships with dealers and setting competitive prices. The Company strongly believes in the reputation of its products, its continuous treatment and improvement of product quality, improved production machinery to keep up with advanced technology and high production efficiency, to entrust customers that we have good quality products, and to create sustainable satisfaction for customers.

2.1.2 Types of Customers and Target Group

(1) LDPE and EVA Plastic Resin Products

LDPE plastic resin is sold only in the domestic market for customers who particularly need high premium products from the Company – these are all customers who have a long-standing relationship with the Company. The remaining 90% of EVA plastic resin products sold in both domestic and international markets is approximately 20:80, respectively, exported through Polene Plastic Co., Ltd. to various countries such as China, India, South Asian countries, and Southeast Asian countries. Target customers are divided by business, covering a wide range of industries, such as solar, foam business, construction businesses, packaging businesses, printing materials business, consumer goods, and group industrial materials.

(2) EVA Solar Sheets

TPI All Seasons Co., Ltd. manufactures and sells various types of EVA products, mainly producing solar films for sale to solar panel manufacturers. It also produces and sells EVA Interlayer films to laminated glass manufacturers, tempered glass and decoration glass, as well as producing and selling multi-purpose films to general users.

This constitutes 86% of solar film products sales and 14% of other EVA products, with approximately domestic solar film products sales to export sales at approximately 5: 95 %, with most customers being customers in European countries.

(3) EVA Emulsion and EVA Powder

Customers of EVA Emulsion and EVA Powder are mainly manufacturers in the packaging box industry, furniture industry, the printing industry, and the construction industry, which needs a combination of added adhesion to materials, especially smooth surface materials, where there are no models that general adhesives cannot be attached to and require flexible adhesives that can be used in a variety of temperatures. EVA Emulsion and EVA Powder account for about 30:70 % of domestic and export sales respectively, with most international customers being customers in China, India, Southeast Asia, and Middle East Asia.

(4) Ammonium Nitrate and Nitric Acid

Thai Nitrate Co., Ltd. sells products to customers in the cement business, mining, construction industry, medical industry, and customers in stainless steel, electronics businesses, automobiles, rubber gloves, and solar panel manufacturing industries.

The Company sells ammonium nitrate, representing 70% in domestic market and 30% to international markets, and sells nitric acid in the domestic market, representing 80% and 20% to international market customers, exporting to Myanmar, Laos, Cambodia, Vietnam, Malaysia, Pakistan and Singapore.

2.1.3 Sales and distribution channels

(1) LDPE and EVA plastic resin products

The Company sells plastic resin products both in domestic and international markets, mostly through agents to dispatch plastic resin products to both large and retail customers. These agents, in addition to servicing existing customers and finding new customers, also help coordinate sales and customer service through the Company's technical team, enabling thorough and efficient customer service. The number of agents depends on the suitability of the country and the customers' market conditions. The proportion of direct sales per agents accounts for 10%: 90% respectively.

The Company assigns an average collection period to the general client, where the client must place collateral as follows:

- 1) Domestic LDPE/EVA sales for a period of 7 days
- 2) LDPE/EVA export through L/C issuance for a period of 60 days

(2) EVA Film Group Products

TPI All Seasons Co., Ltd. sells products to manufacturers that use them directly with a direct-to-sale ratio of 90%:10% respectively.

(3) EVA Emulsion and EVA Powder

TPI All Seasons Co., Ltd. sells EVA Emulsion and EVA Powder both domestically and exports to international markets. Most of them are sold through agents based in different regions of these target countries and they are responsible for coordinating sales and customer service, with a direct-to-dealer sales ratio of 40%:60% respectively.

(4) Ammonium nitrate and nitric acid products

Thai Nitrate Co., Ltd. sells such products through five distributors with a direct sales ratio of 35% : 65% respectively.

2.2 Market and competition conditions and trends of the industry

2.2.1 Market conditions and domestic competition

(1) LDPE and EVA plastic resins business

Market Conditions and Competition

In 2021, the overall economic situation of Asian countries and the region as a whole continued to stagnate due to the severe spread of COVID-19, coupled with measures by many environmental countries that cancelled or reduced the use of plastic bags. As a result, polyethylene resins as a whole has a low margin, especially HDPE and LDPE resins, but LDPE plastic resin yields higher profit margins since some LDPE manufacturers can choose to produce EVA plastic resin, leading supply and demand to remain at a balanced level. The Company is aware of the situation and maintains a policy of producing low-volumes of LDPE plastic resins for customers in specific countries that need high quality products at high prices and focusing on producing high demand consumption of EVA plastic resins with better prices and higher contribution margins.

In 2021, demand consumption for EVA plastic resin situations continued to grow as a result of clean energy promotion policies from the government. The production of solar panels, which use EVA plastic resin as a key component, has grown at a leap in rates, especially in China and India due to renewable energy policies to reduce carbon dioxide. This makes the demand for plastic sheeting in solar cells much higher, which have driven the price of plastic resin to be higher as well.

Future trends

The LDPE plastic resin price is likely to decrease due to a significant increase in new manufacturers, especially in China and Middle East Asia, along with environmental measures on the use of more intensive plastic bags, which negatively affects the overall demand for polyethylene resin. As a result, the Company maintains its policy of producing low-quantity LDPE plastic resins to the expensive domestic niche market and continues to focus on EVA plastic resin production that is expected to continue to have higher profit margins.

Factors affecting opportunities or limitations of business operations

In the LDPE and EVA plastic resin businesses, most manufacturers shop for basic technology or grades for specific industries due to the high cost of investing in technology and the difficulty of production. In addition, rebuilding plants are often preferable to using large machines with high capacity. These factories, despite the advantage of economies of scale, are not flexible enough to freely adjust grades as the circumstances change rapidly, and it is not worth producing plastic resins to the local market despite the good price, but often in small quantities, and requires the expertise of the Company's personnel to customize products and reach these customer groups, as well as develop machines and technologies to suit and align with these specific products.

For these reasons, LDPE and EVA plants are therefore divided into two groups: general manufacturers, usually large and new manufacturers, and specialized manufacturers, often small or medium-sized plants that have been in the business for a long time and have consistently developed technology. The Company is aware of the limitations in production capacity, machine advantages, technology and manufacturing experience. Therefore, the Company will try to turn into a success as specialized manufacturers and continuously develop and improve machines in products that require higher technology as an alternative. To the Company, there is also the opportunity to continue to make profits in the long term.

(2) Solar Film Business

Market Conditions and Competition

Given the global awareness of the Paris Agreement's greenhouse gas emissions reduction targets, which has a positive impact on clean energy businesses, especially solar power generation, the demand for solar panels in the global market continues to increase drastically. With the global market's demand for solar panels, which are currently greater than solar film capacity, solar film prices have risen and are expected to increase consistently. Solar film is a business with few manufacturers, as production requires specific technologies, and products must be tested in accordance with IEC61215 standards.

In 2021, TPI All Seasons Co., Ltd. increased the production and distribution of solar film products for the domestic market as the government has a policy to support the solar panel manufacturing business. International markets are also trending upward with increased demand for solar panels. Many solar panel manufacturers in European countries, East Asia, and Southeast Asia are increasingly interested in the Company's products. In 2021, the Company was able to sell solar film products to new customers in the United States and new retail customers in Europe.

Future trends

In 2022, it is anticipated that demand consumption for solar panels in the global market will continue to expand. TPI All Seasons Co., Ltd. expects to expand the solar film market to major customers in Germany, U.S.A, Canada, and South Korea, as well as increased sales of EVA Interlayer products in international markets.

However, TPI All Seasons Co., Ltd. has a project to develop solar films for producing quality solar cells as recognized by leading solar cell manufacturers in the international market, which are used to generate solar electricity to reduce CO2. The Company also has plans for film development projects for tempered glass, a product that requires advanced technology to produce and takes long-term development time, but yields high contribution margins, with very few manufacturers in the industry.

However, the Company assigns an average collection period of 30 days to general clients, where the clients must provide collateral whereas foreign export sales will accept payment via letters of credit issuance and telegraph transfers.

Factors affecting opportunities or limitations of business operations

Solar energy is a naturally existing clean energy, which is a new alternative energy that many countries are supporting and increasingly interested in investing in, helping reduce oil and coal consumption in electricity generation and reducing greenhouse gas emissions that affect climate change. Therefore, the solar panel manufacturing industry is a good alternative to solving the world's energy problems. However, other factors affecting opportunities include state and foreign policies to promote renewable energy, fuel oil and coal price direction and technology that makes solar energy consumption more efficient to reduce production costs.

(3) EVA Emulsion and EVA Powder

In 2021, the EVA emulsion and EVA powder business also enjoyed good growth rates for both domestic and international markets, as the COVID-19 pandemic encouraged increased packaging use and construction that began to give better signs of stimulating the government economy, as well as the start of the economic defensive of the private sector after the COVID-19 pandemic began to

unravel. The Company can continue to increase domestic sales and grasp domestic market share in replacement of the original competitors from overseas.

As for international markets, the Company has expanded export sales to Middle Eastern countries such as Egypt, Saudi Arabia, the United Arab Emirates, and Southeast Asian groups such as Vietnam, Indonesia, Malaysia, as well as increase market share in China and India, with a trend of steadily increasing overall market share.

The Company has purchased EVA Emulsion production technology from leading manufacturers and is in the process of further development, aiming to expand the customer market and add value-added products. It is expected to be completed and commence commercial operation in 2022.

In this regard, the Company assigns an average collection period of 120 days to the general client, where the client must provide collateral for domestic sales.

Factors affecting opportunities or constrains of business operations

Although the domestic market has a trivial demand for hot glue, in international markets such as China, there is a big market because the Company's EVA plastic resin has good properties and EVA plastic resins are also used in the electrical wire industry for insulating medium-voltage wires. This is because EVA does not release toxic substances or toxic vapors when burning, which are perfect for electrical wires used in tunnels such as subways or tunnel roads linking them to the other.

(4) Ammonium nitrate and nitric acid business

In 2021, price competition of ammonium nitrate in the international market was quite intense whereas ammonium nitrate in the domestic market expanded as the Mae Mau mine accelerated the coal explosion. The nitric acid which is used in the rubber glove industry has grown higher due to the COVID-19 pandemic. As a result, the global demand for rubber gloves is increasing. In 2022, the trend of ammonium nitrate market in the country is expected to grow as cement producers and aggregate crusher plants will expand their production capacity to support new projects including the expansion of double-track railways, high-speed rail, and airport expansion and road projects.

3. Sourcing of products or services

3.1 Production Facilities

(1) LDPE/EVA Plants

The Company has two LDPE plastic resins manufacturing plants located on an area of 42.5 Rai in the IRPC petrochemical center area in Rayong province. LDPE line 1 has a production capacity of 78,000 tons per annum and the second plant has a capacity of 80,000 tons per annum, totaling approximately 158,000 tons per annum, with the Company planning to stop production for annual inspections and maintenance for about 2 weeks, and a special maintenance plan of approximately 20 days every 5 years to enable the machines to work at full capacity, maintaining the quality level of the goods and ensuring safety.

(2) EVA Solar Sheets Plant

TPI All Seasons Co., Ltd. has a manufacturing plant located in Saraburi province with a total of 10 production lines with a total production capacity of approximately 20,100 tons per annum.

(3) EVA Emulsion and EVA Powder plants

The Company has EVA Emulsion and EVA Powder plants located in IRPC's petrochemical center area in Rayong with a total production capacity of 20,000 tons per annum.

(4) Ammonium nitrate and nitric acid Plants

Ammonium nitrate and nitric acid plants are located in Rayong province, with an ammonium nitrate capacity of 95,000 tons per annum and 24,500 tons of nitric acid per annum.

3.2 Main Raw Material Procurement

The main raw materials used in the production of LDPE and EVA plastic resin, including EVA emulsion and EVA powder, are as follows:

- (1) Ethylene is purchased primarily from IRPC Public Company Limited (“IRPC”) with a long-term contract based on market prices in the region. In addition, the Company can purchase ethylene from other manufacturers, with the Company having pipes to receive raw materials from deep seaports in industrial zones.
- (2) VAM (Vinyl Acetate Monomer) is purchased from several overseas vendors and the Company is Thailand’s largest importer of VAM and the largest in the region, giving the Company high bargaining power compared to other buyers.

Raw materials for EVA film products are EVA plastic resins from all the Company’s factories, and the main raw materials used in the production of ammonium nitrate and nitric acid are ammonia. The Company purchases ammonia from overseas, such as Malaysia, Indonesia, Saudi Arabia, and Australia.

3.3 Raw material problems

The Company has been in the LDPE and EVA plastic resins business since 1995, purchasing raw materials from manufacturers or distributors for a long period of time and having an established long term relationship with manufacturers or distributors. The Company also has systematic management, so there are no management problems with raw materials.

For the business of producing ammonium nitrate and nitric acid, there is currently a shortage of raw materials in the world, but the Company has contracted partners to supply raw materials. As a result, the Company does not suffer from any shortages of raw materials.



III. Energy & Utilities Industry

1. Product Characteristics, Production Capacity and Strengths

TPI Polene Power Public Company Limited, a power plant operator, (a 70.24% owned-subsubsidiary of the Company), has eight power plants in operation, with total installed power generation capacity of 440 MW, divided into quality-improved waste - fuel power plants with a total installed capacity of 180 MW, with the remaining installed capacity of 260 MW, which can be concluded as follows:

Products	Production Capacity, Strength, Technology development and Innovation
1. Quality-improved waste-fuel power plant consists of: <ul style="list-style-type: none"> - Waste Fuel Power Plant - 20MW (TG3) - Waste Fuel Power Plant - 60MW (TG5) - Waste Fuel Power Plant - 70MW (TG6) and Waste Heat Recovery Power Plant -30 MW (TG4) total 100 MW 	1. The largest operator of quality-improved waste-fuel power plants in Thailand and the only manufacturer that sells waste energy in SPP. 2. Total quality-improved waste-fuel plant capacity is 180MW with a total contract to sell electricity to the EGAT totaling 163MW (non-firm contract) (49.5% market share). TPIPP receives monthly tariffs as follows:- <ol style="list-style-type: none"> (1) Energy Payment (2) Receive adder from the EGAT at the rate of Baht 3.50 per kilowatt-hour for a period of 7 years from the start of power plant power trading. After that, the electricity bill will be charged at the Energy Payment. 3. Have the advantage of being a pioneer with knowledge, expertise and being able to effectively meet the challenges of the waste power industry. 4. The management team has long experience in the waste power plant business and has a tangible successful performance. Therefore, it has the advantage of other competitors, including capital, experience, technology, reliability, and the ability to achieve the project.
2. Waste Heat Recovery Power Plant TG1&TG 2 - 40MW	1. With installation capacity of 40MW 2. Waste Heat Recovery from the Company's cement plant to generate electricity and sell it back to the Company. 3. A contract to sell electricity to the Company (undefined) by charging the same rate as electricity trading purchased directly from the provincial electricity authority. without demand charge
3. Coal-fired Power Plant TG7 - 70MW	1. Total installed capacity of 70MW with approved capacity of 40MW 2. A contract to sell electricity to the Company (undefined) by charging the same rate as electricity trading that the Company buys directly from the provincial electricity authority without the maximum energy bill. (Demand Charge)
4. Coal-fired Power Plant TG8 - 150MW	1. Total installed capacity 150MW 2. A contract to sell electricity to the Company (determining the amount of electricity sold at least 30% of the amount of electricity generated) by charging electricity at the same rate as the electricity trade that the Company buys directly from the provincial electricity authority without the maximum energy bill. (Demand Charge)

Products	Production Capacity, Strength, Technology development and Innovation
5. Quality-Improved Waste-Fuel power plant	<ol style="list-style-type: none"> 1. Classified as a community waste disposal plant or municipal waste, located in the largest single area in the world. 2. An installed capacity to receive 14,400 tons of community waste into the production process per day to produce 7,200 tons of waste-based fuel per day. 3. There is a storage warehouse capable of storing up to 100,000 tons of renewable waste fuel, which is sufficient for the operation of the waste-based fuel power plant.
6. Petro & NGV Service Station Business	TPIPP also operates 12 oil service stations and NGV gas stations in Bangkok and metropolitan areas, under the logo “TPIPL”.
7. Industrial wastes disposal Business	The Company operates industrial waste disposal services from various factories within the country, under the factory license to operate the quality of total waste and has been granted permission from the Department of Industrial Works. In addition to helping to get rid of industrial waste, it also reduces the use of raw materials and fuel. This can save the use of natural resources and help maintain environmental quality.

2. Marketing and competition and industry trends

2.1. Power Plant business

TPIPP sells a contracted waste-to-energy power generation capacity of 163 MW (non-firm) to The Electricity Generation Authority of Thailand (EGAT), and sells electricity generated from coal-fired and waste heat recovery power plants to TPI Polene under contracted power generation capacity of 260 MW.

The waste-based fuel power plant business today is very competitive in waste supply, as well as competing with other power producers in entering into power purchase agreements with EGAT, which occurred during the EGAT offers for power plant operators through bidding.

The Company is a pioneer in power plant operation in Thailand, with the largest waste-to-energy power plant operations in the country with an expertise in the long-lasting plant business operations and solid, successful performance. It has a competitive advantage in both capital and reliable technology and experience, with the ability to successfully complete project investment.

In 2021, TPIPP successfully bid for joint private procurement in the construction and management of solid waste disposal system in two community power plant projects:

- (1) Songkhla Provincial Administration Organization: the winner of the bidding will receive a tipping fee from waste disposal of Baht 400 per ton (adjustable upward by 10% every 3 years) for a period of 20 years and will receive a tipping fee from waste disposal of Baht 400 per ton (adjustable upward by 10% every 3 years) and receive revenue from electricity sales derived from waste disposal under a power purchase agreement of 7.92 MW for a period of 20 years, at a rate of Baht 5.78 per unit for the first 8 years and Baht 5.08 per unit for the next 12 years respectively.
- (2) Bidding for the Waste Disposal Project of Nakhon Ratchasima Municipality, under a 9.9 MW power purchase agreement to EGAT for 20 years at the rate of Baht 5.78 per unit for the first 8 years and Baht 5.08 per unit for 12 consecutive years.

TPIPP continues its policy of expanding its business and growing the waste power plant business, by participating in the auction of government waste power plants which are the strengths of the Company. TPIPP has expertise with high potential in all aspects of this industry and has a competitive advantage

in capital and reliable technology with a ready team to successfully complete project expansion. This includes investment in economic and social development in particular areas which are urgently needed in accordance with government policy.

TPIPP is also in the process of conducting studies and jointly investing in the electricity business with other fuels such as natural gas power plants, solar power plants and wind power plants for further growth of the Company in the future.

TPIPP has a strong relationship with entrepreneurs who play an important role in the waste-based power generation industry network, with TPIPP competing in the field of waste supply with other competitors. However, TPIPP has a network with landfill waste suppliers, both sorted and unsorted, as well as community waste, to produce waste-based fuel and use it as fuel for electricity generation.

TPIPP's management team believes that waste management problems in Thailand which, according to AWR Lloyd, are still evolving, relatively lagging compared to other developed countries. This will expand the opportunity for TPIPP to grow in the waste power industry more efficiently.

Industry Trends

According to Thailand's power development plan (PDP2018 Revision) 2018-2037, it consists of 400 megawatts of waste plants. It is expected to participate in the market as the government gradually announces term of references and TPIPP continues its policy to participate in the auction of government waste power plants where TPIPP considered it as a strategic point and has a competitive advantage.

2.2 Oil Service Stations and NGV Gas Stations

TPIPP operates a total of eight oil service stations, one NGV gas station, and three oil and NGV service stations in Bangkok and provincial areas. Most of the customers are those who transport cement for the Company as well as retail customers.

Industry Trends

In 2021, NGV sales volume in the country decreased consistently by 19.25% compared to 2020, primarily due to the ongoing COVID-19 pandemic since early 2020, which affects the country's overall economy and directly affects the business operations of oil and gas stations, as well as the number of new cars to be launched into the market, which mainly use fuel oil. As a result, the volume of NGV-based vehicles has also decreased. Thus, the Company's fuel and NGV sales volume in 2020 decreased slightly compared to 2020 due to the impact of the COVID-19 pandemic as well.

In case the country's overall economy in 2022 recovers, the Company's sales of oil and NGV will also improve accordingly. The Company continues to promote its promotional campaign for customers to exchange discount slips for refueling NGV products in TPI marts at the Company's service stations, which are distributed under TPI Group's products for consistent advertising

3. Sourcing of products or services

3.1 Production Facilities

(1) Power plants

TPIPP has eight power plants in operation, with a total installed capacity of 440 MW, and are located in the Company's cement plant in Saraburi province. These are divided into four waste fuel power plants with a total installed capacity of 180 MW. (TPIPP sells a contracted power generation capacity of 163 MW to EGAT). Two waste heat recovery power plants, a total installed capacity of 40 MW and two coal-fired power plants with a total installed capacity of 220 MW, all sell electricity to the Company.

(2) Petro Service Stations and NGV Gas Stations

TPIPP operates a total of eight petro service stations, one NGV gas station, and three petro and NGV service stations under the logo “TPIPL” in Bangkok and provincial areas, including six service stations in Saraburi provinces, one service station in Ubon Ratchathani province, one service station in Nakhon Sawan province, and one service station in Samut Prakan province.

3.2 Raw Material Procurment

(1) Power plants

Waste-based fuel plants rely on the supply of landfill waste and community waste. In addition, the heating value of waste-based fuel produced by the quality-improved power plant affects the efficiency of electricity generation, with quality-improved waste having a high fuel heating value, allowing TPIPP to generate a lot of electricity.

TPIPP purchased both community waste (and municipal waste), landfill waste, and waste sorted from operators who are partners around the plant and operators in neighboring provinces whereas TPIPP does not rely mainly on a source of purchase from a particular person.

TPIPP has also diversified the risk of supplying waste by investing in setting up waste-based fuel plants in areas where old waste accumulates and community waste with high daily waste content such as Samut Sakhon, Ayutthaya, Chonburi and Rayong provinces to ensure the supply of raw materials and reduce production costs by purchasing waste-based fuel (sorted waste must have a heating value of at least 2,500 KCAL) from private companies.

In the case of waste heat recovery power plants, TPIPP purchases waste heat recovery from the cement production process from TPIPL at a fair price as agreed.

TPIPP purchases coal from TPIPL at a market price to be used in coal-fired power plant. However, TPIPP can buy coal from third parties.

(2) Petro and NGV gas stations

TPIPP supplies fuel for fuel stations from oil companies such as Bangchak Corporation Public Company Limited, Esso (Thailand) Public Company Limited, IRPC Public Company Limited and Shell of Thailand Limited at the market price at that time (spot basis).

In addition, TPIPP supplies natural gas (NGV) for natural gas (NGV) stations from PTT Public Company Limited (“PTT”) under a long-term natural gas trading contract (NGV).

3.3 Maintenance

TPIPP has designed steam pipes in power plants, where the material has been changed to ensure physical and chemical wear resistance with the design of new steam pipe sorting characteristics, as well as the installation of a steam pipe cleaning system, which has been suspended for approximately 90 days per machine.

In addition, the fuel feed system has been improved to solve the problem of fuel feeding accuracy with the design of the machine system and the wind system to feed the fuel into the new boiler.

3.4 Performances compared to legal regulation imposed

TPIPP has a policy for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) emissions levels compared to World Bank emissions standards and requirements under Thai law, which can be summarized as follows:

(mg/cubic meters))

	Sulfur dioxide (SO ₂)	nitrogen oxide (NO ₂)
TPIPP	30.0	120.0
World Bank emissions standards	< 230.0	< 510.0
Thai legal regulatory requirements	< 320.0	< 350.0

IV. Agricultural industry, healthcare products and others

1. Product characteristics, capacity and strength

Products	Production Capacity, Strength, Technology development and Innovation
1. Healthcare products	<ol style="list-style-type: none"> 1. Operated by TPI Healthcare Co., Ltd. (99.99% owned- subsidiary company) 2. Manufacture and sale of consumer products using natural substances and environmentally friendly. 3. Research from Mahidol University (Siriraj Hospital) and Chulalongkorn Hospital that some products such as Bio Knox, mouthwash can combat the virus. 4. Have their own research and development team with clean, modern and safe production procedures for consumers.
2. Organic fertilizer and organic matter for plants	<ol style="list-style-type: none"> 5. Operated by TPI Polene Bio Organics Co., Ltd. (99.99% owned- subsidiary company) 6. Obtained quality products in compliance with the standards of IFOAM for liquid fertilizer 7. Certified quality management system (ISO 9001:2015) for organic fertilizer plants. 8. Halal certified with an emphasis on non-toxic organic farming that is not harmful to humans and the environment, allowing vegetables to be grown without pesticides.
3. Probiotic products for Livestock,/Fishery	<ol style="list-style-type: none"> 9. Operated by TPI Bio Pharmaceuticals Co., Ltd (99.99% owned- subsidiary company) 10. GMP certified for animal feed products 11. Livestock, fishery and pets products using prophylactic natural substances (non antibiotics) to keep meat consumers free of harmful substances.

Details of each product type and properties of the products are as follows:

Products	properties of the products
1. Healthcare Products	
1.1 Bio Knox *	High-quality natural calcium and vitamin C supplements to reduce the amount of bacterial and viral pathogens (*See note to financial statements as below).
1.2 Mouthwash *	Mouthwash with anti-bacterial agents reduces the accumulation of plaque. (*See note to financial statements as below).
1.3 Microm Knox solution*	Spraying in residential areas to reduce the amount of pathogens from bacteria and viruses. (*See note to financial statements as below).

Products	properties of the products
1.4 Pro Vita	Refreshing drinks and enhanced resistance with good benefits including tryptophan and vitamin C.
1.5 Bio San	A microorganism in the treatment of wastewater with a high content of organic, fat and oil, tested by the Academic Service Center of Chulalongkorn University. Bio San was found to help reduce organic values in the FORM OF COD and BOD of wastewater.
1.6 Bath Liquid Soap	For bodybath, a moisturizing effect on the body and contains 5 premium blossom collection fragrances.
1.7 Hand wash liquid soap	Use to wash hands with hand-preserving moisturizing ingredient and contains 5 premium blossom collection fragrances.
1.8 Eesy clean grease Remover	The product removes oily stains from cooking, oil stains and grease, dirt on the floor or walls.
1.9 Easy Clean Natural Dishwashing Liquid	Dishwashing Products, used to clean, remove oily stains, clean, residue-free.
1.10 Green Alkaline Vegetable Cleaning Liquid	Fruit and vegetable cleaning products help clean contaminants and keep fruits/vegetables fresh.
1.11 Gel and Alcohol Spray	Reduces the accumulation of pathogens, viruses and bacteria, contains aloe vera and moisturizing, keeping hands from drying out even when used continuously.
1.12 TPI drinking water	Certified ISO9001:2015 GMP and HACCP
2. Fertilizer and plant nutrients: TPI natural products, which are free from residues under the Global Warming reduction policy	
2.1 Organic purple fertilizer	An organic fertilizer in liquid form. Plants can be absorbed through the leaves
2.2 Organic green fertilizers	Organic green fertilizers are suitable for improving soil or preparing soil, balancing the soil condition, helping to restore loamy soil, carrying water.
2.3 Organic bat cave fertilizers	Made from high quality organic substance, contains highly effective microorganisms, soil rehabilitation makes plants grow stronger with high crop yields, certified by the Department of Agriculture (Organic Fertilizer Registration No. 98/2012)
2.4 Wood Venigar	Used to prevent and eliminate pests without residues or hazardous chemical mixtures
2.5 BIO-HYDROPONICS	Concentrated plant supplements, contain nutrients necessary for plants in ways that plants absorb immediately.
2.6 PH 11 Plus	Soil conditioning to adjust the acidity – alkalinity of the soil to suit the crop, reduces toxicity, accumulates in the soil, helps to disinfect fungi and prevent soil diseases, reduces and prevents rot.

Products	properties of the products
2.7 Bio-organic humics	Organics increase productivity, improve soil, improve acid-alkali balance, and reduce the amount of water in the mixture by 4 times from the original formula without causing the leaves to burn. Increased productivity formula help increase nutrients, improve natural soils and reduce global warming.
3. Livestock/Fisheries Products	
TPI Probiotics	Bio-enhancing matter, useful and safe for animals, consisting of microorganisms and it can be used for poultry, animals and all aquatic animals, including pigs, shrimps, fish, chickens, ducks and it help in the process of digestion and absorption of animal food and increase immunity to healthy animals to grow well, gain good weight and help reduce the use of antibiotics.

Remark : *The above products have been tested and certified by the Faculty of Medicine, Siriraj Hospital and the Academic Service Center, Chulalongkorn University and are effective in the destruction of viruses including SARS-CoV2, PRRS, PDCoV, PCV2 and RVA, etc.

2. Marketing and competition and industry trends

2.1 Healthcare products



Nowadays, consumers are increasingly attentive to health by paying attention to products made from natural substances. As a result, the market for organic and healthcare products has expanded.

TPI Healthcare Co., Ltd. has launched a new normal healthcare products to support the expansion of the market, such as energy drinks (Pro150), healthy drinks (Pro-Vita), and supplements for consumer health, which contains Probiotic, which helps digestion and increases immunity to Covid-19 and health supplements, mouthwashes for disinfecting Corona Virus, as well as products used to prevent disinfection of both viruses and bacteria alcohol gel, body soap, table and containers liquid cleaners, vegetable and fruit disinfectant and grease liquid removal. In 2021, the Company had a leap in sales of products in this category in 2019-20 due to the COVID-19 pandemic and the trend in popularity of health products, this is consistent with the New Normal and aging society. The Company uses online Platform media in various applications as well as through TV ads to reach consumers target group effectively, and the Company has added channels to modern trade shops such as Food Land, Villa Market, Tops Super Market, Rimping, Tanghuoseng, Gourmet Market (The Mall Group), and TPIPP's NGV gas stations. TPI Polene Group expects the healthcare market in 2022 to continue to gain a good reputation from consumers if the COVID-19

pandemic stabilizes and no one can predict whether the pandemic will diminish or not. As a result, the public will change the way they live more attentively, especially in hygienic health.

The average collection period is 30-60 days for general customers and customers have to provide collateral.

2.2 Fertilizers and nutrients for plants



In 2021, the agricultural economy is expected to grow by 1.7-2.7%, with planting fields expanding by 2.3-3.3%, as farmers begin to adapt to the COVID-19 situation, and a two-year long drought, with government agencies helping to promote the development of technological and innovative technology to enhance modern farming and precise agriculture, as well as improving the quality of agricultural products, increased the level of competitiveness by promoting sustainable agriculture such as new theory and organic agriculture, which will be a positive factor for the Company's products.

In 2022, the Company expects the organic fertilizer market to continue to expand as the market becomes more interested in safer food consumption and government agency promotion of agricultural products to create value added for farmers by driving organic agriculture, which will be a positive force for the Company's products.

The average collection period are 120 days for general customers and customers have to provide collateral.

2.3 Probiotic Products for Livestock/Fishery



As for the market for livestock/fishery products, it can be clearly seen that there is still a problem of epidemic diseases in the livestock and fishery business, particularly in the use of antibiotic treatments, which have affected the drug-resistant diseases occurring among consumers. Thus, consumers have started to realize the hazards of antibiotic usage in livestock. Demand consumption for organic consumer products used in household families has expanded consistently, thereby leading to higher demand consumption for hygienic products, which has consequently driven demand for organic products to grow consistently.

In 2022, demand consumption for bio-supplements for livestock and fisheries will grow continuously as all sectors, private and governmental sectors have focused on the dangers of antibiotic use and have a

policy to encourage the use of bio-supplements in animal farming instead. The government also began to encourage the use of local goods as a substitute for imports, which will have a positive impact on the Company's business.

The average collection period are 120 days for general customers and customers have to provide collateral.

2.4 TPIPL Drinking Water Business

TPIPL has operated a drinking water business under the brand name "TPIPL" since 2011. It has good quality products and it is safe for consumers as it uses high quality reverse osmosis technology filtration systems (RO). This process requires that high pressure be exerted on the high concentration side of the membrane and by applying ultra violet treatment to eliminate biological contamination and the ozone treatment process in the water-bottling stage of the production of drinking water. These major benefits have made TPIPL drinking water possess quality characteristics of water; thus, we obtained a certificate approved from the Food and Drug Administration (FDA) in compliance with the standards from natural resources. TPIPL drinking water is consumed at the plants and head office and is also distributed to consumers. The drinking water production process is certified ISO9001:2015 GMP and HACCP.



The average collection period are 30 days for general customers and customers have to provide collateral.

3. Sourcing of products or services

As for the organic fertilizer product, the Company has a process of fermenting vegetables and fruits from the community using a modern, safe sorting process, obtaining organic matter that can be used as raw material for the production of organic fertilizers.

In addition, the Company has invested in other businesses through its subsidiaries, associated companies, covering the entire life insurance business, real estate development, retail products of the group, and manufacturing and selling of bags.

4. Assets used in business operations include:

4.1 Fixed assets of the Company and its subsidiaries

Total assets as shown in the consolidated financial statements are proprietary assets owned by the Company and its subsidiaries, which can be classified by group of business as follows:

	31 December 2021 (Million Baht)	31 December 2020 (Million Baht)
1. Construction Materials	76,935.28	73,126.20
2. Petrochemical & Chemicals	15,297.13	10,015.70
3. Energy & Utilities	43,031.70	40,299.39
4. Agriculture	2,117.25	2,161.42
5. Others	584.71	580.99
Total	137,966.05	126,183.69
Unallocated assets	9,059.37	6,182.25
Total	147,025.42	132,365.94
Elimination of inter-company assets	(11,311.82)	(8,457.04)
Total assets	135,713.60	123,908.90

Fixed assets of the Company and its subsidiaries can be summarized as follows:-

(Unit: Million Baht)

Asset category/characteristics	Proprietary Characteristics	Net Asset Value		Encumbrance value* 2021
		2021	2020	
1. Land and land improvement	Ownership	14,635	13,203	0.89
2. Buildings and components	Ownership	10,900	11,072	1,294.05
3. Machinery and equipment in production process	Ownership	58,447	54,758	4,261.60
4. Tools, appliances and factory equipment, furnishings and office equipment	Ownership	3,295	3,450	-
5. Vehicles and key spareparts	Ownership	791	1,009	-
6. Assets under construction	Ownership	8,298	9,432	-
Total (net)		96,366	92,925	5,556.54

Remark : * The Company's land and buildings, including cement machinery production line 3, were pledged financial institutions to finance revolving loans for business operations.

4.2 Intangible assets of the Company and its subsidiaries

(Unit: Million Baht)

Intangible assets	2021	2020
1. Raw material sourcing cost and concessions cost	331	357
2. Intellectual property (software)	9	10
3. Assets development cost	61	6
4. Others	260	128
Total	660	502

4.3 Investment promotional privilege from the Office of the Board of Investment for the following business:

1. Construction Business

The Company receives the Board of Investment privilege from the Office of the Board of Investment (BOI) with tax rights and benefits such as exemption of import duties for half of machinery imported from abroad and exemption of corporate income tax for net profit for 3 years, representing 100% of the investment value, excluding land and working capital from the commercial operation date, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of concrete roof tiles and components	30 Jan. 2013	already expired
Manufacturing of Fiber cement (ceramic tiles) and components	9 Oct 2013	already expired

In case of exemption of import duties for machinery and equipment imported from abroad and juristic person income tax exemption for net profit for 8 years, 100% of the investment is excluded from the start of income, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Transportation railway business	12 March 2014	1 March 2024

2. Petrochemical and Chemical Industry

The Company receives an investment promotional privilege from the Office of the Board of Investment (BOI) with tax rights and benefits such as exemption of import duties for machinery and equipment imported from abroad and the exemption of corporate income tax for net profit for 8 years, representing 100% of the investment value, excluding land and working capital, from commercial operation date. After that, the corporate income tax deduction will be deducted at 50% for another 5 years, with the following details:-

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of petrochemical products (EVA plastic resin)	18 Nov 2008	31 Dec 2022
Manufacturing of petrochemical products (EVA Liquid and EVA resin)	26 Oct 2009	2 Jul 2030
Manufacturing of plastic products or plastic coating (Blow Film)	6 Feb 2008	30 Jun 2023
Manufacturing of plastic products or coated with master batch, compound plastic and compound rubber products.	25 Jan 2012	25 Jan 2026

In case of exemption of import duties for half machinery imported from abroad and exemption of corporate income tax for net profit for 3 years, 100% of the investment, excluding land and working capital from commercial operation date, with the following details:-

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of Solar Photovoltaic Encapsulant	30 Sep 2009	already expired
Manufacturing of Plastic Film for Solar Cells with a production capacity of about 3,100 tons per year.	15 Feb 2012	already expired
Manufacturing of Plastic Film for Solar Cells with a production capacity of about 13,470 tons per year.	6 Aug 2014	already expired
Manufacturing of Plastic Film with a production capacity of about 1,030 tons per year.	6 Nov 2014	already expired

In the case of exemption of import duties for half machinery imported from abroad and exemption of corporate income tax for net profit for 8 years, representing 100% of the investment, excluding land and working capital from commercial operation date, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of Ethylene Vinyl Acetate Emulsion and Ethylene Vinyl Acetate Powder	3 June 2016	Not yet exercise corporate income tax exemption

In the case of exemption of import duties for half machinery imported from abroad and exemption of corporate income tax for net profit for 6 years, representing 100% of the investment, excluding land and working capital from commercial operation date, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of High Performance Ethylene Vinyl Acetate Copolymer (High Performance EVA)	12 Feb 2019	Not yet exercise corporate income tax exemption

3. Energy & Utilities Industry

The Company receives an investment promotional privilege from the Office of the Board of Investment (BOI) with tax rights and benefits such as exemption of import duties for machinery and equipment imported from abroad and the exemption of corporate income tax for net profit for 8 years, representing 100% of the investment value, excluding land and working capital, from commercial operation date, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Power generation capacity of 60 MW	18 Jul 2007	Already expired
Waste-to-energy power plant operations with capacity of 30 MW	16 Jul 2013	30 Jan 2024
Waste-based fired power generation capacity of 70 MW	3 Mar 2015	4 Apr 2026
A coal-fired power plant with an installed power generation capacity of 150 MW	21 Dec 2016	Not yet exercise corporate income tax exemption

In the case of exemption of import duties for half machinery imported from abroad and exemption of corporate income tax for net profit for 8 years, representing 100% of the investment, excluding land and working capital from commercial operation date. After that, the corporate income tax deduction will be deducted at 50% for another 5 years, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Waste- based fired power generation	13 Sep 2010	30 Jun 2024
Waste-to-energy power plant operations with capacity of 60 MW	14 Jun 2013	13 Sep 2023

In the case of exemption of import duties for half machinery imported from abroad and exemption of corporate income tax for net profit for 8 years from commercial operation date. After that, the corporate income tax deduction will be deducted at 50% for another 5 years, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of pyrolysis oil	2 Mar 2010	2 Jan 2027
Operate petro gas stations for vehicles	4 Sep 2009	22 Jul 2022

4. Agriculture Business

The Company receives an investment promotional privilege from the Office of the Board of Investment (BOI) with tax rights and benefits, such as exemption of import duties for machinery and equipment imported from abroad and the exemption of corporate income tax for net profit for 8 years, representing 100% of the investment value, excluding land and working capital, from commercial operation date. After that, the corporate income tax deduction will be deducted at 50% for another 5 years, with the following details:

Project	the date on which the BOI privilege was received	Expiry date of income tax benefits
Manufacturing of organic fertilizers or soil enhancer	12 Apr 2011	30 Jun 2024

4.4. Investment policy in subsidiaries and associated companies

The Company has an investment policy in subsidiaries and/or associated companies to be in line with the Group's vision and growth plan, which will enable the Group to increase its performance or profitability to support the Company's core business operations, to create practicality, mobility, and efficiency in business operations and increased competitiveness based on factors such as legal regulation, financial structure, taxation and risk management.

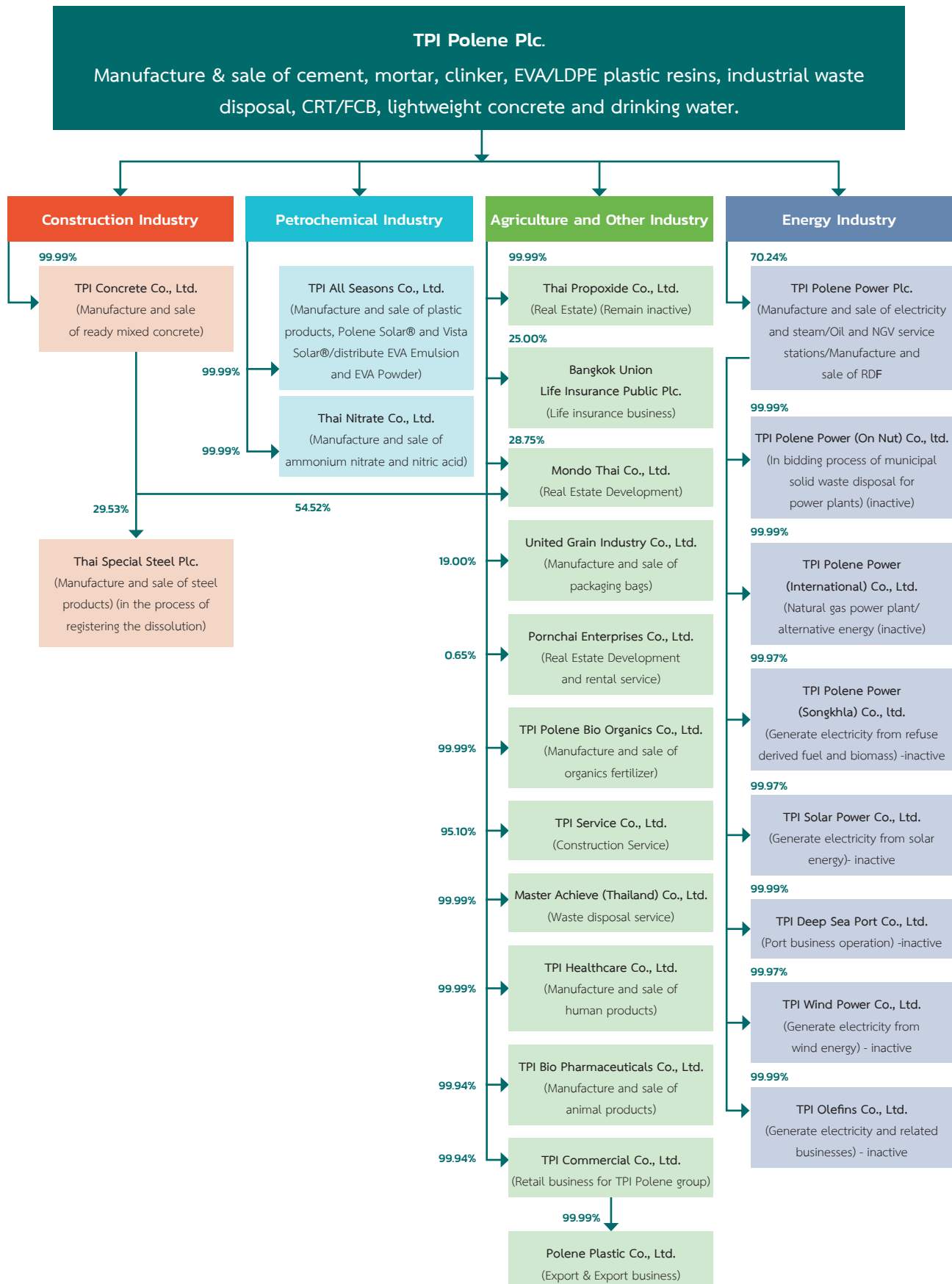
However, the Company has a policy of managing TPI Polene Group by requiring the subsidiary to conduct its business in accordance with the Company's core policy in order to have systematic management and supervision in the same direction. As for management of associated companies and other subsidiaries, the Company has assigned the representatives to join the Executive Committee to make decisions about policies and operational plans based on good corporate governance principles and ethical business operations to ensure efficient, transparent, fair operation and achieve the goals set forth.

5. Work-in-Process

- None -

1.3 Business Structure

1.3.1 Structure of the Group. As of 31 December 2021



ข้อมูลบริษัทย่อยและในเครือ ณ วันที่ 31 ธันวาคม 2564

Company's name	Head Office Address	Business	Registered Capital (Baht)	Paid- up Capital (Baht)	Shareholding (%)
Subsidiaries					
1. TPI Concrete Co., Ltd.	26/56, 5th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5350-74 Fax: (02) 678-5375-6	Manufacture and sale of ready-mixed concrete	2,000,000,000	2,000,000,000	99.99
2. TPI Polene Power Plc.	26/56, 8th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Manufacture and sale of electricity and stream, RDF, exploration and manufacture petroleum, including oil and NGV service stations	8,400,000,000	8,400,000,000	70.24
3. Thai Nitrate Co., Ltd.	26/56, 21st Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5450-2 Fax: (02) 678-5484	Manufacture and sale of ammonium nitrate and nitric acid	468,750,000	468,750,000	99.99
4. TPI All Seasons Co., Ltd.	26/56, 8th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Manufacture and sale of plastic product, Polene Solar®, Vista Solar®/distribute EVA Emulsion and EVA Powder	450,000,000	450,000,000	99.99
5. Thai Propoxide Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5000, 678-5050 Fax: (02) 678-5001-5	Real Estate (Remain inactive)	1,000,000	250,000	99.99
6. Mondo Thai Co., Ltd.	26/56, 19th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5470 Fax: (02) 678-6511	Property Developing	36,000,000	36,000,000	83.27*
7. TPI Commercial Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5470 Fax: (02) 678-6511	Retailing business for TPI Polene Group	1,000,000	100,000	99.94

Company's name	Head Office Address	Business	Registered Capital (Baht)	Paid- up Capital (Baht)	Shareholding (%)
8. Polene Plastic Co., Ltd	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Exporting and Importing business	10,000,000	10,000,000	99.93**
9. TPI Polene Bio Organics Co., Ltd.	26/56, G Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Manufacture and sale of organic fertilizer	3,300,000,000	3,300,000,000	99.99
10. TPI Service Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Construction service	10,000,000	4,600,000	95.10
11. TPI Healthcare Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Manufacture and sale of human products	10,000,000	5,050,000	99.99

Remarks: *Held by TPI Polene Plc. and TPI Concrete Co., Ltd., which accounted for 28.75% and 54.52% respectively, totaling 83.27% .

** Held by TPI Commercial Co., Ltd. 99.99%.

12. TPI Bio Pharmaceuticals Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Manufacture and sale of animal products	10,000,000	5,500,000	99.99
13. Master Achieve (Thailand) Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Waste disposal service	100,000,000	100,000,000	99.99
14. TPI Polene Power (On Nut) Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	In bidding process of municipal solid waste disposal for power plants (inactive)	750,000,000	187,500,000	70.23**
15. TPI Polene Power (International) Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Natural gas power plant/ alternative energy (inactive)	100,000,000	100,000,000	70.23**

Company's name	Head Office Address	Business	Registered Capital (Baht)	Paid- up Capital (Baht)	Shareholding (%)
16. TPI Deep Sea Port Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Port business operation (inactive)	100,000,000	25,000,000	70.23**
17. TPI Polene Power (Songkhla) Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Generate electricity from refuse derived fuel and biomass (inactive)	1,000,000	1,000,000	70.22*
18. TPI Solar Power Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Generate electricity from solar energy (inactive)	1,000,000	1,000,000	70.22*
19. TPI Service Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Generate electricity from wind energy Port business operation (inactive)	1,000,000	1,000,000	70.22*
20. TPI Olefins Co., Ltd.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 285-5090-9 Fax: (02) 213-1035	Generate electricity and related businesses (inactive)	1,000,000	1,000,000	70.23**

Remarks: *, **, *** Held by TPI Polene Power Plc., which accounted for 99.97% , 99.99% and 100% respectively

Associated Companie					
1. Thai Special Steel Industry Plc.	26/56, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5350-74 Fax: (02) 678-5375-6	Manufacture and sale of Steel (in the process of registering the dissolution)	11,200,000,000	4,220,000,000	29.53
2. Bangkok Union Life Insurance Plc.	175-177, 8th Floor, Bangkok Insurance Tower, Surawongse, Bangrak, Bangkok 10500 Tel: (02) 634-7323-30 Fax: (02) 634-7331	Life Insurance	500,000,000	500,000,000	25.00
3. United Grain Industry Co., Ltd.	26/56, 27th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-6988-97 Fax: (02) 678-6988-99	Manufacture and sale of Packaging bags	550,000,000	550,000,000	19.00

Company's name	Head Office Address	Business	Registered Capital (Baht)	Paid- up Capital (Baht)	Shareholding (%)
Other					
1. Pornchai Enterprise Co., Ltd.	26/56, 22th Floor, TPI Tower, Chan Tat Mai Rd., Thungmahamek, Sathorn, Bangkok 10120 Tel: (02) 678-5490-3 Fax: (02) 678-5494	Real estate business and rental service	4,599,919,600	4,599,919,600	0.65

1.3.2 Persons who may have conflicts of interest

- None-

1.3.3 Shareholders

Top 10 major shareholders as at 30 December 2021 (latest closing date):

Shareholders	Number of Shares	Shareholding (%)
1. Leophairatana Enterprises Co., Ltd. ^{1/}	4,794,734,490	25.069
2. Thai Petrochemical Industry Co., Ltd. ^{1/}	4,779,396,070	24.988
3. Mr. Nares Ngamapichon	864,000,000	4.517
4. Mrs. Orapin Leophairatana	615,646,240	3.219
5. Mr. Prayad Liewphaitana	603,122,740	3.153
6. Mr. Pakorn Leopairut	596,651,800	3.120
7. Mr. Pramuan Leophairatana	544,900,000	2.849
8. Bangkok Bank Public Company Limited	420,455,140	2.198
9. Mr. Prateep Tangmatitham	367,168,900	1.920
10. Miss Pattrapan Leophairut	362,488,220	1.895

Remarks : 1/Majority shares held by the Leophairatana family

Major shareholders of TPI Polene Public Company Limited are Leophairatana Enterprise Co., Ltd. and Thai Petrochemical Industry Co., Ltd.

As of December 30, 2021, a group of major shareholders who, by circumstance, materially influenced the determination of the Company's management or operational policies are Leophairatana Enterprise Co., Ltd. and Thai Petrochemical Industry Co., Ltd. holding 25.069% and 24.988% shares in the Company respectively.

1.4 The registered capital and paid-up capital

1.4.1 Ordinary Share

As of 31 December 2021, the registered capital of the Company is Baht 23,751,500,000 million consisting of 23,751,000,000 ordinary shares, at the par value of Baht 1 each. Paid-up capital is Baht 19,126,500,000 consisting of 19,126,500,000 ordinary shares, at the par value of Baht 1 each.

1.4.2 Other types of shares with different rights or conditions differ from ordinary shares

- None-

1.4.3 Shares or convertible securities of the Company to underlying securities in issuing investment units Thai Trust Fund.

- None-

1.5 Issuance of other Securities

1.5.1 Convertible Securities

- None-

1.5.2 Debt Securities

(A) Debentures

As of 31 December 2021, the Company issued unsubordinated/unsecured onshore debentures, in registered form with debenture holders' representatives. Details of debentures are summarized as follows:

Debenture Series	Amount (Baht)	Interest Rate (p.a.)	Term	Credit Rating	Outlook
TPIPL224A	1,197,000,000	4.60 %	6 Years due A.D.2022	BBB+	Positive
TPIPL228A	3,743,000,000	5.20 %	7 Years due A.D.2022	BBB+	Positive
TPIPL234A	2,640,500,000	4.80 %	7 Years due A.D.2023	BBB+	Positive
TPIPL231A	2,820,000,000	3.90 %	3 Years 6 Months due A.D.2023	BBB+	Positive
TPIPL251A	2,888,000,000	4.90 %	5 Years 6 Months due A.D.2025	BBB+	Positive
TPIPL231B	4,382,700,000	3.50 %	3 Years due A.D.2023	BBB+	Positive
TPIPL244A	4,127,000,000	4.25 %	3 Years 9 Months due A.D.2024	BBB+	Positive
TPIPL24NA	3,515,300,000	4.25 %	4 Years due A.D.2024	BBB+	Positive
TPIPL25NA	3,410,700,000	4.50 %	5 Years due A.D.2025	BBB+	Positive
TPIPL241A	4,000,000,000	3.50 %	2 Years 9 Months A.D.2024	BBB+	Positive
TPIPL256A	4,000,000,000	4.15 %	4 Years 3 Months due A.D.2024	BBB+	Positive
TPIPL264A	3,581,200,000	3.55 %	4 Years 6 Months A.D.2026	BBB+	Positive
TPIPL269A	4,000,000,000	3.70 %	4 Years 11 Months A.D.2026	BBB+	Positive
Total	44,305,400,000				
TPIPP22NA	4,000,000,000	3.50%	3 Years 3 Months A.D.2022	BBB+	Positive
TPIPP247A	3,789,600,000	3.90%	3 Years 11 Months A.D.2024	BBB+	Positive
TPIPP23DA	3,000,000,000	3.00%	2 Years 6 Months A.D.2023	BBB+	Positive
TPIPP262A	4,523,600,000	3.55%	4 Years 3 Months A.D.2026	BBB+	Positive
Total	15,313,200,000				
Grand Total	59,618,600,000				

Debenture Registrar and debenture holders' representatives to be issued and offered

Debenture Series	Debenture Registrar	Debenture Holders' Representatives
TPIPL228A, TPIPL224A, TPIPL234A	CIMB Thai Public Company Limited 44 Langsuan Road, Lumpini, Pathumwan, Bangkok 10330 Phone +66 (0) 2626-7507-8, +66 (0) 2626-7591 Fax +66 (0) 2657-3390	CIMB Thai Public Company Limited 44 Langsuan Road, Lumpini, Pathumwan, Bangkok 10330 Phone +66 (0) 2626-7507-8, +66 (0) 2626-7591 Fax +66 (0) 2657-3390
TPIPP23DA, TPIPL256A, TPIPL241A, TPIPL264A, TPIPL269A, TPIPP262A	Bank of Ayudhya Public Company Limited 1222 Rama 3 Road, Bangpongpan, Yannawa, Bangkok 10120 Phone +66 (0) 2296-2000, +66 (0) 2296-5696 Fax +66 (0) 2683-1302	Bank of Ayudhya Public Company Limited 1222 Rama 3 Road, Bangpongpan, Yannawa, Bangkok 10120 Phone +66 (0) 2296-2000, +66 (0) 2296-5696 Fax +66 (0) 2683-1302
TPIPL231A, TPIPL251A, TPIPL231B, TPIPL244A, TPIPP22NA, TPIPP247A	CIMB Thai Public Company Limited 44 Langsuan Road, Lumpini, Pathumwan, Bangkok 10330 Phone +66 (0) 2626-7507-8, +66 (0) 2626-7591 Fax +66 (0) 2657-3390	Bank of Ayudhya Public Company Limited 1222 Rama 3 Road, Bangpongpan, Yannawa, Bangkok 10120 Phone +66 (0) 2296-2000, +66 (0) 2296-5696 Fax +66 (0) 2683-1302
TPIPL24NA, TPIPL25NA	CIMB Thai Public Company Limited 44 Langsuan Road, Lumpini, Pathumwan, Bangkok 10330 Phone +66 (0) 2626-7507-8, +66 (0) 2626-7591 Fax +66 (0) 2657-3390	Asia Plus Securities Co., Ltd. 175, 11th Floor, Sathorn City Tower, South Sathorn Road, Tungmahamek, Sathorn, Bangkok 10120 Phone +66 (0) 2680-1362 Fax +66 (0) 2285-1900-1

Legal Advisor for Issuing and Offering for sale of debentures

Baker & Mackenzie Co., Ltd.

990 Abdulrahim Place Building, 25th Floor, Rama IV Road, Silom, Bangrak, Bangkok 10500

Weerawong, Shinnawat and Partners Co., Ltd.

22nd Floor, Mercury Tower, 540 Ploenchit Road, Lumpini, Pathumwan, Bangkok 10330

(B) Short term loans in form of Bill of Exchange

As 31 December 2021, the Company's outstanding debt in the form of bill of exchange was Baht 3,400 million.

1.6 Dividend Payment Policy

1.6.1 Dividend Payment Policy of the Company

The Company's dividend payment policy will be considered from the operational results of single financial statements of the Company. Dividend payments will be paid to shareholders by also taking into consideration other factors such as liquidity, cash flow, and the financial status of the Company. The annual dividend payments shall be subject to the annual shareholders meeting's approval.

In addition, the Board of Directors of the Company may from time to time approve the payment of interim dividends to shareholders, where it is justified by the profits of the Company. After the payment of such interim dividends, the transaction shall be reported to shareholders at the next meeting.

Separate Financial Statement	2021	2020	2019
Net Profit per share (Baht)	0.297	0.079	0.073
Dividend per share (Baht)	0.09*	0.06	0.06
Par Value per Share (Baht)	1.00	1.00	1.00
Dividend Payout Ratio (%)	30.30	75.95	82.19

Remarks:*

The dividend payment for the Company's 2021 operating results was divided into an interim dividend payment for the first half of 2021 at the rate of Baht 0.03 per share, which was already paid to shareholders, and the payment for the second half of 2021 at Baht 0.06 per share, which has been approved by the Board of Directors in the Company's Board of Directors' meeting no.2/2565 and is required to be approved in the 2022 Annual General Shareholder's Meeting.

1.6.2 Dividend Policy of the subsidiary companies

The Board of Directors of the subsidiary companies shall consider and propose to the shareholders' meeting of the Company for approval each year, considering the dividend payment from the investment plan as necessary and appropriate by considering the net cash flow of subsidiaries.



2. Risk Management

2.1 Risk Management Policies and Plans

The Board of Directors and senior executives of TPI Polene Group have a policy that focuses on risk management to a continuously managed level. In the past, the information system (MIS), which covers all aspects, has been used as an indication of risks in various areas of operational management so that it can control the operations of each department in accordance with the targets set out. In addition, the Company has strategic risk management, investment decisions to ensure worthwhile for investment and create value added to the organization, shareholders and stakeholders and the business is supervised to ensure the continuity by ensuring business continuity and ready to deal with any crisis properly.

Board of Directors and Audit Committee

The Board of Directors is responsible for the supervision of risk management by assigning the Audit Committee to represent policy issuing and supervising risk management of the business, control internal operations to ensure efficient and efficient business operation under an adequate and proper internal control system with operational documentation and a systematic management of critical risks. This results in the prevention of possible damage within a reasonable period of time and reduces business risk, helps keep the Company's financial statements and reports reliable, and protects the assets of TPI Polene as well as shareholders' investments. In addition, TPI Polene Group operates the business based on good corporate governance with adherence to the Code of Conduct in order for employees to comply with the Company's policies, taking into account the benefits and fairness of all relevant stakeholders, from shareholders, partners, contractors, clients, employees, related regulatory authorities, creditors, as well as placing an emphasis on helping society, and taking care of the environment. As for the employees, they have been developed to promote learning in an organizational manner of learning that will result in sustainable development of the Company in the long term.

Audit Office

The Company has an internal audit department so that risks associated with internal processes can be managed, and have appropriate internal controls to be in compliance with regulations to achieve the organization's operational objectives. The Internal Audit Department has an annual internal audit plan and a long-term audit plan by establishing an audit plan in accordance with the direction of the business strategy and the significant risks affecting the operation. The audit results are reported to management and the Audit Committee for consideration, with regular follow-ups to the recommendations found in the audit process. In the performance of the internal audit department, there are no restrictions on commentary.

Corporate Culture in Risk Management

TPI Polene Group focuses on promoting a risk management culture throughout the organization, aiming to establish the foundation for short-term and long-term systematic risk management, cultivate awareness of risk management for all employees, as well as create an atmosphere and culture in risk management, assuming risk management as an important component of every business process and having to be connected at all levels. This is done by integrating into key work processes to promote effective risk management.

2.2 Risk factors for the Company's business operations

Overview of the key risk factors affecting the operation of TPI Polene Group can be summarized as follows:

2.2.1 Risk associated with the Group's business operations

Strategic risks associated with business operation

(1) Risk associated with investment and business expansion

TPI Polene Group aims to expand its business growth in waste energy and alternative fuel, as well as to bring technology and innovation to drive the current business to sustainable growth. For example, the Company has replaced coal in the cement production process to reduce production costs, and create business growth potential in parallel with reducing greenhouse gas emissions that cause global warming. As part of the new business expansion, TPI Polene Group will consider joint ventures with partners who specialize in targeted businesses, the expansion of which might confront with the risk that the return on investment may not achieve the target as well as project implementation is delayed and investments are higher than the budget.

Executive committees and senior executives of TPI Polene Group have responsibilities to scrutinize investment decisions before presenting to the Board of Directors for opinions on investment decisions. The results of the project will be followed up to ensure the most effective investments and report to the Board of Directors and senior management to ensure that investments are in the best interests of the Company. Investment projects are regularly monitored and analyzed to improve performance and review investment plans to reduce the risk level of the project to a manageable level by completing the project under the budget and in accordance with applicable laws and regulations.

(2) Risks associated with changes of rules and legal regulations.

The provisions of the government's rules, legal regulations and policies are an important factor in the strategy of business operations and the expenses of TPI Polene Group and TPI Polene Group has functioned as follows:

- A working team to monitor and report changes in government policies, rules and legal regulations for TPI Polene group's business operation to ensure compliance with the rules and legal regulations.
- A team of legal advisors and tax advisors to give advice to TPI Polene Group to comply with relevant regulations.
- A procedure to support legal risks in advance by monitoring new legal issues and new regulations, to analyze the issue and problems, and prepare discussions on the clarity of the guidelines in order for the ongoing business operation of TPI Polene Group to comply with legal regulations and new rules that will be enforced in the future, as well as to be factored in the consideration of investment in projects.
- A regulatory process to comply with rules and legal regulations to comply with good corporate governance guidelines, in accordance with good governance principles and adequate internal affairs control and all-round risk considerations to reduce the risk of operations that do not comply with applicable rules and legal regulations.
- Embed values for employees to comply with the Group's business ethics and Employee Manual in accordance with TPI Polene Group's commitment to be a responsible manufacturer for the community, societies and environmental surroundings, as well as stakeholders in all sectors.

(3) Risks associated with personnel development to support business growth

According to TPI Polene Group's business growth plan, the personnel and organizational structure must be organized. TPI Polene Group attaches importance to the development of personnel at all levels to support business growth with coordination with relevant educational institutions to support the growth of TPI Polene Group's business under proper management. TPI Polene Group provides personnel to meet the needs of business units appropriately. Manpower plan is defined and has been set out to ensure that TPI Polene Group has qualified executives and employees and enough to effectively support business growth in the future.

In addition, the impact of the digital disruption, where there is acceleration of changing behaviors of manufacturers and consumers in the future, especially the effects on business models and distribution channels. TPI Polene Group must prepare for the development of employees to have the necessary knowledge and skills in depth along with the internship, further top up the concept to be applied in accordance with strategies, organizational direction and external factor risks. TPI Polene Group has a policy to develop the potential of employees to have knowledge and understanding of digital trend technology, innovative development to ensure that employees are ready to respond and move towards to the leaders in changing circumstance.

(4) The risk associated with climate change

From the globally focused climate change issue, it has led to the goal of reducing greenhouse gas emissions, which may direct future greenhouse gas emissions guidelines, which are the risk of catastrophic climate change and severe natural disasters caused by greenhouse gas emissions.

TPI Polene Group, a major cement manufacturer in Thailand, is committed the policies and visions to become an environmentally friendly cement producer, using Net Zero GHG Emission policy and find ways to reduce greenhouse gases that cause global warming to be in line with other public and private sectors that are aware of the problem. Thailand is clearly one of the countries affected by climate change. It is important that all sectors work together to set up preventive and remediate solutions to reduce greenhouse gas emissions that are the leading cause of the problem to be in line with government policies that have pledged internationally that Thailand will fully enhance its climate solutions so that Thailand can meet its net zero emissions target by 2050.

TPI Polene Group is well aware of the risks of such changes by taking support in a seriously pragmatic business model. The waste is used as a renewable fuel for coal in cement and mortar plants. It is expected that in 2024, TPI Polene Group will have zero net greenhouse gas emissions.

(5) Risks associated with the drought situation

As a result of sudden climate change, the rain does not fall seasonally while there is an increase in demand for water. The Group has a water management policy to reduce water use by undertaking the following relevant actions:

1. Construction of rainwater ponds to replace the use of water from natural sources
2. Recycle the waste water from the cooling tower to improve the quality for recycled water instead of drainage.
3. Conduct social and environmental activities to restore related areas.

Operational Risks

(6) Risk associated with potential coal price fluctuations

Coal is a principle source of fuel in the manufacture of cement. Coal price fluctuation depends on a supply from major exporters in Australia and Indonesia. In case demand for coal from major importers of coal in China increases, coal prices will be adjusted upward. Therefore, the Company's fundamental approach to managing coal price fluctuation risk is to identify extensive supply sources for coal, and establish import sales contracts throughout the entire year, with an appropriate allocation of short-term and long-term contracts, in order to efficiently manage cement production costs.

Coal price (including shipping cost to the plant) in the last 3 years:

	Unit	2021	2020	2019
Coal price	Baht/ton	1,952	1,710	1,913

In addition, the Group has a policy of using renewable waste to replace coal fuels in both cement plants and coal-fired power plants, which can mitigate risks associated with fluctuations in coal prices. In particular, production costs will be reduced while also decreasing carbon dioxide emissions which cause global warming, which is considered a sustainable integrated solution.

(7) Risk associated with Product Price fluctuation

The Company's plastic resin price fluctuation has a direct impact on the business profitability of the Group. However, fluctuation depends on the sale price of products on the market. Production cost of plastic resin, which are ethylene price is based on the sale price as well. The Company has a policy to maintain the difference in sales price and production costs (spread) to a satisfactory level. With a wide range of business operations of the Group, revenue from the cement business, classified as a typically fundamental consumer item in that its price fluctuation depends on the health of the nation's economy. Revenue receipts from cement sales balances with the revenues from export sales of plastic resins while commodity's global price rise will drive coal prices to increase accordingly. All in all, cement production costs will be higher. Nonetheless, all these factors will also impact a plastic resin price hike, leading to an increase in plastic resins price and its higher revenues. These measures will partly protect the company against price fluctuations, by balancing revenue structure and net revenue earned by TPIPL Group.

Products	Unit	2021	2020	2019
Cement	Baht/ton	1,072-1,474	1,011-1,553	1,170-1,701
LDPE /EVA Plastic resins	Baht/ton	44,158-110,793	29,988-62,613	41,389-52,442
Ready-mixed concrete	Baht/cubic meter	1,333-1,398	1,407-1,470	1,481-1,524

Besides, the Group of company has also focused on developing value-added products. Some products are launched and penetrated on niche markets to increase sales volume and profitability, such as EVA emulsion and EVA powder, as well as expand into the "new normal" market, focusing on producing products for new lifestyles that differ from the past, such as Bio Knox, Microme Knox and other healthcare products.

(8) Risk associated with safety, occupational health and environment

The Company tries to control safety, and occupational health and environmental risks that may lead to loss of life, and illness due to the work of employees and contractors. This affects continuity of business operations and can affect communities, society, and the environment.

Therefore, TPI Polene group has a policy of guidelines for compliance with quality policy frameworks, quality, security, safety, and health and environmental policy to create safe attitudes for all parties involved. Each plant has appointed an Occupational Safety and Health and Working Environment Committee to drive safety and environmental work in accordance with occupational health policy as well as developing, improving and promoting occupational health and safety work for employees, contractors and stakeholders entering the factory area to work safely. The Company has guidelines for promoting the operational safety of employees and contractors as follows:

- Establish occupational health, safety and environmental policies by operating in accordance with the Occupational Health and Safety Management System (ISO45001:2018) standard.
- Risk assessment and guidelines for occupational health and safety risk management work environment, including risk assessment and risk management guidelines that may affect surrounding communities and environment.
- Establish operational safety manuals and supervising operations in accordance with safety manuals and procedures
- Accident and incident reporting and investigation, including setting solutions and precautions to prevent repetition of accidents
- Supervision of performance under safety laws, and occupational health and work environment and other related regulations
- Supervision of workers, third parties, and stakeholders in the workplace to strictly comply with safety regulations and regulations.
- Supervision of the working environment and providing personal safety protective equipment for employees to use in operations and providing other safety protective equipment in accordance with the required legal regulations to prevent injuries and accidents from work.
- Prepare for work response by providing personal safety protective equipment for employees to use in operations and providing other safety protective equipment in accordance with the required laws to prevent injuries and accidents from work.
- Prepare for emergency responses, including business continuity management
- Communication of safety, occupational health and work environment policies, cultivating consciousness and creating a safe work culture, developing knowledge skills and continuously organizing activities in the areas of promoting health, safety, occupational health and the work environment.
- Annual health check-up of employees to assess and monitor the impact of operations
- Regular discussion meetings to monitor security operations, occupational health, and working environments.

(9) ความเสี่ยงเนื่องจากผลกระทบของโรคโควิด-19 (COVID-19)

Throughout the COVID-19 pandemic, the Company has taken measures to prevent potential risks, focusing on the safety of its employees. TPI Polene Group provides RT-PCR Swab tests and COVID-19 testing kits to give all employees chances to get COVID-19 testing. The Company also provided vaccines to all

employees, and provided TPI Polene healthcare products to both employees and their families to keep employees and families healthy and immune to COVID-19. In addition, all employees are required to pass temperature measurements and spray alcohol gel at the exits and entrances, wearing masks at all times, and use online contacts instead in the workplace.

(10) The risk associated with digital technological advancement

The rapid change in digital technology has been abrupt and has an impact on the formulation of business operations, consumer behavior, market conditions, and higher competition. TPI Polene Group has prepared to develop the organization so as not to lose competitiveness by adjusting its business strategy, developing online and offline sales channels so that customers can access various channels of goods and services in order to meet the lives of the next generation and prepare employees to meet the changing demand of their customers.

In addition, the product line has been improved in accordance with the changing lifestyle of living with bio-hygiene, energy-efficient, versatile and environmentally friendly, applying technology and innovation to develop products to be efficient and meet customer needs, such as fiber cement and morta products, which are available in a wide range of 43 products for their intended purpose, including health products, such as Bio Knox, Microme Knox Solution and mouthwash.

(11) Risk associated with threat to cybersecurity

Amidst today's high competition, TPI Polene increase production efficiency by relying more on the use of digital technology in both production systems and support lines, where connecting to the internet, which could lead to the TPI Polene Group facing potential cybersecurity threats.

In order to prepare the Group for the cybersecurity of the computer systems used in business operations (Information Technology) and in operation technology, the Group has implemented as follows:

- The task force is responsible for overseeing and developing such matters in the short and long term.
- Conduct system tests and practice plans to prevent potential cybersecurity threats.
- Educate employees about potential threat patterns to prevent and deal with information technology threats.

Financial Risks

(12) Risk associated with funding and interest rates

TPI Polene Group needed funds to improve productivity and working capital for business operations. Therefore, sources of financial support that are difficult to obtain can cause problems for investment projects. The Company has resolved the issue by obtaining approval of long-term credit lines from commercial banks and financial institutions to support the expansion of investments in projects of the Group. In addition, TPI Polene Group has sufficient revolving credit limits from financial institutions to serve as working capital in business operations.

In addition, the Company has offered for sale of unsecured-subordinated fixed-rate debentures and bills of exchange offered, which were well received by the investors in the market. As a result, TPI Polene Group has the right funding options with lower financial costs to expand its investment in its core business and utilize the proceeds to pay off debts that have higher exchange rate risks and/or higher financial costs, as well as using it as working capital to operate the business.

As the debt is mostly in form of fixed-rate debentures, the Company is less exposed to interest rates that may fluctuate in the future. Currently, the Company does not use financial derivatives to hedge such risks because the current policies to mitigate such risk are considered appropriate.

However, TPI Polene Group attaches importance to monetary policy by maintaining a level of capital structure comparable to leading companies in the same business by maintaining liquidity in accordance with business operations appropriately.

(13) Risks associated with potential foreign currency exchange rate fluctuations

As at 31 December 2021, the Company's major long-term loans are mainly denominated in Baht currencies, representing 100%. Therefore, the Company has impact from risks associated with the exchange rate fluctuation to some extent.

TPIPL Group also has debt liability in the form of working capital, a significant amount of which is denominated in USD currency while part of it is denominated in Euro currency. However, most of the Company's income is generated in US dollars, which is higher than the payment of expenses in foreign currencies (in both US dollars and Euro based). The Company has a policy to mitigate foreign exchange risk through natural hedging by balancing its foreign currency revenues and expenses. These measures will partly protect the Company against currency fluctuations, by balancing its cash flow in foreign currencies, revenue and expenses structure. The Company can use a number of financial mechanisms against risk caused by fluctuations in currency exchange rates by exporting products for payment in US dollars and maintaining a US dollar deposit account for repayment of the principal and interest to creditors, to mitigate foreign exchange risk through natural hedging.

In addition, the Company has also applied a policy to mitigate risk associated with foreign exchange to use financial instruments, which is apt for hedging to enter into a forward exchange contract and/or cross currency swap, as considered appropriate; to hedge its foreign exchange exposure, the Company will closely monitor potential adverse currency movements, by balancing the income generated in US dollars and the payment of expenses in foreign currencies.

The Company has applied a policy to mitigate risk associated with foreign exchange to use financial instruments to some extent. However, as of 31 December 2021, the Company and its subsidiaries did not have a balancing amount regarding a forward exchange contract and /or cross currency swap as above.

(Unit: Baht mil.)

The group of company	31 December 2021			31 December 2020			31 December 2019		
	Baht currency	Foreign currency equivalent of Baht	Total	Baht currency	Foreign currency equivalent of Baht	Total	Baht currency	Foreign currency equivalent of Baht	Total
Debt Liabilities	68,143	0	68,143	62,395	51	62,446	52,424	805	53,229
Sales Revenue	27,090	11,830	38,920	26,730	7,545	34,276	26,293	10,747	37,041

(Unit : Baht mil.)

	31 December 2021	31 December 2020	31 December 2019
Exchange Rate Gain/ (Loss)	390.71	(11.94)	404.78

(14) Risk associated with credit provision

To mitigate credit risk stemming from debtors' potential failure to comply with their contracts, the Company has a policy to conduct business transactions with reliable trade partners by selling cement products based on cash and credit terms. Usually, customers are required to provide collateral in the form of a letter of guarantee or bank guarantee in return for customer credit lines. A Credit Committee has been appointed to consider proper criteria for offering credit lines to customers and to develop a monitoring process for cash collection from customers.

As at 31 December 2021 and 31 December 2020, allowance for doubtful debt percentage to total account receivable of the Company was 0.82% and 1.37%, respectively.

(15) Risk associated with maintaining financial ratios

TPI Polene Group has issued debentures and must comply with debenture rights requirements to maintain debt-to-equity ratios. During the period of time, the Company strictly adheres to the conditions for maintaining the debt to equity ratio.

According to the financial statements of the Company and its subsidiaries, ratio of loans from financial institutions to total liabilities in 2021 and 2020 were 0.06:1 and 0.06:1 respectively, with the ratio decreasing as the Group has a policy of selecting channels through offering for sale of unsecured debentures debt with lower financial costs than loans offered from financial institutions

In addition, TPIPP, a subsidiary of the Company, is a capital intensive and considered as an investment in advance. TPI Polene Group will closely monitor and manage to minimize the use of clear investments from the defined plan with an appropriate return on investment at manageable levels of risks to create stable future growth in the long run. The Group will be cautious and take into account the funding source and ability to pay the debt in advance, with the policy of properly structuring the finances in order for the financial ratio to be at a manageable level and comparable to companies in the same industry. Closely monitoring will give the Group confidence in managing risks in maintaining financial ratios with appropriate financial costs.

Risk associated with investments of securities holders (instrument risks)

(16) Credit Risk

Bondholders are vulnerable that they may not receive interest or principal payments in the event that the business and performance of the issuer are not as expected or the assets of the issuer are insufficient to pay the debt; therefore, before making an investment decision, investors should consider the financial position and ability to repay of the issuer from the information specified in the Offering Circular and draft prospectus for assessing the credit risk of debentures. If the credit rating of the issuer is low, it indicates that the credit risk of the issuer is high. The returns that investors receive should also be high to compensate for the high risk of such debentures. However, credit ratings do not provide advice to buy, sell or hold debentures offered, and credit ratings may be cancelled or changed over the life of debentures. In addition to determining the credit rating of debentures, investors should follow the information of the issuer as well as update the credit rating from the SEC website, credit rating institution, or Thai Bond Market Association.

(17) Risk associated with event of default

History of default on principal or interest of debt instruments or default on loans from commercial banks, capital firms or financial institutions with specific laws established.

- None -

History of breach of conditions for compliance with rights requirements during 2018 - 2021

- None -

(18) Risk associated with investing in foreign securities (in case the issuer is a foreign company)

- None -

2.2.2 Risk associated with legal disputes

As at 31 December 2021, the Company had the major lawsuits as follows:

- 1) Due to on 20 February 2017, Tham Phra Phothisat Temple (the “Plaintiff”) filed a complaint with the Central Administrative Court (the “Court”) being the Black Case No. Sor. 3/2560, and claimed that Plaintiff is authorized by the Fine Arts Department to be the caretaker of the Phothisat cave (Tham Phra Phothisat), but did not have a written power of attorney, and alleged that the Company’s mining activity caused damage to the engraved images in Phothisat cave. Later, on 2 June 2017, the Court called the Company to be a party (as an interpleader) in the case where the Plaintiff filed a lawsuit against the Minister of the Ministry of Industry, 1st Defendant, the Director-General of Department of Primary Industries and Mines, 2nd Defendant, Department of Mineral Resources, 3rd Defendant and Saraburi Provincial Industry Office, 4th Defendant (collectively “Defendants”); claiming that the Defendants’ issuance of Prathanabat to the Company is done in contradiction to regulation of Ministry of Interior on the Conditions and Means of Prathanabat Issuance, under Section 9 of the Land Code B.E. 2497, which such regulation of Ministry of Interior was issued in B.E. 2535; thus, the Plaintiff requested that such Prathanabat issued by the Defendants to “Petrochemical Industry Company Limited” which such Prathanabat was later assigned to the Company, be revoked. Further, the Plaintiff filed a request for an emergency interim measure demanding that the Court orders the Company to stop the blasting of rocks for mining activity, until the decision of this case is reached.

On 3 August 2017, the Court, together with the parties of this case went to examine the location at Phothisat cave and found the Bas-relief art images of Buddha, Shiva god, Narai god, Hermit, etc. located at the front area of the cave; and during the examination at the location, the officer of Fine Arts Department informed that according to the evidences which are the photographed pictures of the art images which were taken in B.E. 2507, B.E. 2508, B.E. 2534, B.E. 2535, B.E. 2559 and B.E. 2560, there is no traces of any changes to the art images based on comparison with those pictures. Further, the Court, together with the parties of this case, examined the area of the Company (interpleader) which was granted with Prathanabat by witnessing the rock blasting activity of the interpleader around 15.30 o’clock, standing approximately 300-400 metres from the area of blasting activity; which at the time of blasting, it made a slightly loud sound, but no vibration was detected. Later, on 8 September 2017, Court denied the Plaintiff’s request for an emergency interim measure for the Company to comply with the order of the 4th Defendant.

The 1st Defendant submitted a written statement dated 8 May 2017 to the Court, which stated that the 1st Defendant is authorized with the power to issue Prathanabat to each applicant in accordance with the Minerals Act, B.E. 2510. The 2nd Defendant submitted a written statement dated

4 May 2017 to the Court, which stated that the 2nd Defendant was assigned with the administration power from Department of Mineral Resources according to the Reorganization of Ministry, Sub-Ministry, and Department Act, B.E. 2545 and is authorized with the duty to consider the application for Prathanabat which have been submitted to the officials at the local Industry Office, and the 2nd Defendant is authorized with the power to grant Prathanabat in accordance with Section 54 of the Minerals Act, B.E. 2510; and after Prathanabat is granted, the 2nd Defendant has the duty to control, monitor and inspect that the person whom has been granted with Prathanabat, shall comply with the Minerals Act, B.E. 2510 and the conditions set forth in the annex of Prathanabat. The 3rd Defendant submitted a written statement dated 28 March 2017 to the Court, which stated that the presently, the 3rd Defendant is not authorized by the laws related to the issuance of Prathanabat, which is due to the Royal Decree on transfer of administration duty and power of the administrative agencies issued according to the Reorganization of Ministry, Sub-Ministry, and Department Act, B.E. 2545, Section 151 which transferred the said duty, power and asset to Department of Primary Industries and Mines (2nd Defendant). The Fine Arts Department also submitted a written statement dated

5 April 2017 to the Court, which stated that the Phothisat cave is deemed as ancient monument under Section 4 of Act on ancient monuments, antiques, objects of art and national museum, B.E. 2504 and the Fine Arts Department had already announced the registration of Phothisat cave as ancient monuments in the government gazette since 6 April 1965; and the Fine Arts Department authorized the director of Regional Office of the Arts Department, No.3, Ayutthaya, with the authority to file any complaint to the inquiry officer who has authority in the area, against any wrongdoer. The statement further clarified that on 14 December 2016, the Fine Arts Department had inspected the Phothisat cave and there appeared to be no traces of any damage, nor any damage to the Bas-relief art images from Dvaravati era, e.g. images of Buddha, Narai god, Shiva god or other persons; which are in good order and it was found that the conditions of the other areas within the cave are normal without traces of any damage being caused by the mining activity of the Company.

The fact-finding procedure of the case had ended and the Court had set the first trial date to be 9 September 2020 together with submission of summary of facts from the Judge who presided over this case dated 11 August 2020 and scheduled the date of rendering the Court's decision to be on 30 September 2020.

The Court ruled that the Defendants lawfully issued Prathanabat to "Petrochemical Industry Company Limited" and in accordance with the Land Code and Minerals Act, B.E. 2510, which such Prathanabat was later transferred to the Company, which were done lawfully and legitimately; the mining activity of the Company which is the blasting of rocks according to Prathanabat and using the explosives not exceeding the rate of 130 kilograms, further, the result of vibration or compression level inspection are according to the safety standard, when compared with the standard set forth by the Ministry of Natural Resources and Environment. Additional, the Fine Arts Department also stated that according to the inspection result, there is no additional damage, the Bas-relief art images are in good condition and there is no damage to the area within the cave; thus, the Court has no reason nor cause to issue the order according to the Plaintiff's request and the Court has ruled that the case is dismissed and the Court's order relating to the emergency interim measure dated 8 September 2017 shall be revoked starting from the first day of which the appeal submission period has expired (in case there is no appeal submission) or starting from the date on which the

Court has ordered its decision to accept or not accept the appeal (in case there is submission of an appeal), as the case maybe.

The Plaintiff submitted the appeal to the Court on 27 October 2020 and the Court accepted the appeal of the Plaintiff. Therefore, the Court's order dated 8 September 2017 relating to the emergency interim measure ceased to be in effect. The Court allowed the date to submit the answer to the appeal to be within 21 February 2021. The interpleader submitted the answer to the appeal on 5 February 2021. The case is pending the considering of the Supreme Court.

- 2) This case is due to the Company received permit to dig the water-well, from Mittraphap Subdistrict Administration Organization and the Company dig the water-well in the Company's own land, in order to preserve the environment and to be used for prevention of fire (the Black Case No. SorWor.2/2561). Later, on 21 June 2018, the Department of Primary Industry and Mines, Ministry of Industry, by representation of the district attorney, the Office of Attorney General (the "Plaintiff"), filed a lawsuit against the Company (the "Defendant") at the Civil Court (the "Court"), claiming the violation in mining activity with the principal amount of claim of Baht 71,566,889.42. The Plaintiff claimed that the Company conducted its shale mining unlawfully in the area in which Prathanabat for such area has not been granted, totaling 2 locations; thus, requesting that the Court to order the Company to return the shale totaling of 249,159.96 metric tons back to the original area and restore the area into its previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount of Baht 66,650,289.31 together with interest. The Company plead in its defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence, the Plaintiff claimed that the Company conducted unlawful mining activity, however, the claim is fault, the Company did not commit any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim. The hearing was finished and the Court ordered the date to render the Court's decision to be on 24 March 2020.

On 24 March 2020, the Court ordered the Company to return the shale totaling 249,159.96 metric tons back to the original area and restore the area to its previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount of Baht 66,650,289.31 together with interest at the rate of 7.5 percent per annum on the said amount, starting from the date of the violation (28 June 2017) until the date of the complaint filing (359 days) making the interest to be Baht 4,916,600.11. Total amount of combined principal and interest is Baht 71,566,889.31. The Court also ordered that the interest on the principal amount of Baht 66,650,289.31, in the rate of 7.5 percent per annum would be paid calculating from the next day after the date of filing of the complaint until the payment is received in full together with the court fees in behalf of the Plaintiff and attorney fee of Baht 80,000.

The Company filed the appeal together with the request for delay of judgement execution on 19 August 2020.

On 20 October 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the

Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern.

The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 18 February 2022. The case is pending consideration of the Supreme Court.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 3) On 20 June 2019, Tham Phra Phothisat Temple (the "Plaintiff") filed a lawsuit against the Ministry of Industry, as 1st defendant and other related persons as co-defendants, totaling 31 persons, in a Black Case No. Sor. 17/2562, which the Company is the 30th Defendant in the lawsuit and the Plaintiff also filed request for the Court to order an emergency interim measure, until the decision of this case is reached. Later on, the Court also ordered the Committee of Professional on Environmental Impact Assessment Report (the "Committee"), as the 32nd Defendant. The Court has considered and issued the order dated 17 September 2019, to accept the complaint against some of the respondents and denied to accept the complaint against some respondents and some claims (the Court only accept the followings as defendants: Ministry of Industry, as 1st Defendant, Minister of Ministry of Industry, as 2nd Defendant, Department of Primary Industry and Mines, as 3rd Defendant, Director-General of Department of Primary Industry and Mines, as 4th Defendant, the Company, as the 30th Defendant and the Committee, as the 32nd Defendant, respectively). The Court also issued order dated 17 September 2019 which denied the Plaintiff's request for an emergency interim measure. The Plaintiff claimed to be the authorized person from the Fine Arts Department as caretaker of the Phothisat Cave, but did not have a written power of attorney, but requested to the Court to order that the application for Prathanabat of the Company is unlawful, the Plaintiff also claimed that the resolution of the 32nd Defendant which approved the Company's Environmental Impact Assessment Report for the Company's mining activity, concealed the facts, thus, unlawful. The Plaintiff requested the Court to order the revocation of the Company's application for Prathanabat of limestone mining, in which the Company has submitted for approval.

The Defendant submitted written statement of defense which informed the Court that the Plaintiff has no authority to file the complaint and this complaint repeated the complaint filed in Black Case No. Sor.3/2560, and the Company's application for Prathanabat of limestone mining is lawful and in accordance with the rules, procedures and methods as prescribed by the laws, further, the applied area for Prathanabat is not the restricted area under the laws in respect of Mineral and Forest; and there is an Environmental Impact Assessment Report which have been prepared correctly and completely in accordance with the law in relation to Enhancement and Conservation of National Environmental Quality and law related to Mineral, for application for Prathanabat which have been submitted for approval from the authority. The application for Prathanabat is pending

the consideration for approval of the authority and the Company's application for Prathanabat did not cause any damage or grievance to the Plaintiff, thus, the Defendant requested the Court to dismiss the complaint.

The Company have made and submitted the additional statement of defense to the Court on 14 January 2021, the case is under the process of the Court's fact finding procedure.

- 4) On 8 July 2015, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.4/2559) against the Company (the "Defendant") with the principle amount of claim in total of Baht 4,066,535,823. The Plaintiff later amended the complaint to increase the amount of claim to be the total of Baht 4,338,558,231.54; claiming that the Company engaged its limestone mining activity in the area outside the designated area under the Prathanabat and requested that the Company returned the limestone ore in total of 31,522,374.64 metric tons and restore the area to be in its previous condition or pay the compensation together with the 7.5 per annum interest. The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

The case was requested to be transferred to the Environmental Law Division of the Civil Court to be jointly considered with other related cases and the Court granted the said request.

On 13 December 2019, the Civil Court ordered the Company to return the limestone ore in total of 31,522,374.26 metric tons back to the area where the mining activity was done and to restore such area to the previous condition or pay the compensation of Baht 4,047,472,854.98 together with the 7.5 percent per annum interest on the said principle amount, calculating from the discovery date of the unlawful mining activity (24 July 2014) until the date of the filing of complaint (350 days) totaling Baht 291,085,376.56 making it Baht 4,338,558,231.54 in total. The Court also ordered the Defendant to pay 7.5 percent per annum interest on the principal of Baht 4,047,472,854.98 counting from the day after the complaint filing date until the payment is made in full.

The Company filed an appeal with the request for a delay of judgement execution on 8 May 2020. On 17 November 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested

by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company would further seek a permission for an appeal to the Supreme Court in order to object the judgement of the Court of Appeal until 17 March 2022.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines's filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 5) On 24 March 2016, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.6/2559) against the Company (the "Defendant") claiming that the Company engaged its limestone mining activity in the area outside the designated area under the Prathanabat. The complaint requested the Company to return the limestone ore of 2,447,906.76 metric tons and restore the area into the previous condition or pay the compensation of Baht 327,680,219.25 together with 7.5 percent per annum interest.

The Company plead in its defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

The case was requested to be jointly considered with other related cases and the Court granted the said request.

On 13 December 2019, the Civil Court ordered the Company to return the limestone ore for cement industry, in total of 2,477,906.76 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation of Baht 314,311,227.98 together with the 7.5 percent per annum interest, calculating from the discovery date of the unlawful mining activity (31 August 2015) until the date of the filing of complaint (207 days) totaling Baht 13,368,991.27 making it Baht 327,680,219.25 in total. The Court also ordered the Defendant to pay 7.5 percent per annum interest on the principal of Baht 314,311,227.98 counting from the day after the complaint filing date until the payment is made in full and ordered that the Defendant pay the court fees on the Plaintiff's behalf (court fee shall be calculated from the amount of claim ordered in favour of the Plaintiff) and to pay the attorney fee of Baht 100,000.

The Company filed an appeal with the request for a delay of judgement execution on 8 May 2020. On 17 November 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company would further seek a permission for an appeal to the Supreme Court in order to object the judgement of the Court of Appeal until 17 March 2022.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 6) On 24 March 2016, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.5/2559) against the Company (the "Defendant") in the civil case claiming for compensation totaling Baht 1,671,128,829.14 stating that the Company engaged its limestone mining activity unlawfully (engaged in the mining restricted area) demanding that the ore totaling 12,484,023.50 metric tons be returned and the area be restored into its previous condition or pay the compensation together with the 7.5 percent per annum interest.

The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

On 2 August 2019, the Court ordered the Company to return the limestone for cement industry totaling 12,484,023.50 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation of Baht 1,602,948,617.40 together with the interest of 7.5 percent per annum of such amount calculating from the date of being notified of the land survey result (31 August 2015) until the date of the filing of complaint (207 days) making the interest to be Baht 68,180,211.74, making it Baht 1,671,128,829.14 in total, together with payment

of 7.5 percent per annum interest on the principle amount of Baht 1,602,948,617.40 counting from the day after the complaint filing date until the payment is made in full and ordered that the Defendant pay the court fees on the Plaintiff's behalf (court fee shall be calculated from the amount of claim ordered in favour of the Plaintiff) and to pay the attorney fee of Baht 200,000.

The Company does not agree with the decision of the Court of the First Instance and filed the appeal together with the request for a delay of judgement execution on 3 December 2019. The case is pending the consideration of the Court of Appeal and the date of hearing the Court of Appeal's judgement or order was set to be on 22 September 2020, however, the said date of hearing of judgement had been postponed, due to the case is under mediation during the appeal.

- 7) On 2 March 2017, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the district attorney of the Office of the Attorney General (the "Plaintiff"), filed a complaint against the Company (the "Defendant") at the Civil Court, Environmental Law Department (the Black Case No. SorWor.1/2560) with the lawsuit amount of Baht 344,882,135.15 claiming that the Company partially engaged its mining activity in the area designated in the Prathanabat unlawfully requesting that the shale totaling 1,220,559.82 metric tons be returned to the area and the area be restored into its previous condition or to pay compensation together with the 7.5 percent per annum interest.

The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

On 13 December 2019, the Civil Court ordered the Company to return the shale for cement production industry totaling 1,220,559.82 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount totaling Baht 326,499,751.86 together with 7.5 percent per annum interest calculating from the date of the violation (2 June 2016) until the date of the complaint filing (274 days) making the interest to be Baht 18,382,383.29. The total amount from combining the principal and interest, is the amount of Baht 344,882,135.15. The Court also ordered that the interest on the principal amount of Baht 326,499,751.86 in the rate of 7.5 percent per annum be paid counting from the day after the complaint filing date until the payment is made in full together with the court fees in behalf of the Plaintiff and attorney fee of Baht 200,000.

The Company filed the appeal with the request for delay of judgement execution to Court on 5 June 2020. On 24 June 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 9 November 2021. The case is pending consideration of the Supreme Court.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

Incidentally, the information regarding cases 1) - 7) above are under the consideration of the court, the above cases are not final. The Company and the legal advisors hereby opines that based on the evidence and information the Company possesses, the Company did not commit any wrongful acts against the plaintiff as detailed in the complaints; the plaintiff claimed that the defendant committed wrongful action against the plaintiff, therefore, the plaintiff has the burden of proof to prove that the defendant had committed such act as the plaintiff claimed and since the plaintiff had not presented the evidences which show that in fact, the defendant had committed wrongful act against the plaintiff, the, the court could consider to dismiss the case. However, the judgment depends on the consideration and discretion of the court. As at 31 December 2021, the outcome of lawsuit is not yet final, the Company has not recorded a provision for liability of lawsuit in the financial statements.

- 8) On 16 December 2019, individuals in total of 222 people sued Energy Regulatory Commission (ERC) et al to the Central Administrative Court which a subsidiary was listed as the 5th Defendant. The Plaintiffs requested that the approval of Environmental and Health Impact Assessment (EHIA) report for the project of 150 megawatts thermal power plant, the license to operate electricity generating business and the construction approval of the subsidiary be revoked. The Plaintiffs also requested that the Court take evidence out of Court and issued an interim measure and ordering that the electricity generating system be temporarily stopped until the final decision is reached.

On 25 December 2019, the Court inquired both Parties in considering the request for interim measure and rendered its decision on 28 January 2020 denied the request for interim measure due to the lack of reason to believe that the license to operate electricity generating business of the subsidiary is unlawful.

On 31 January 2020, the Court issued an order accepting the compliant and requesting the subsidiary to file the answer. The lawyer submitted the answer to Court on 1 July 2020. The case is under the Court consideration.

On 7 December 2020, the Court sent the objection to the answer of the 5th Defendant and requested the subsidiary to submit additional answer to the Court within the prescribed period. The subsidiary submitted the additional answer to the Court on 12 March 2021, the case is under process of preparation of the additional answer.

The subsidiary's legal consultant considered the complaint and its appendixes and hereby opines that the subsidiary lawfully and transparently received the license to operate the electricity generating business and the construction approval from the competent authorities, in accordance with the applicable laws and that the relevant public official have lawfully and honestly performed their duties without any conflict of interest in issuing the said license. The complaint of the Plaintiffs is untrue. As the case is in the preparation for answer, the subsidiary has causes to relieve itself of any liability generated from the complaint depending on the Central Administrative Court Decision. Moreover, the subsidiary has pressed charges against the 222 Plaintiffs to the Muak Lek police station, Saraburi, for taking the false information to charge the person in the Court. The case is under the investigation of the police.

For all above lawsuit, the Group's legal consultant opines that, based on the Company's evidences and information, the Company has a chance to defend itself in the court trial depending on the consideration of each courts.



3. Driving the business towards sustainable growth

Key Sustainable Development Performance of TPI Polene Group in 2021

Economic Dimension	Environmental Dimension	Community and Social Dimension	Corporate Governance Dimension
Total Revenue Baht 41,279 million	Certified Carbon Credit 82,056 tons of CO ₂ equivalent and under registration to certify carbon credit from TGO about 709,752 ton CO ₂	Donate in community and social assistance Baht 153.51 mil.	Proportion of Independent Directors 35.71% ⁽¹⁾
employees Wages and benefits Baht 6,346 Million	Cabon reduction from landfill by 5.08 million tons of CO ₂ equivalent under registration with TGO	Injury Frequency Rate (IFR) of employees and contractors 0.169(1) and 0.276 ⁽¹⁾	Proportion of Female Directors 21.43% ⁽¹⁾
Tax expense Baht 177.90 million	Used all types of waste of 2.19 million tons, as a substitute for coal.	no loss time injury (hrs) 3,705,787 hrs ⁽¹⁾ (increase of 21.90% over 2020)	No complaints of personal data breach ⁽¹⁾
Net Profit 6,918 Million Baht	Waste fuel is used instead of coal at cement plant 105,997 tons ⁽¹⁾ (The machines have not yet run full year operation.)	Death and injury rates from work of employees and contractors 0	Acknowledgement of the Partner Code of Conduct by trade partners 88.45% ⁽¹⁾
Dividend per share Baht 0.09	Proportion of reused water 50% ⁽¹⁾	Average training hours to employees 22.62 hrs/person/year ⁽¹⁾	No complaints of Discrimination ⁽¹⁾
	Waste management with 3R of total waste quantity 99.92% ⁽¹⁾	Customer satisfaction/ Satisfaction in solving problems to customers 86.40% ⁽¹⁾ and 95.40% ⁽¹⁾	
	Project value to reduce Environmental Impacts Baht 2,210 million ⁽¹⁾		

Remark: (1) Only for TPI Polene Public Company Limited

3.1 Sustainable Management Policies and Goals

The Board of Directors and the top management of TPI Polene have established sustainability policies with a focus on being instrumental in driving the organization to achieve its sustainability vision in line with the direction and strategy of business operations to balance for the Economy, Environment and Society criteria under good corporate governance policy with a framework for sustainability policy and management as follows:

1. **Economic Dimension:** With an emphasis on the adoption of technology and innovation in the production process of quality products and services with effective management at every stage with R&D results to further constantly develop business models and create added value for products and services as well as seeking investment opportunities that offer high returns on investment.
2. **Environmental Dimension:** Aiming to develop into a low-carbon society by targeting to net zero greenhouse gas emissions, with the implementation of Green Manufacturing production process under Bio-Circular-Green Economy (BCG), a business model innovation Policy to increase energy efficiency, increase the capacity to use renewable energy while coping with solid waste and waste problems and using water properly, reduce the impact of operations throughout the value chain and create balanced consideration to all stakeholders.
3. **Social Dimension:** Conducting the business under social responsibility, create balanced consideration to all stakeholders, create high returns on investment for shareholders, and take into account human rights principles, protect labor rights, safety, hygiene and create a good working environment, continuously manage and develop talent and skills for personnel, respect privacy of information, promote youth in education, and contribute to creating value and improving the quality of life of the community and society to grow sustainably.
4. **Corporate Governance Dimension** Adhering to the principles of accuracy and compliance with applicable laws and regulations under business ethics with an operating framework based on good corporate governance principles with transparent disclosure of information and performance with versatile risk management and flexibility in management.

Details and policies and sustainability management goals can be downloaded at:

<https://www.tpipolene.co.th/en/news-en/sustainability-en>

Business Operation to Support the U.N. Sustainable Development Goals (Sustainable Development Goals: SDGs)

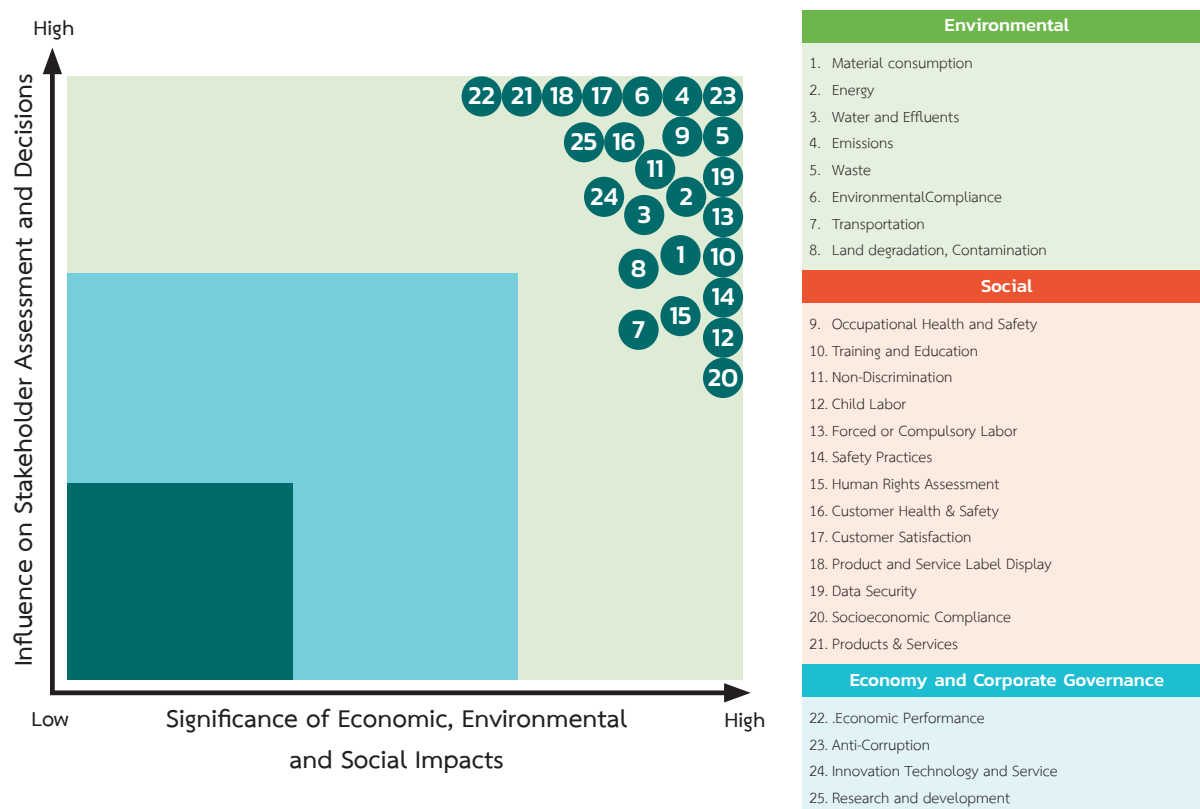
The Board of Directors and the top management support the policy towards the Sustainable Development Goals (SDGs) of the U.N. and have also selected 10 of the 17 main sustainable development goals as follows:-

- 1) Good health and well-being by complying with occupational safety and/or health policies in the global context, provide safety and work environment to employees and stakeholders to perform their duties safely. (Goal 3)
- 2) Promote academic knowledge for the youth and develop knowledge of young people to be social quality individuals. (Goal 4)
- 3) Water and hygiene sustainable management by using water resources in a cost effective manner and water is reused concretely. (Goal 6)
- 4) Access to clean energy by investing in clean energy sources (Goal 7)
- 5) Strive to create sustainable economic growth to achieve higher levels of production goals and is produced through technological innovations (Goal 8)
- 6) Develop technology and innovation, which is the key to solving sustainable problems for economic and environmental challenges. (Goal 9)

- 7) Business operations are growing alongside a sustainable society by creating value and responsibility to stakeholders and society as a whole under good corporate governance policy. (Goal 11)
- 8) Manage the effective sharing of natural resources and methods to dispose of toxic waste and pollution by encouraging recycling and reducing solid waste in the industry. (Goal 12)
- 9) Aim to reduce greenhouse gas emissions and global warming, which causes climate change. (Goal 13)
- 10) Aim to promote peaceful to society and communities for sustainable development, allowing all parties to access justice and create an effective organization and to be responsible and comprehensive at all levels. (Goal 16)

TPI Polene Group has a sustainability strategy in accordance with the sustainability policy and management framework that promotes the Group's vision in conjunction with the U.N.'s international principles and standards as per details mentioned above. The policy and targets are reviewed annually to cover new risks that may arise in the future.

In 2021, the top management of TPI Polene Group considered key factors and impacts of the business and identified related sustainability issues in the Economic, Society & Environment dimensions. The Sustainability Report was prepared in accordance with the standards of the Global Reporting Initiative (GRI Standards), with the Company's highly substantive sustainability issues for 2021, which is composed of the following 25 issues:



Environmental aspect (8 issues)	Social aspect (13 issues)	Economic and Corporate Governance aspect (4 issues)
<ol style="list-style-type: none"> 1. Material consumption 2. Energy 3. Water and Effluents 4. Emissions 5. Waste 6. Environmental Compliance 7. Transportation 8. Land degradation, Contamination and remediation 	<ol style="list-style-type: none"> 1. Occupational Health and Safety 2. Training and Education 3. Non-discrimination 4. Child Labor 5. Forced or Compulsory Labor 6. Safety Practices 7. Human Rights Assessment 8. Customer's health and safety 9. Customer Satisfaction 10. Marketing and labeling 11. Data Security 12. Socioeconomic Compliance 13. Products and services 	<ol style="list-style-type: none"> 1. Economic Performance 2. Anti-Corruption 3. Innovation Technology and Service 4. Research and development
Responsive Strategies	Responsive Strategies	Responsive Strategies
<ol style="list-style-type: none"> 1. Develop into a low-carbon society by targeting Net Zero GHG Emission, using waste-based fuel instead of coal. 2. Improve production efficiency to be highly efficient to save energy. 3. Embrace Bio Circular Green Economy- BCG as a sustainable business model, recycle waste from one plant as raw materials or fuel of another plant towards Zero Waste policy 4. Develop Green Manufacturing technology and innovation 5. Use Process Automation to control production and unloading of goods to be efficient. 6. Construct rainwater reservoirs to replace natural water sources, including recycling waste water for reuse. 7. Conserve concession areas by planting forests to improve scenery 8. Disposal of Covid-19 contamination waste 	<ol style="list-style-type: none"> 1. Comply with labor laws and labor relations 2. Respect human rights principles and personal information of employees, partners and contractors 3. Create a good environment in workplace with appropriate safety and hygiene 4. Training and skills development for personnel, providing opportunities for progress with indiscriminate. 5. Award scholarships to children of employees 6. Conduct customer service activities 7. Focus on green products 8. Deliver quality products of standard quality on complete label display 9. Establish a Partner Code of Conduct 	<ol style="list-style-type: none"> 1. To comply with the related legal regulations 2. Transparency with anti-corruption policy 3. Technology and innovation to drive the organization with an emphasis on effective management policy 4. Extend R&D results to create value added to products 5. Seek investments that create high return on investment 6. All around risk management including risk associated with climate change

3.2 Managing the impact on stakeholders in the value chain

In 2021, the Company distributed the value of the economy directly to various stakeholders, generating a cumulative economic value of Baht 9,497 million as per details as follows:

Direct Economic Value Generated and Distributed	2021 (Million Baht)
(1) Direct Economic Value Generated	
Revenues	30,635
(2) Direct Economic Value Distributed	
Operating costs	12,864
Employee wages and benefits	4,874
Payments to providers of capital	3,035
Payments to government	338
Community investments	27
Total	21,138
Economic value retained (1) – (2)	9,497

3.2.1 Value Chain

TPI Polene Group manages the sustainability of business activities throughout the value chain of business from upstream, such as, input management, procurement of raw materials and main fuels, the transportation of raw materials, to midstream business activities, such as product manufacturing processes, and downstream business activities, such as distribution, marketing and sales, and after-sales services to respond to the needs and expectations of all stakeholders and create balance of value (emotional benefits) and value (functional benefits) of business operations for all stakeholders, and form relationships and confidence in conducting business activities together, which can be summarized as follows:-

Key activities

1. Inbound logistics Management

Cement production process starts with the supply of the main inputs, limestone, where the Company had a limestone concession and coal is the main fuel for cement production. The Company imports coal from Indonesia and Australia, where it has entered into short-term and long-term coal procurement agreements in quantities and quality with several domestic and international partner companies without relying on any of them to provide a source of quality and adequate raw materials. TPI Polene Group has always created long term relationships with coal partners. The Code of Conduct with business partners is always created, based on transparency, equality and fairness, covering ethical issues, non-child labor, human rights, environment, health and safety, and anti-corruption to reduce the risk to business operations. This is a value that the Company provides to business partners and stakeholders in the value chain.

In the raw material transport process, the Company uses a conveyor belt system, enabling to reduce energy consumption to unload limestone raw materials. In addition, a conveyor belt system can generate reusable electricity, which is efficient energy.

From 2020 to present, the Company has improved the production process of cement plants to enable usage of 30-40% of waste-based fuel instead of coal, allowing the Company to reduce its reliance on coal fuel. At the same time, the Company purchased waste-based fuel from TPIPP under a win-win situation within the Group, enabling it to meet the net zero greenhouse gas emissions target with waste used to produce waste fuel are from the surrounding local areas of more than 16 provinces, where TPIPP purchases from local producers who sort out waste, thus creating careers and revenues in the communities, reducing socioeconomic inequality, increasing economic value, which is the value that the Company provides to more than communities in 16 provinces. It is the correct method of waste disposal instead of conventional landfills, which causes pollution.

2. Production

TPI Polene cement plants use the most advanced machinery and production technologies, the production process of which starts with the explosion of limestone from the mountains and then is transported into the crusher to digest it to a smaller size, delivered to mixing beds and transport to the RM Feed Bin to send each raw material into a raw mill at a specified ratio. It is ground into raw meal which is then delivered to Raw Meal Silo, then sent to the preheater before being transported into the kiln until it becomes clinker and is then delivered to the Clinker Silo for further distribution. The Company's cement products have been certified by the management system in accordance with all four international standards: quality management system (ISO 9001:2015), environmental management system standard (ISO 14001:2015), occupational health and safety management system standard (TIS18001:2011 and OHSAS 18001:2007), and energy management system standard (ISO50001:2011), the United States (ASTM) and the European Federation (EU). With these standards, it's clear that quality manufactured goods which are reliable, can more easily meet the expectations and respond to the demand of customers.

The Company has a cement packing system using an automatic palletized sorting robot or Robotic Palletizer, reducing the time it takes to place the product into the pallet. The system is agile, flexible, and is able to support heavy goods in high quantities quickly and precisely, thus improving productivity and safety, with consistent quality. The process helps save employees from performing monotonous and heavy lifting tasks by turning material handling work into automated work using mechanical arms. The automation system helps cope with the higher cost of packaging and shorter product life.

3. Distribution of goods and services/ Outbound logistics

The Company realizes the continuous availability of goods to customers with efficient freight system deliveries, which are managed at low cost and can meet the needs of customers quickly in due course. Distribution terminals are located in key strategic locations across the country, and are well coordinated to manage inventory effectively, minimize impact on communities and the environment. In addition, the Company has imported locomotives from abroad to transport cement to develop rail transport systems, which have lower transportation costs than trucks. In addition, the Company has adopted digital technology to optimize delivery management. This allows customers to receive goods within a fast time as scheduled.

4. Marketing and Sales

The Company focuses on marketing and sales communication channels by visiting customers, holding partner seminars, and organizing marketing activities, to explore perspectives to meet customer needs and collaborate in the value chain, create trust and good relationships to develop the potential and efficiency of long-term joint business operations, as well as create innovations and trade patterns in line with the changing era.

The COVID-19 pandemic has brought change on a global scale. The business environment has changed, with the Company developing an online platform to sell products on the Company's website in a way that presents information as two-way communication, where digital technology advances are rapid. It affects business models, consumer behavior, market conditions, and higher competition. TPI Polene Group is preparing to develop the organization so as not to lose its competitiveness and it can meet the lives of the younger generation as well as prepare employees to meet the needs of customers.

5. Customer Services

Customer relations is a priority for TPI Polene Group to enhance long-term customer satisfaction and engagement. It has developed a more efficient approach to customer relationship management through processes including complaint channels and communications between the Group and customers, such as websites, email, telephones, and letters. Customer relationship activities are held to maintain and form strong relationships with customers on an ongoing basis, as well as annual customer satisfaction surveys to analyze and find ways to manage the issues that customers value, as well as educate customers about business and sustainability management.

Supportive Activities

In addition to the construction materials group, which is the main business, TPI Polene Group has a petrochemical business, power plant business, and organic fertilizers and bio-pesticides, which are harmless to humans, allowing them to grow crops, vegetables and fruits without the use of chemical pesticides, and which are innovative, environmentally friendly and benefit consumers at affordable prices. TPI Polene Group has supported farmers and communities that produce consumer products such as crops, vegetables, and fruit to use organic fertilizers that are safe and chemical-free for the quality of life of both consumers and farmers themselves. In addition, organic fertilizers do not destroy the soil, which will have long-term benefits to the Thai agricultural sector.

TPI Polene Group has also further expanded its innovations with chemical-free biological hygiene products such as Bio knox, micromnock solution,s and mouthwash to combat bacteria and viruses. These products have been tested and approved by the Faculty of Medicine, Siriraj Hospital and the Academic Service Center of Chulalongkorn University as being effective in destroying viruses including SARS-CoV2, PRRS, PDCoV, PCV2 and RVA, etc. These products are environmentally friendly and in line with the new normal era, where consumers are all paying attention to healthcare products.

The value that the Company delivers to stakeholders in the value chain of business can be summarized as follows:-



Value chain	Source	Internal Stakeholders	Outside Stakeholders	The value that the Company delivers to stakeholders
1. Procurement of raw material	<ul style="list-style-type: none"> - Coal - Local raw material - raw materials from offshore 	<ul style="list-style-type: none"> - Purchasing Department - Financial Department 	<ul style="list-style-type: none"> - Suppliers - Contractors - Competitors - Community 	<ul style="list-style-type: none"> - Take into account environmentally friendly raw materials to reduce greenhouse gases. - Green Purchasing - Local procurement supporting communities, reduce socioeconomic inequality - Have a source of quality and adequate raw materials - Establish a trade framework with ethical partners, create good relationships and contribute to the sharing benefit (Win-Win Situation)
2. Production	Converting raw materials into cement that has been quality-controlled and standardized.	<ul style="list-style-type: none"> - Production Unit - R&D Agency - Technology and Innovation agency - Procurement agency - Warehouse agency - Occupational health agency 	<ul style="list-style-type: none"> - Suppliers - Surrounding - Communities - Government organizations 	<ul style="list-style-type: none"> - Products are under international standards - Obtain quality products and are reliable to stakeholders
3. Product Distribution	Ready to distribute products across channels with security	<ul style="list-style-type: none"> - Logistics Center - Marine Transport Authority - Domestic and international sales agencies - Local warehouse agencies 	<ul style="list-style-type: none"> - Freight contractor - Customer - Competitors - Surrounding Communities 	<ul style="list-style-type: none"> - Delivery within the timeline - There are various channels.
4. Sales/ Marketing	Incentivizing customers to buy the best products and services, covering local and international areas.	<ul style="list-style-type: none"> - Domestic and international sales/marketing agencies - Customer Service Agency - Financial Agency - Accounting Agency 	<ul style="list-style-type: none"> - Sales Agents - Contractor. - Customer - Competitors 	<ul style="list-style-type: none"> - Create good relationships. - Strengthen partner income, grow together. - Become a Business Partner
5. After sales service	Provide technical services presenting how to use the correct products and can help customers at the workstation.	<ul style="list-style-type: none"> - Technical Agency - Sales Units - Production Units 	<ul style="list-style-type: none"> - Contractor - Customer - Competitors 	<ul style="list-style-type: none"> - Create a good impression that customers get from after sale service.

3.2.2 Analysis of stakeholders in the value chain

The Company recognizes the importance of stakeholder engagement by analyzing stakeholders both inside and outside the organization, which is associated with the value chain, believing that good relationships based on trust, as well as stakeholder opinions and feedback to the organization, are valuable to achieve their goals to become a sustainably developed and growing organization. Stakeholder management will also help organizations respond effectively to the needs of stakeholders. This includes reducing the risk of damaging the image and the likelihood of business interruption.

TPI Polene Group has adhered to the principle of value creation together between companies and stakeholders, as well as continuously improving channels and sending stakeholder feedback to responsible departments.

TPI Polene Group divides stakeholders into internal and external dimensions as follows:-

- 1) Shareholders / Investors
- 2) Employees
- 3) Suppliers and contractors
- 4) Customers and Agents
- 5) Creditors
- 6) Government agencies
- 7) Community and society
- 8) Business competitors.

The communication and engagement patterns of stakeholders are different, which can be summarized as follows:

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
Shareholders/ Investors	<ul style="list-style-type: none"> - Annual General Meeting of Shareholders - Giving shareholders the opportunity to have equal rights to attend the shareholders' meeting, such as questioning and voting. - Presentation of investment information through investor relations activities at least 4 times per year - Annual Report - Open channels for communication through media including websites, letters, emails, phones or otherwise. - Annual Sustainability Report - Financial report 4 times per year 	<ul style="list-style-type: none"> - Good Performance The share price and dividends are at the right level. - Continuous business expansion - Disclose important information of the Company in a timely, timely, transparent, reliable way through channels that are easily accessible to shareholders. - Give shareholders equal rights to attend annual shareholders' meetings. - Organize building and healing activities Good relationship with shareholders - Conduct business with environmental considerations Corporate Governance Society or ESG - Financial stability 	<ul style="list-style-type: none"> - Sustainability Report - Proper risk management - All shareholders are entitled and treated equally. - Manage the organization in accordance with the Company's vision and corporate governance principles with integrity, caution, free from personal conflicts of interest. - Clarify details about the shareholders' meeting as well as all information related to matters that require shareholders to make decisions at the meeting in advance. - Business Ethics - Innovation and technology management - Research and development to further business

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
		<ul style="list-style-type: none"> - Transparency - Risk management system 	<ul style="list-style-type: none"> - Have a strong policy of maintaining liquidity and financial stability. - Emergency operations manual and emergency drills (Fire case)
Employees	<ul style="list-style-type: none"> - Collect information from all channels, including complaints - In-house communication through channels such as Line Group, allowing senior executives to communicate with all employees. Line groups specific to related management Documents to inform employees in each party Documents closed by establishment banners - Welfare Committee in The Establishment - Sustainability Report/ Annual Report - Executives meet employees at the factory once a week. - Provide clear in-house communications through various channels such as notices to various agencies within the Company and Application Line. - Website comment box, e-mail, Facebook 	<ul style="list-style-type: none"> - Compensation Industry-aligned welfare - The organization has stability and progress in its work. - Developed potential - The organization has a good image. - Fair Evaluation System - Safety and quality of life at work - Allow comment - Equal Practice - Respect personal information - Respect human rights 	<ul style="list-style-type: none"> - Strict employment regulations and strict practices, including career progress without limiting gender, age, social sources class Ethnicity, religion, educational institutions, by policy on employment and working conditions are standard. - There is a fair evaluation system. - Provide feedback and feedback channels - Provide returns and benefits comparable to other companies in the same industry. - Occupational health and safety system - Whether hiring immigrant workers covers contractors and subcontractors - Comply with human rights requirements and respect personal information - Provide opportunities and support the further education of employees. - Provide training to develop potential and prosperity in the job - There is a savings cooperative. - Respect human rights and personal information
Suppliers and Contractors	<ul style="list-style-type: none"> - Complaints and communication channels such as websites, e-mails, phones, letters, etc. - Activities related to partners to generate at least 1 engagement per year - Meet partners at partner office at least 2 times a year 	<ul style="list-style-type: none"> - Transparent, fair, non-discriminatory, corruption-free purchasing system - Building relationships to grow together - Comply with the established agreements and do not exploit customers, pay on time. - Safe to work - Respect human rights 	<ul style="list-style-type: none"> - Transparent and verifiable procurement system - Strictly comply with the terms of trade and compliance with the contract with the partner. - Take into account the mutual benefits of partners and business equity. - Affiliated group employees must not claim the benefits of supply, must be neutralized.

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
		<ul style="list-style-type: none"> - Respect personal information - Scheduled payment - Occupational health and safety system 	<ul style="list-style-type: none"> - The Company does not do business with partners who are illegally behaving. - Support ESG knowledge to enhance partner operations to reduce maturity. In operation and reputation. - Establish measures to operate partners, including the use of digital and online technologies for safety under the COVID-19 pandemic crisis. - Respect human rights and respect personal information - Occupational health and safety system
Suppliers and Contractors	<ul style="list-style-type: none"> - Complaints and communication channels such as websites, e-mails, phones, letters, etc. - Activities related to partners to generate at least 1 engagement per year - Meet partners at partner office at least 2 times a year 	<ul style="list-style-type: none"> - Transparent, fair, non-discriminatory, corruption-free purchasing system - Building relationships to grow together - Comply with the established agreements and do not exploit customers, pay on time. - Safe to work - Respect human rights - Respect personal information - Scheduled payment - Occupational health and safety system 	<ul style="list-style-type: none"> - Transparent and verifiable procurement system - Strictly comply with the terms of trade and compliance with the contract with the partner. - Take into account the mutual benefits of partners and business equity. - Affiliated group employees must not claim the benefits of supply, must be neutralized. - The Company does not do business with partners who are illegally behaving. - Support ESG knowledge to enhance partner operations to reduce maturity. In operation and reputation. - Establish measures to operate partners, including the use of digital and online technologies for safety under the COVID-19 pandemic crisis. - Respect human rights and respect personal information - Occupational health and safety system

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
Customers/ Agents	<ul style="list-style-type: none"> - Complaints and communication channels such as websites, e-mails, phones, letters, etc. - Meeting customers/sales representatives at the customer's office at least 12 times a year 	<ul style="list-style-type: none"> - Quality and safe products and services - Fair price. - Easy to buy convenient - There are campaigns. - Choose from a wide range of products - In case of problems which are not caused by the customer's fault, the damage can be claimed immediately. - Providing good pre- and after-sales service - Delivered on time - Respect personal information - Respect human rights 	<ul style="list-style-type: none"> - Satisfy the needs of customers - Must not act in any way that is deceptive or oblivious to the quality of goods and services by producing safe products and services. Does not harm the health of consumers. - Build loyalty to products (Brand Loyalty) - Contains product information and how to use it. - Systematic and secure storage of customer data Do not misuse data - Set prices for products and services fairly - Provide agencies responsible for providing feedback, knowledge, understanding of products and services, as well as solutions and receive customer complaints. - Hold customer seminars to educate products regularly. - Respect human rights and personal information
Creditors/ Bondholders Analysts/ Credit Rating Institutes/ Insurance Institutes	<ul style="list-style-type: none"> - Submit a quarterly financial statement report. - Annual Report/Standing Report - Recommendations and complaints 	<ul style="list-style-type: none"> - Good Corporate Governance - Manage with transparency - Carefully manage risk - Full and on-time payment - Good performance Have the potential to pay off debts - Comply with the lending conditions 	<ul style="list-style-type: none"> - Conduct business with transparency Check it out. Under good corporate governance - Fully comply with the borrowing conditions - Complete payment on time - Provide complete financial information - Effective management, maximum confidence and return

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
Government Agencies	<ul style="list-style-type: none"> - Report business performance and performance to government agencies according to the period specified by the government, such as: <ol style="list-style-type: none"> 1. Report on the performance of professional work safety officers every 3 months 2. Report on compliance with the Company's EIA measures every 6 months - Being a place to visit and study business in 2021, 3 times due to covid-19 prevention measures. - Monitoring of policies, regulations, government requirements at least once a month - Supporting activities and responding to government policies according to the government's period of time, such as providing vaccines and vaccinations to employees and contractors within the Company, as well as complying with COVID-19 CONTROL measures including VUCA and Thai Win. - Support activities and respond to government policies according to the government's period of time, such as providing vaccines and injections to employees and contractors within the Company, as well as compliance with COVID-19 CONTROL measures including VUCA and Thai Won. 	<ul style="list-style-type: none"> - Compliance Laws and Policies of Supervisory Units - Social and environmental responsibility - Sustainable Coexistence - Having a good environmental management and safety system - Providing support and cooperation to government agencies - Action to reduce climate change - Payment of taxes, related fees 	<ul style="list-style-type: none"> - The use of waste as a renewable fuel for coal in the cement production process to reduce greenhouse gases in accordance with the government's environmental policy. - Conduct transparent business - Preparation of sustainability reports - Social and environmental responsibility - Sustainable community coexistence - Compliance and cooperation, supporting projects of government agencies
Community & Society	<ul style="list-style-type: none"> - Complaints and communication channels such as websites, e-mails, phones, letters, etc. - At least 28 community relations per month - Mass relations at least 2 times a month 	<ul style="list-style-type: none"> - Develop surrounding communities - Preserving the community environment - Create a task Strengthen the economy for the community. - Operation of the establishment to ensure environmental safety and livelihoods 	<ul style="list-style-type: none"> - Community Visit Create acceptance - Support public interest activities for the community - Educate and train employees at all levels as appropriate to make employees aware of the environment and communities. - Explore community needs and opinions

Stakeholder Groups	Guidelines for engaging with stakeholders	Stakeholder needs/ expectations	The Company's response guidelines
		<ul style="list-style-type: none"> - Support for community activities and ongoing participation - Educational Assistance - Take on the importance of community echoes 	<ul style="list-style-type: none"> - Organize mobile medical units to serve the community continuously for better quality of life. - Prepare a replacement forest plantation and rehabilitation project after mining - Promoting community traditions - Develop communities to be employed The economy in the community has improved. - Budget for community development, including education, job creation, career building Make money for the community
Business Competitors	<ul style="list-style-type: none"> - Collect information from all channels such as websites, mail, phones, etc. - Become a member of the Thai Cement Producers Association (TCMA) and attend at least 4 meetings per year. 	<ul style="list-style-type: none"> - Create fair competition conditions together - Maintain market share 	<ul style="list-style-type: none"> - Conduct business within the rules of free and fair competition. - Do not slander to damage the reputation of commercial competitors. - Do not infringe intellectual property and copyrighted work of the competitors. - Do not violate competitor confidentiality - Behave in accordance with a good trade framework - Innovation and Technology Management



3.3 Sustainability management in the environmental dimension

3.3.1 Environmental policies and practices

To embrace a Bio-Circular-Green Economy (BCG) policy

TPI Polene Group is committed to playing a role in solving environmental problems under the Circular Economy principle to complete all stages of business operations, from research planning, development, production processes and products delivered to consumers, to maximize the benefits of resource utilization, renewable fuel consumption, create value added for the rest of the production process and waste management for reuse to maximize the benefits of resource utilization that leads to sustainable development in the supply chain, the business sector, society and the community and has linked Bio-Circular-Green Economy (BCG), a business model innovation with the goal of reducing environmental impact in terms of resource use, product production, as well as product disposal management to low-carbon production. The initial goal is to reduce greenhouse gas emissions by using renewable energy such as waste and waste heat recovery into the production system, as well as developing TPI Polene group products by applying biotechnology to add value or apply them together with TPI Polene Group products to create added value and support the country's agricultural sector to become a bio-economy. These three sections are jointly executed towards Sustainable Development, called Bio-Circular-Green Economy (BCG), an important strategy to drive the TPI Polene Group to grow with globally competitive innovation and contribute to the distribution of income to the community by preserving the environment with sustainable development.

Research and development of green products

TPI Polene Group places an emphasis on all stages of business operations, from research and development planning, production processes and to the delivery of our products to consumers to maximize the benefits of resource utilization with high efficiency production in both resource use and environmental protection. Our consumers are part of the green world, who purchase green as well as sales, transportation process and services that maximize the benefits of resource utilization.

Strictly comply with environmental regulations.

The Company strictly complies with environmental law with the preparation of the Environmental Impact Assessment (EIA) and Environmental Health Impact Assessment (EHIA) for the comprehensive implementation of the Company's projects. Environmental measurements and assessments are carried out in accordance with the EIA and EHIA reports to government agencies and communities, as well as delivering complete environmental compliance reports to government agencies and communities on timely basis.

3.3.2 Environmental Performance

(1) Raw materials

As for the cement industry, raw materials such as limestone and fuels such as coal and asphalt, are consumed in large quantities. These raw materials are natural resources that have been consumed and depleted. Therefore, the efficient and cost-effective use of materials in the production process is important to reduce environmental impacts as well as support the sustainable use of natural resources. The Company aims to use 30-40% of waste fuel instead of coal in the clinker production process and 100% utilization of scrap from the aggregate production process.

In 2021, the Company was able to dispose of scrap from the aggregate production process through recycling to be reused 802,455.08 tons, representing 100% of the total amount of scrap and 105,997 tons waste fuel (not yet full year operation) could be used as a substitute for coal in the cement production process, representing 3.68% of coal.

(2) Transportation

Transportation is an important factor in the Company's business operations, including the transportation of goods to deliver to customers, the transport of raw materials and spare parts, as well as the journey of employees to work. This transportation is necessary to take into account timing and continuity, and focus on the efficient use of such resources and have minimal environmental impact. The Company aims to rapidly distribute products to customers and reduce complaints below 0.25% of delivery trips per year. In addition, the Company aims to develop a raw material transport system project at Site C to reduce transportation costs, PM 2.5 dust and greenhouse gas emissions.

The Company has planned to deliver goods so that they do not affect the community and the environment by having customers use the canvas to cover on the merchandises before despatching to customers, check the condition of the trucks, and study the route/destination so as not to waste time traveling and to save energy. In addition, delivery and pickup is planned on the return trip and the Company also plans to ship and receive goods on the return trip to save on shipping costs. There has been an investment in locomotives to increase rail transport lanes by rail, which costs less than transportation by car.

In 2021, the Company had a raw material conveyor system at Site A concession capable of generating 928,868 kWh/year, reducing greenhouse gases by 4,153.43 tons, and a raw material conveyor system at Site C mine that can generate 1,071,509 kWh/year, reducing greenhouse gases by 4,791.25 tons. In addition, the Company can transport more than 1.8 million tons of rail cargo. This reduces the amount of transportation by car by more than 60,000 trips, saving energy costs.

(3) Energy Management

The Company places a greater emphasis on the best utilization of energy resources, starting from product design, resources, designing and controlling production processes and machinery with high efficiency to reduce energy consumption while the Company has set all energy targets for the production of each product, not to exceed the target.

The Company has adopted ISO 50001 for energy management and in accordance with energy laws with the use of a Focus Improvement Pillar to find points that cause power loss, Green Research and Development, such as Super Mixed Cement of 40 kg, which can be used as an equivalent of mixed cement of 50 kg. and Hydraulic Cement, which reduces greenhouse gases. In addition, waste materials are used as renewable energy, such as tires, scrap and waste heat recovery. Raw material conveyor systems have been employed to reduce fuel consumption while using Process Automation for processing accuracy to reduce fuel consumption., etc.

However, energy consumption concentrations in 2021, based on specific energy consumption (SEC) of clinker, cement and mortar, are lower than the specified value. EVA/LDPE plants as well as concrete roof tiles and and fiber cement plants have also achieved targets.

(4) Water Management

The Company aims to reduce the use of water by reusing surface water and control the use of water from rivers to no more than the specified target, as well as control the quality of waste water.

For the recycling of used water, the Company has always strictly adhered to the relevant regulations. The cement plant and CRT plant have a policy not to drain sewage water outside the plant because the Company has ponds to accumulate wastewater, to treat, and reuse it within the plant. Waste water at EVA/LDPE plant is treated from the production process and water quality is analyzed to meet the standards before draining into the drainage trough in the operating zone in compliance with the EIA standards of the Rayong plant.

In 2021, the Company was able to retreat effluents and reuse it, accounting for 50% of the total volume of water used. In the future, cement plants and surrounding areas plan to manage the water, developing additional surface water reservoirs. Presently, the Company is in the process of excavation of a 1,000,000 cubic meter well to be used as a water reserve to prevent and reduce the impact on the use of water in the community.

(5) Emissions Management

TPI Polene Group has set targets of net zero GHG emissions at cement plants and surrounding areas at Mauk Lek and Kaeng Khoi, Saraburi province, with primary activities was mainly to replace waste fuel as a substitute for coal by 30-40% and 90-100% in cement production processes and power generation process respectively.

In 2021, the Company was able to reduce greenhouse gases by 0.25 million tons of carbon dioxide equivalent from hydraulic cement production.

At the end of 2021, TPI Polene Group by TPIPP has been registered a decrease in greenhouse gas content (Carbon Credit) from the Community Waste Project of 82,056 tons of carbon dioxide equivalent and are under the process of obtaining registration from the TGO to ensure a decrease in the amount of greenhouse gases (Carbon Credit) by 709,752 tons of carbon dioxide equivalent.

In addition, in 2021, TPIPP received a total of 2.19 million tons of all types of waste to be used as fuel in the power plants of TPIPP, and in the Company's cement plants, which could reduce carbon reduction from landfill by approximately 5.08 million tons of carbon dioxide equivalent. For the new project, TPIPP is in the process of being registered with the TGO to ensure a decrease in greenhouse gas content.

Table demonstrating carbon reduction for Net Zero GHG Emission Target of TPI Polene Group

(Unit: Million Tons Carbon Dioxide equivalent)

Related Source/Process	2021	2022	2023	2024	2025	2026
1. TPIPL						
1.1 Clinker Production ⁽¹⁾	(7.56)	(7.56)	(7.47)	(7.30)	(7.30)	(7.30)
1.2 Other activities ⁽¹⁾	(1.41)	(1.30)	(1.20)	(1.05)	(1.00)	(1.00)
1.3 Production of Hydraulic cement ⁽²⁾	0.25	0.26	0.27	0.27	0.27	0.27
Net - TPIPL	(8.72)	(8.60)	(8.40)	(8.08)	(8.03)	(8.03)

(Unit: Million Tons Carbon Dioxide equivalent)

Related Source/Process	2021	2022	2023	2024	2025	2026
2. TPIPP						
2.1 Reduce community waste landfill by producing it as waste fuel ⁽³⁾	5.08	6.61	8.87	10.86	11.85	12.45
2.2 Production of waste fuel, steam and electricity ⁽¹⁾	(3.34)	(3.20)	(2.90)	(2.7)	(2.7)	(2.7)
Net - TPIPP	1.74	3.41	5.97	8.16	9.15	9.75
3. Waste landfill Reduction (million tons)	2.19	2.85	3.82	4.68	5.10	5.37

Remark: (1) Greenhouse gas emissions are calculated in accordance with the “Requirements for Calculation and Reporting of Corporate Carbon Footprint” by the Greenhouse Gas Management Organization no. 5, January 2021.

(2) Calculate greenhouse gases using the T-VER-METH-OTH-03 method of the Greenhouse Gas Management Organization.

(3) Emission Factor, calculated based on the case of emissions to landfill waste, which generate 2.32 tons of greenhouse gas / 1 ton of landfill waste

The Company has also improved the efficiency of electrostatic precipitators systems at its Clinker Cooler and requires measurement of dust in the atmosphere up to 2.5 microns in size for a total of eight stations around the project area for a period of five consecutive periods (2019-2023). The Company has also installed permanent air quality monitoring stations and air quality measurements that showed that air quality, sound, and lighting were within the legal limits and no chemical leakage from business operations was found.

In 2021, air quality measurements showed that air quality, sound and lighting were in the normal conditions as required by law, and no chemical leakage from business operations was found.

In addition, the Polene Solar project also supports the use of solar energy, which is clean energy, while our fiber cement plant uses wood substitutes (we do not use asbestos), which are environmentally friendly and help reduce deforestation.

(6) Prevention of Land degradation, Contamination and Remediation

The Company operates under the concept of zero waste without releasing waste, wastewater, used oils, chemicals, and other waste to the ground, which can cause soil degradation. The Company carries out the Ministry of Industry announcement regarding strict control of soil and groundwater contamination within the factory site (2016). In addition, TPI Polene Group has been planting forests as green spaces of 343 rai within the plant and has cooperated with the Environment For Life Foundation to plant 18 plant exterior forests on company land of 1,915 rai, including mangrove planting to create a balanced ecosystem and prevent coastal erosion from seawater, which is in the overall interests of the public and the public sector.

In 2021, the Company did not release waste, chemicals and contaminants, resulting in soil degradation.

(7) Waste Management

The Company aims to take advantage of industrial waste with more than 95% of the amount of industrial waste generated each year by complying with its zero waste to landfill policy by removing waste without damaging the environment. The Company uses the method of incensification in conjunction with the main fuel at cement furnaces at temperatures above 1,800 degrees Celsius, which is considered a modern technology that does not affect the community and is environmentally friendly.

The Company uses resources cost-effectively by implementing the BCG strategy to make the most of raw material resources by using waste to produce coal renewable fuels in cement plants, which reduces environmental problems caused by the disposal of conventional waste that uses landfill methods, causing air pollution, bad smells and water in the soil. In addition, the Company uses waste gas from EVA production to produce EVA emulsion and EVA powder and also uses raw materials generated by recycling water filtration in the fiber cement board production process through stirring and wet grinding to be recycled as new raw materials. The use of dust caused by the dry bending process and scrap fiber cement boards that are wasted from the production process is processed and used as a new raw material to produce replacements for main raw materials such as cement, pulp and sand.

In 2021, total volume of industrial waste utilized at 12,421.25 tons, representing 99.92% of the amount of industrial waste generated in 2021.

3.4 Sustainability management in social dimensions

3.4.1 Social Policies and Practices

TPI Polene recognizes the activities and business operations of TPI Polene Group as sensitive, so that they pay attention to the policies and practices of TPI Polene Group in accordance with the rules and legal regulations associated with social management, including respect for human rights throughout the value chain, including the fair treatment of labor, responsible for production and service, participation in community and social development by integrating social responsibility in all processes to connect the value chain within TPI Polene Group.

3.4.2 Social Performance

Human Resource Management

The Company values human resource management in terms of training, developing skills and knowledge with respect for human rights. This includes the control, protection and security of the lives and assets of those involved in the organization, which must be done with respect to the law, local traditions and cultures and human rights principles to ensure that the Company complies with such practices; an example is that all security guards treat third parties in accordance with the correct practices as well as focusing on eliminating child labor. The Company is aware that under continuous changes of economic, social, and environmental areas as well as technology, developing employees' potential to be aware of and understand such changes, including regulations and practices, will support business operations to be in line with the Company's strategy and reinforce trust, confidence and support good relationships with relevant stakeholders. This will also build engagement between employees and the Company and enhance the pride of employees who succeed in their work and help them be part of driving the Company to achieve its common goals.

In 2021, the Company provided a total of 884 training courses to increase skills and work potential for employees at an average rate of 22.62 hours/person/year (both TPI polene groups with an average

rate of 25.49 hours/person/year), which is higher than the target set at 18 hours/person/year, with the satisfaction of the training evaluation at 90 percent. No complaints about child labor were found, nor were recruitment and forced labor in companies and contractors and subcontractors. The Company provides training courses on human rights procedures or policies to 2.66% of employees, and security guards have undergone training in human rights-based procedures of 100%. It is reviewed at least once a year. The Company has not had a major labor dispute in the past three years, with the Company adhering to human rights principles ranging from employment to employee and personnel care, so that all employees and personnel will have a sense of family with the organization. In 2021, The Company has a 2.71% reduction in full-time employee resignations. At the end of 2021, the TPI Polene Group employed a total of 9,951 employees with a wide range of ages, genders, education levels and operational characteristics, including 48 disabled employees as follows:-

Description	The number of employees in TPI Polene Group (person).		
	Male	Female	Total
Employees	8,535	1,368	9,903
Disabled employees	40	8	48
Total	8,575	1,376	9,951

Respecting human rights in terms of the employee as mentioned above, the Company is also holding partners to comply with the requirements of the Supplier Code of Conduct on Human Rights Practices to be strictly implemented through the acknowledgement of the agreement to reflect that the Company has concrete human rights operations. In 2021, the partners signed an acknowledgement of 88.45 percent of the partner's code of conduct. In this regard, the Company is in the process of providing business partners an opportunity to sign a complete acknowledgement of the Partner's Code of Conduct.

Occupational Health and Safety and work environment

TPI Polene Group attaches importance to occupational health and safety management systems as part of its business operations, and is committed to improving and preventing all existing hazards, including injuries and illnesses due to work for employees, partners, contractors and stakeholders involved in the operation of all areas in the Company. The Company monitors operating areas to prevent and minimize potential losses to life, property, as well as the potential impact on the surrounding communities, with the objective to be a zero accident-free enterprise.

In 2021, the Company had a zero accident death rate and the rate of job-related injuries with high impact was zero. The number of non-accident working hours to stop working was 20,625,147 hours, an increase of 3,705,787 hours compared to 2020, with the injury frequency rate (IFR) equal to 0.169, down by 0.087 on 2020.

Community relations and Corporate Social Responsibility

Corporate social responsibility operations are divided into two main areas: community relations and corporate corporate social responsibilities. In 2021, TPI Polene Group contributed construction materials products, healthcare products worth approximately Baht 153.51 million to communities and society. The Company functions on both sides, community relations and corporate corporate social responsibilities, in parallel, which can be summarized as follows:

- Community Relations

The Company has manufacturing plants located in various community areas with a proactive policy for all production units to assist with hygiene support and reduce the impact of the COVID-19 pandemic, without the request from the community. The Company supports surrounding communities and important societies as follows:

- (1) Organized mobile medical units in healthy programs with TPI Polene to monitor illnesses, health check-up services, provide health education of lung examination at surrounding communities in Kaeng Khoi District, Muak Lek District, Saraburi Province
- (2) There are potential risks associated from the COVID-19 pandemic. In the event that its employees live in an infected community, the Company established response measures such as supporting self-defense equipment like providing hand sanitizer alcohol gel to people in surrounding communities, government agencies, and local hospitals in Saraburi Province.
- (3) Supported COVID-19 virus boards for public relations information, including measures to prevent and monitor the transmission of COVID-19 and also introduced market or public space exercises to Charoen Community. Kaeng Khoi, Saraburi.
- (4) Allocated supporting essentials under “ Pansuk Kiosk Project” such as dried nutrient rice, TPI drinking water, Provita energy drinks and pro-150 to help affected people in Saraburi province.

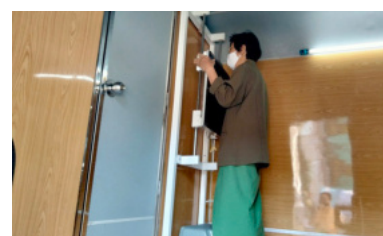
- Corporate Social Responsibility

According to the 2021 Community Satisfaction Survey, CSR activities of the Company are well known and stakeholders are very satisfied, including for the scholarship programs. TPI Polene Group has implemented educational opportunities programs for young people with good educational performance and good behavior, but who are poor and want to share the burden of parents. The scholarships continue from kindergarten to undergraduate level. Starting in 2011, the Company began offering scholarships to schoolchildren in the community area adjacent to the Saraburi factory, and upon graduation, they are accepted to work in the Company in a way to creating a strong bond with the community in the virtual space as a family. In addition, annual scholarships of Baht 295,000 are offered to six local schools from kindergarten to middle school, which has been organized for the 28th consecutive year.

In addition, it supports the development of educational quality, and the Company has donated 178.5 tons of TPI dry concrete and cement products, nano-super armer, concrete roof tiles, lightweight concrete, wood replacement products and TPI boards, etc. for improvement and repair of school buildings, roofs, roads, entrance paths to 19 schools throughout the country. The Company would like to be a part of helping underfunded schools to provide students with a better quality of life.

In 2021, TPI Polene Group joined forces to support social and community support as follows:

- Social and community support activities in the event of the Covid-19 pandemic
 - TPIPP and TPIPL supported one mobile X-ray vehicle worth 7,250,000 Baht to Chana Hospital, Songkhla Province; in the villages in the South, 10 sets of nasal highflow oxygen therapy, 30 sets of Pure Air Protection Respiratory (PAPR), six sets of Teleconsult (Hi Care) machines, 30,000 kits of VTM transmission, four units of mobile X-ray machines with readable apparatus and convertible x-rays to digital, 20 BP BIO 320 automatic blood pressure monitors, 10 Isolator negative pressure cribs and 5,000 boxes of medical gloves for six hospitals/reception centers in Songkhla province, including Chana Hospital/Somdej Nathavee Hospital/Tepa Hospital/Sabayai Hospital/Sadao Hospital/ Padang Pesar Hospital. The Company would like to be a part of the response to the Covid-19 pandemic, to help with the treatment of patients to recover and resume their normal lives.
 - Donated 31,000 rice boxes to healthcare officers at Bang Sue Central Vaccination Service Center as part of raising morale for healthcare workers who are working at their best and joining the COVID-19 crisis together.



- Donated healthcare products such as Bio Knox solution to eliminate germs of the coronavirus, mouthwash as it works for people who have contracted the disease and then will recover from the disease, micromnock solutions for spraying residential areas to kill germs, alcohol, medical supplies, equipment and supplies to healthcare workers who work continuously and to help patients receive increased protection, in the combat against the COVID-19 pandemic. These products were donated to Siriraj Hospital, and field hospitals in Saraburi province, for a total of 14 hospitals. The Director's Center "Combines Energy to Help The Shelter Fight The Threat Covid in Phitsanulok province" established a waiting center for Ban Kang Subdistrict. Donations were also made to Lat Khao Pun, Chaloem Phra Kiat District Auditorium.

- Supported 2,050 sheets of TPI boards for the use of dividing 364 bathrooms separated by female and male zones to facilitate COVID-19 patients who have been treated at Sanam Busarakham Hospital, IMPACT Challenger Building Muang Thong Thani and supported the construction of Lerdsin Hospital's field hospital.

The Company hopes that the medical supplies, equipment and supplies provided will encourage healthcare workers who work continuously and help patients receive more protection in response to the COVID-19 pandemic.



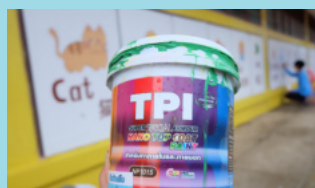
- Blanket Donation Winter Program 2021

Donated a total of 4,000 blankets to students, teachers, and local people affiliated with the Border Patrol Division 3, Chiang Mai Province. 1,000 blankets were given through the “Thammasat Arts” Meditation Office, to victims of cold weather in Chiang Mai province, and the Northeastern Region; gave 3,000 blankets to students, teachers, and people affiliated with the Border Patrol Division 2, Khon Kaen Province, and to the Faculty of Medicine, Khon Kaen University, to give 1,900 blankets to patients and victims of cold weather. The Company would like to play a part in providing assistance and helping to alleviate suffering from the cold weather.

- Provided 1,000 sets of grease traps for volunteers to develop the beautiful canal in a community under “The Chittasarak River Project to commemorate King Vajiralongkorn’s 10th birthday” by the Department of Basic Industry and Mining (NEDA). They were given to the Ministry of Industry Volunteer Directorate to be used and installed in communities in seven provinces, including Bangkok, Samut Prakan, Pathum Thani, Phra Nakhon Si Ayutthaya. Lamphun, Nakhon Sawan and Surat Thani to help solve wastewater problems through volunteer projects.
- Donated 387.95 tons of TPI cement products, 213 cubic meters of ready-mixed concrete, scrap, concrete roof tiles, TPI nano-super armer paint and other products to jointly repair, renovate buildings, and construct resevoirs for government agencies, including underfunded citizens, such as:
- Supported “TISCO joins 9” to improve the emergency trauma center at Bang Yai Hospital, Nonthaburi Province, and joined the construction of Ban Thaew Hospital - 9 floors of Ban Thaew Hospital (Public Organization).



- Contributed to landscape improvement and building improvement for government agencies that serve people who come to contact government offices, such as Chaloeam PhraKiat Police Station, Saraburi District, Chaloeam PhraKiat District. Helped with the renovation of Suan Damrong Thammasat Room, Chaloeam Phra Kiat District, Saraburi Province. Helped the Police Station in front of Phra Lan produce signs, and the project to expand the New Theory Agricultural Learning Center, based on the Sufficiency Economy Philosophy, applied to Khok Nong Na Model Unified of Chaloeam Phra Kiat District Office, Saraburi Province.
- Joined the construction of water retardant dams together with Muang Lamphun District Office in the project to build dams (Fai Maeo) to conserve natural resources and the environment around Wat Doi Khamor and nourish the forests of Wat Doi Kham, Muang Lamphun. Supported Asha Thong Cave Meditation Office, Chiang Rai province, in the project to fill the water over Mae Kham to hold water and divert water into the Kham River. Supported Nong Nak and construction of Ban Nong Krok Water Retardancy Project Nong Khae, Saraburi.
- Co-hosted Kathin Unity Wat Sri Donmul, Chiang Mai Province and Wat Ban Hin Lub, Saraburi province, and donated 1,340.5 tons of TPI cement products and 7,796 cubic meters of ready-mixed concrete, nano-super armer, concrete roof tiles and other products to 22 temples throughout the country, including supporting the construction of the Dhamma Center “St. Yacht Memorial School” on two floors of Wat Phra Maha Tai, Bangkok province. Reshaped the demolition area in front of the crematorium, Wat Tha Sao, T.Mauk Lek, Saraburi. Supported the renovation of the 1,900 meter long road within the temple T. Nontan, Nong Bua Lamphu. Supported the renovation of gudi below all cubicles in Wat Lat Khao Pun Chalermprakiat, Saraburi and the construction of Theo Master Tai Hong Kongzhou Shi of The Khon Kaen Charity Foundation (Amsim Xian Tung), Khon Kaen province.



- Donated TPIPL drinking water, totaling 29,880 bottles (350 ml each), to agencies for volunteer activities and useful activities.
- Supported the work of healthcare officers for Saraburi Provincial Stadium Hospital to support patients infected with COVID-19 in the Saraburi Provincial Administration and at vaccination service points at Kaeng Khoi District Community Hall, Mobile Agricultural Clinic of Kaeng Khoi District Agriculture Office, Saraburi Province. Supported campaigns to reduce Songkran festival accidents through the Nakhon Ratchasima Provincial Police, Kaeng Khoi Highway Section, Muak Lek Subdistrict Administration Organization, Tao Pun sub-district and Mittraphap Sub-district, Thap Kwang Highway Police Service, Saraburi Province, and to reduce accidents during New Year's holiday.



Product and service development with high responsibility

Researching, developing and improving the Company's products and services is a critical process. For each time researching, developing and improving products and services, the Company must truly understand consumer needs or satisfaction with products, through surveys of current consumer demand, budgets, durations, and adoption of new technologies or innovations in the product and service development process.

In addition, the Company's production processes of goods and services must be controlled in all processes in accordance with standards such as the Quality Management System Standard (ISO 9001:2015), the Environmental Management System Standard (ISO 14001:2015), the Occupational Health and Safety Management System Standard (ISO 45001:2018), and the Energy Management System Standard (ISO50001:2011) to ensure that the Company's products and services are high quality, safe and diverse enough to meet consumers' needs.

In 2019-2021, TPI Polene Group had a number of successful research and development projects for 14 products. In addition, the Company values customer feedback to the Company, with an average of 4.32 points of customer feedback to the Company (organized by the Company's marketing team) out of 5 points, or about 86.40 percent. There were no complaints from customers on important matters.

For more information on the company's website, please visit:

<https://www.tpipolene.co.th/en/aboutus-en/quality-policy-en>



4. Management Discussion and Analysis: MD & A

4.1 Operating Results and Financial Status.

4.1.1 Performance Overview for 2021

Revenues

Total consolidated revenues from sales in 2019, 2020 and 2021 were Baht 37,041 million, Baht 34,276 million and Baht 38,920 million respectively. Sales revenues in the construction business sector accounted for 55.8%, 51.0% and 43.6% of total revenues from sales respectively.

Sales revenues in petrochemicals and chemicals business accounted for 21.3%, 22.2% and 32.3 % of total revenue from sales respectively. Sales revenues generated from the energy and utilities businesses sector accounted for 22.6%, 26.5% and 23.8% of total revenues from sales respectively.

In 2020, total sales revenues generated from the construction business sector decreased, with the average sale price of domestic cement and the average mixed concrete price declining in line with the economic direction.

In 2021, sales revenue from the petrochemical business increased by 64.8% as average petrochemical product sales prices rose 81.0%, while sales volumes of petrochemical products decreased by 5.2%.

In 2021, sales revenues generated from the energy and utilities businesses sector increased by 2.1% from the previous year, primarily due to an increase in units of the electricity sales from the energy and utilities businesses, which increased by 3.8%, resulting from higher power capacity utilization rates for power plants to generate additional electricity output. Thus, TPIPP could sell more electricity to EGAT.

Other revenues, which were comprised of revenues from transportation, net foreign exchange gain, investment income and other revenues in 2019, 2020 and 2021 were Baht 2,228 million, Baht 1,911 million and Baht 2,359 million respectively. Other revenues in 2021 increased compared with the same in the previous year because the Company recorded net exchange gain of Baht 391 million in 2021 while, in 2020, the Company recorded net exchange loss of Baht 12 million.

The Company and its subsidiaries registered total revenues in 2019, 2020 and 2021 were Baht 39,268 million, Baht 39,187 million and Baht 41,279 million, respectively.

Cost of Goods Sold

Consolidated cost of goods sold in 2019, 2020 and 2021 were Baht 28,404 million, Baht 24,937 million and Baht 26,391 million respectively, which accounted for 76.7% of 72.8% and 67.8% of total revenues from sales. As a result, gross profit margins in 2019, 2020 and 2021 represented 23.3% 27.2% and 32.2% of total revenues from sales respectively. Gross profit margin in 2021 increased as compared with the same in 2020, primarily due to an increase in the average sales price of petrochemical products by 81.0% compared to the previous year.

Selling and Administrative Expenses

Consolidated selling and administrative expenses in 2019, 2020 and 2021 were Baht 6,144 million, Baht 4,912 million and Baht 5,394 million, which accounted for 16.6% of 14.3% and 13.9% of total revenues from sales respectively. Selling and administrative expenses as a percentage of revenues in 2021 decreased as sales revenue increased by Baht 4,644 million, or 13.55% from 2020, while sales and administrative expenses increased by Baht 482 million, or an increase of 9.8% from 2020 whilst selling and administrative expenses increased in a smaller proportion than the increase in sales revenue.

Loss on impairment of assets

In 2020, the Company and its subsidiary Group recognized a loss on impairment of petroleum exploration assets of Baht 1,602 million as a result of the cancellation of the petroleum exploration due to the exploratory wells, which have not identified proven reserves or concessions have identified proven reserves but that haven't been found to be commercially viable. Loss on impairment of assets was recognized as expenses in the consolidated financial statements for the year ended 31 December 2020 while in 2021, losses from such asset impairments were not recorded.

Interest Expenses (Cost of financial debt)

In 2019, 2020 and 2021, the Company and its subsidiaries recorded interest expenses of Baht 1,959 million, Baht 2,015 million and Baht 2,062 million respectively. The interest expenses in 2021 was higher than that of 2020 as the Company utilized loans as well as the issuance and offering for sales of debentures for various investment projects as well as an investment for the development of production efficiency in power plants, cement projects and LDPE/EVA projects.

Net Profit

The Company and its subsidiaries recorded normal operating profit (loss), excluding gain (loss) from foreign exchange, loss on impairment of assets and income tax (expense) of Baht 2,338 million, Baht 4,379 million and Baht 7,067 million in 2019, 2020 and 2021, respectively.

In 2019, 2020 and 2021, the Company and its subsidiaries registered net profits of Baht 2,765 million, Baht 2,839 million and Baht 6,918 million while profit attributable to owners of the parent company were Baht 1,394 million, Baht 1,498 million and Baht 5,671 million respectively, or basic earnings per share attributable to owners of the parent of Baht 0.073, Baht 0.079 and Baht 0.297 respectively.

An increase of net profit in 2020 was mainly due to an increase in sales revenue in the petrochemical sector, the profit margin of which is relatively high.

Performance by Business Sectors

• Construction Materials Business Sector

Revenue of the Construction Materials business sector Baht 20,670 million Baht 17,468 million and Baht 16,969 million in 2019, 2020 and 2021 respectively. The decrease in revenue in 2021 was due to a decrease in the sale of clinker exports, coupled with a decrease in the sale price of cement and ready-mixed concrete in the country as the construction business shrank due to the covid-19 pandemic, resulting in a decrease in EBITDA performance of the construction materials group in 2021 compared to 2020.

• Petrochemicals Business Sector

In 2021, the sales volume of plastic resins sales decreased compared to 2020, with the average sale price of plastic resin has risen considerably. As a result, the petrochemical and chemicals group's performance increased, with gross margin rising from 24.1% in 2020 to 42.5% in 2021.

In 2020, compared to 2019, the volume of plastic pellet sales increased, with the average sale price of plastic pellets falling in line with the cost of ethylene, with the performance of the petrochemical and chemicals segment increasing due to increased sales volumes and higher spreads with margins in 2020 increasing compared to 2019.

- **Energy & Utilities Business Sector**

In 2021, compared to 2020, sales revenue increased by 2.1% due to increased electricity sales volumes to the Electricity Generating Authority of Thailand. Revenue in 2020 comprised 95.3 % of power sales revenue and 4.7% of revenue from petro and NGV gas service stations.

In 2020, compared to 2019, sales revenue increased by 8.5% due to increased power sales due to the increased volume of electricity from additional boiler installations to increase power capacity, electricity sales to the Electricity Generating Authority of Thailand have increased. Revenue in 2020 consisted of comprised 95.2 % of power sales revenue and 4.8% of revenue from petro and NGV gas service stations.

- **Agriculture & Others Business Sectors**

In 2021, sales revenue increased by 13.1% compared to 2020 as a result of increased sales volume and sales price. As a result, revenue and performance in the agribusiness business have improved.

In 2020 compared to 2019, sales revenue increased by 13.6% , as the result of a wide range of versatile marketing and products, such as grease liquid, dishwashing liquids, alcohol gels, etc., which became recognized in the market, resulting in improved revenue and performance in the TPI Polene Group business.

4.1.2 Financial Status and Financial Ratio for the year 2021

Assets

As at 31 December 2019, 31 December 2020 and 31 December 2021, total consolidated assets were Baht 114,368 million, Baht 123,909 million and Baht 135,714 million respectively. In 2021, the increase in assets value was mainly due to additional investments in various projects in the energy and utilities businesses sector and the development of production efficiency to reduce production costs in cement projects and petrochemical plants.

As at 31 December 2019, 31 December 2020 and 31 December 2021, total consolidated current assets were Baht 25,378 million, Baht 27,295 million and Baht 35,517 million respectively. Cash and cash equivalents, and other current financial assets increased as the Company and its subsidiaries issued additional debentures in preparation for repayment of the entire matured debentures due in 2022 and used for improvement of production efficiency, as working capital in the Company's operations and to support investments in the Group of the Company. Inventory accounted for 55.9% 40.7% and 44.2% of total current assets in 2019, 2020 and 2021, equating to average inventory turnover periods of 181 days, 183 days and 183 days respectively.

Trade accounts receivable (after the provision of doubtful debts) represented 17.6% 17.1% and 16.8% of total current assets, which equated to an average collection period of 43 days, 49 days and 50 days respectively. The average debt collection period was longer due to the COVID-19 pandemic. The Company has implemented periodic debt repayment assistance measures for debtors to alleviate the burden of paying according to the changing circumstances.

As at 31 December 2019, 31 December 2020 and 31 December 2021, the property, plant and equipment of the Company and its subsidiaries were Baht 86,252 million, Baht 92,925 million, and Baht 96,366 million respectively. The increase in the property, plant and equipment in 2021 was mainly due to additional investments in various projects in the energy and utilities, cement and plastic resin businesses sectors.

Liabilities

Total consolidated liabilities were Baht 62,875 million, Baht 71,737 million and Baht 78,152 million at the end of 2019, 2020 and 2021 respectively. The debt liabilities increased because the Company and its subsidiaries issued and offered additional debentures to refinance the matured debentures in 2022 and for repayment of short term loans from financial institutions. The remaining portion has been utilized for various investment projects and for working capital of the Group of the Company and its subsidiaries. Trade account payables at year-end 2019, 2020 and 2021 were Baht 2,536 million, Baht 2,878 million and Baht 3,617 million, equating to an average payment period of 35 days, 39 days and 44 days respectively. As at 31 December 2019, 31 December 2020, and 31 December 2021, the Company and its subsidiaries had short-term loans from financial institutions of Baht 2,940 million, Baht 1,315 million and Baht 3,392 million respectively; long-term loans from financial institutions of Baht 4,589 million, Baht 2,989 million and Baht 1,000 million respectively; and debentures of Baht 45,700 million, Baht 57,686 million and Baht 63,244 million respectively. In 2021, the Company and its subsidiaries issued and offered for sale of addition debentures to refinance the matured debentures in 2021 and 2022 and for repayment of both, short and long term loans from financial institutions in 2021 and 2022; investments in the construction of two community power plants; for development of production efficiency to reduce production costs in cement projects and plastic resin plants and for working capital of the Company and its subsidiaries.

Shareholders' Equity

As at 31 December 2019, 31 December 2020, and 31 December 2021, shareholders' equity was Baht 51,493 million, Baht 52,172 million, and Baht 57,562 million respectively. Value of shareholders' equity increased as the Company and its subsidiaries' net profit from operations increased during the period.

Capital Structure

As at 31 December 2019, 31 December 2020, and 31 December 2021, the debts to equity ratios were at 1.22 times, 1.38 times and 1.36 times respectively whereas Interest Bearing Debt to Equity ratio equated 1.03 times, 1.20 times and 1.18 times, respectively and Net Interest Bearing Debt (after deduction of cash, cash equivalents and other current financial assets) to Equity ratio equated 0.93 times, 1.00 times and 0.97 times, as of 31 December 2019, 31 December 2020, and 31 December 2021 respectively.

In 2021, debt to equity ratio was lower compared with the same in 2020 as, shareholders' equity as at 31 December 2021 increased by Baht 5,390 million as a result of the Company and its subsidiaries' net profit from operations increased during the period.

Financial Liquidity and Sufficiency of Funds

In 2019, 2020, and 2021, consolidated net cash flow from operating activities of the Company and its subsidiaries were Baht 7,770 million, Baht 11,876 million, and 7,271 million respectively. The increase in consolidated net cash flow from operating activities in 2021 was primarily a result of a decrease in net cash flow from operating activities of the Company and its subsidiaries in 2021, which was primarily due to an increase of account receivables and inventories during the period.

In 2019, 2020, and 2021, net cash flow from investing activities of the Company and its subsidiaries were Baht (8,150) million, Baht (12,195) million, and Baht (9,618) million respectively as the Company consistently invested in plants and machinery and equipment of Power Plants, RDF- Fuel Plant, and Fiber Cement Project, and for the development of production efficiency to reduce production costs in cement and petrochemical plants.

In 2019, 2020, and 2021, net cash flow from financing activities of the Company and its subsidiaries were Baht (1,248) million, Baht 4,245 million, and Baht 1,377 million respectively. The Company received the proceeds from the issuance and sale offering of debentures to refinance the matured debentures and for prepayment of both short and long term loans from financial institutions and investments in various projects as mentioned above. As a result, by year-end 2019, 2020, and 2021, consolidated cash and cash equivalent (Before the effect from foreign exchange) were Baht (1,628) million, Baht 3,925 million, and Baht (971) million respectively.

In 2019, 2020, and 2021, Interest Coverage Ratio equated 1.36 times, 1.02 times, and 1.46 times respectively and Quick Ratio equated 0.53 times 0.55 times 0.74 times, respectively. In addition, Interest Coverage Ratio in 2019, 2020 and 2021 was 4.13 times, 4.12 and 4.95 times, respectively. That rate has increased because in 2021, the Company has significantly improved its operating performance mainly from petrochemical and chemicals business sectors. In addition, the Debt Service Coverage Ratio equated 2.07 times, 2.34 times, and 2.67 times, respectively.

whereas the Company and its subsidiaries' Interest Bearing Debt to Equity ratio was 1.03 times, 1.20 times and 1.18 times while Net Interest Bearing Debt (after deduction of cash, cash equivalents and other current financial assets) to Equity Ratio was 0.93, 1.00, and 0.97 times respectively.

This can be clearly seen that net cash flow from financing activities, Interest Coverage Ratio, Quick Ratio, and Interest Bearing Debt to Equity ratio of the Company and its subsidiaries are at manageable levels. This ensures that the Group has sufficient liquidity for its operations and has the ability to pay off debts, be able to comply with terms and conditions in major loan agreements, and have the ability to seek additional sources of funding, with a revolving credit facility credit limit supported by financial institutions that are sufficient to operate the business.

Maintaining an appropriate financial ratio

The Company and its subsidiaries had sufficient funds for various project investments while the source of funds were from the issuance and sale offering of debentures and Bill of Exchange, loans from financial institutions from both domestic and international institutions, as well as cash flow from business operations of the Company and its subsidiaries and the loans from financial institutions to be used as working capital of the Company.

As at December 31, 2021, financial debts of the Company and its subsidiaries in the amount of Baht 67,635.60 million are summarized as follows:

1. Outstanding debt of subordinated unsecured debentures of the Company and its subsidiaries were Baht 63,243.60 million. The terms and conditions for debentures agreement are as follows:
 - 1.1 TPIPL's debentures amount of Baht 16,913.50 million, issued under medium term note program B.E 2562 of TPIPL under the condition that it has to maintain Debt to Equity Ratio (Debt means interest bearing debt) at the end of each quarter or at year end not greater than 1.5:1 (for the Company and its subsidiaries) throughout the term of the debentures.
 - 1.2 Other kinds of TPIPL's debentures of Baht 31,016.90 million, issued under the condition that it has to maintain Debts to Equity Ratio (Debt means interest bearing debt) at the end of each quarter or at year end not greater than 2:1 (for TPIPL and its subsidiaries) throughout the term of the debentures.

1.3 TPIPP's debentures of Baht 7,789.60 million, issued under medium term note program B.E 2562 of TPIPP under the condition that it has to maintain Debts to Equity Ratio (Debt means interest bearing debt) at the end of each quarter or at year end not greater than 1.75:1 (for TPIPP and its subsidiaries) throughout the term of the debentures.

1.4 TPIPP's debentures of Baht 7,523.60 million, issued under medium term note program B.E 2564 of TPIPP under the condition that it has to maintain Debts to Equity Ratio at (Debt means interest bearing debt, less cash, deposits and short-term investments in excess of Baht 1,500 million, and less lease liabilities and financial debt for investment in power plants with official contracts) at the end of the quarterly accounting period or the end of the fiscal year over the life of the debentures at a ratio not exceeding 3.0:1.

As of 31 December 2021, the Company and its subsidiaries' Net Interest Bearing Debts to Equity Ratio equated 1.18:1, which was not higher than 1.5:1 (which is subject to the conditions set forth in the debentures agreements in item 1.1) and 0.99:1 times, not exceeding the rate required to maintain at 2:1 as stated in item 1.2 as above.

As at December 31, 2021, TPI Polene and its subsidiaries' Net Interest Bearing Debts to Equity Ratio equated 0.52:1, which was not higher than 1.75:1 times, as per the terms and conditions stipulated in the debentures agreements of TPI Polene in item 1.3 as above. Net Interest Bearing Debts to Equity Ratio (after TPIPP's cash, cash investment and current investments) equated to 0.39:1, not exceeding the rate required to maintain at 3:1 as stated in item 1.4 as above.

2. TPIPL's unsecured long-term Loan Agreements with a local financial institution.

TPI Polene' outstanding unsecured long-term loans of 2 contracts with a local financial institution were Baht 1,000 million for a period of 3.6 years. (Comprising outstanding debt repayment of Baht 428.57 million to be due on 28 May 2022 and outstanding debt repayment of Baht 571.43 million to be due on 29 December 2022) with conditions to maintain the interest-bearing debt to equity ratio not exceeding 1.5 : 1.

As of 31 December 2021, the Company's Interest Bearing Debts to Equity Ratio equated 1.18: 1, which was not higher than 1.5:1 times as per the terms and conditions stipulated in the loan agreements.

3. Bill of Exchange Debt

The Company's Bill of Exchange Debt for total of Baht 3,392 million was utilized for working capital for business operations.

Obligations to unrelated persons or businesses

As at 31 December 2021, the Company and its subsidiaries have obligations as follows:-

1. Obligations pursuant to construction of machinery and equipment of Baht 4,281 million, using a source of funds generated from business operations.
2. Obligations under the lease agreement and land lease agreement, divided into obligations within 1 year, amounting to Baht 1.29 million, using a source of funds generated from business operations.
3. Obligations in form of Letter of credit (to import raw materials and spare parts) amounting to Baht 925 million, for raw material purchase contract Baht 349 million and letter of guarantee from the banks of Baht 315 million, using a funding source from the working capital facility.

Trade Credit Policy and Credit Term

TPI Polene Group has a credit management policy, which defines the criteria and procedures for providing credit term in each business unit that is competitive and comparable to its competitors. The average earning and payout period as a whole is consistent and has no impact on financial liquidity and take into account the costs and financial risks that may be caused by foreign exchange rates.

4.2 Factors that may affect future operations

4.2.1 Trends and potential impacts on environment and society

TPI Polene Group focuses on the impact of climate change, which will be an important factor in future business operations, thus driving the use of waste as a renewable fuel for coal in the cement production process to reduce greenhouse gas emissions, as well as aiming to develop low-carbon products along with environmentally friendly business operations. More details are shown in the Company's Sustainability Report.

4.2.2 The encumbrance of providing financial support to the subsidiary companies

The Company will consider providing financial support to its subsidiary companies, in case of the need and benefit of the Company and the Group of Companies in the long term. The Company believes that such policies and action will strengthen the TPI Polene Group' structure. On February 25, 2021, the Company's Board of Directors' meeting no. 2/2564, passed a resolution to approve the extension period to receive and/or provide financial assistance between the Company and TPIPP for another one year (from March 1, 2021 to February 28, 2022) in the amount of Baht 700 million (in case that the Company receives financial assistance) and Baht 1,200 million (in case that the Company provides financial assistance), under revolving short-term loan in form of promissory note, as per details in the reference letter as above. The above transaction is classified as a connected transaction of financial assistance of the listed company.

As at December 31, 2021, the Company's financial support transactions can be summarized as follows:-

Borrower	Loan Limit (Million Baht)	Outstanding loan amount
TPI Polene Power Plc.	1,200	-

4.3 Key Financial Information

4.3.1 Summary of consolidated financial statements of TPI Polene Public Company Limited for 2019, 2020 and 2021

1) Statements of Financial Position (Consolidated)

	Accounting Period ended 31 December					
	2019		2020		2021	
	"000" Baht	Ratio	"000" Baht	Ratio	"000" Baht	Ratio
Total current assets	25,377,527	22.19	27,294,907	22.03	35,516,869	26.17
Property, plant and equipment	86,252,301	75.42	92,924,990	74.99	96,366,052	71.01
Other non-current assets *	2,738,317	2.39	3,689,005	2.98	3,830,677	2.82
Total Assets	114,368,145	100.00	123,908,902	100.00	135,713,598	100.00
Total current liabilities	18,660,584	16.32	26,718,296	21.56	24,405,864	17.98
Long-term loans from financial institutions	2,984,304	2.61	1,380,711	1.11	-	-
Other non-current liabilities**	41,229,811	36.05	43,638,158	35.22	53,745,891	36.60
Total Liabilities	62,874,699	54.98	71,737,165	57.90	78,151,755	57.59
Equity						
Authorized share capital	23,805,500	20.81	23,805,500	19.21	23,751,500	17.50
Issued and paid-up share capital	19,180,500	16.77	19,180,500	15.48	19,126,500	14.09
Treasury shares	-	-	(259,637)	(0.21)	-	-
Shares premium on ordinary shares	60,600	0.05	60,600	0.05	60,600	0.04
Shares premium on treasury shares	35,218	0.03	135,058	0.11	220,536	0.16
Other surpluses (deficits)	9,840,436	8.60	9,840,436	7.94	9,840,436	7.25
Retained earnings	14,192,194	12.41	14,492,616	11.70	19,005,717	14.00
Other components of equity	108,164	0.09	104,375	0.08	117,470	0.09
Non-controlling interests	8,076,334	7.06	8,617,789	6.95	9,190,584	6.77
Total Equity	51,493,446	45.02	52,171,737	42.10	57,561,843	42.41
Total Liabilities and Equity	114,368,145	100.00	123,908,902	100.00	135,713,598	100.00

Remarks: *Other non-current assets comprise investments in associates and joint venture, long-term investments in related parties, other long-term investments, investment properties, land leasehold rights, intangible assets, deferred tax assets, advances payment for plant and equipment and other non-current assets.

** Other non-current liabilities comprise debentures, financial lease liabilities, deferred tax liabilities, non-current provisions for employee benefit and other non-current liabilities.

2) Statements of Comprehensive Income (Consolidated)

Statement of Comprehensive Income	Accounting Period ended 31 December					
	2019		2020		2021	
	"000" Baht	%	"000" Baht	%	"000" Baht	%
Income						
Revenue from sales of goods	37,040,563	100.00	34,275,770	100.00	38,919,785	100.00
Cost of sales of goods	(28,404,067)	(76.68)	(24,937,101)	(72.75)	(26,391,000)	(67.81)
Gross profit	8,636,496	23.32	9,338,669	27.25	12,528,785	32.19
Transportation income	1,166,524	3.15	1,113,565	3.25	1,348,630	3.47
Net foreign exchange gain	404,780	1.09	-	-	390,708	1.00
Investment income	106,125	0.29	59,151	0.17	60,416	0.16
Other income	550,482	1.49	738,177	2.15	559,515	1.44
Profit before expenses	10,864,407	29.33	11,249,562	32.82	14,888,054	38.25
Cost of distributions and transportations	(4,032,386)	(10.89)	(3,164,115)	(9.23)	(3,346,691)	(8.60)
Administrative expenses	(2,111,251)	(5.70)	(1,748,261)	(5.10)	(2,047,289)	(5.26)
Impairment loss of assets	-	-	(1,601,820)	(4.67)	-	-
Net foreign exchange loss	-	-	(11,943)	(0.03)	-	-
Total expenses	(6,143,637)	(16.59)	(6,526,139)	(19.04)	(5,393,980)	(13.86)
Profit from operating activities	4,720,770	12.74	4,723,423	13.78	9,494,074	24.39
Finance costs	(1,959,023)	(5.29)	(2,014,903)	(5.88)	(2,061,541)	(5.30)
Share of profit of subsidiaries accounted for using equity method	-	-	-	-	-	-
Share of profit (loss) of associates accounted for using equity method	(18,704)	(0.05)	56,321	0.16	24,703	0.06
Profit before income tax expense	2,743,043	7.41	2,764,841	8.07	7,457,236	19.16
Tax income	21,528	0.06	74,325	0.22	(539,277)	(1.39)
Profit for the year	2,764,571	7.46	2,839,166	8.28	6,917,959	17.77
Other comprehensive income (expense)						
Items that will be reclassified subsequently to profit or loss						
Exchange difference on translating financial statements	(250)	(0.00)	(18)	(0.00)	353	0.00
Gain (loss) on measurement of financial statements	(111)	(0.00)	6	0.00	2	0.00
Share of other comprehensive income (expense) of subsidiaries accounted for using equity method	-	-	-	-	-	-

Statements of Comprehensive Income (Consolidated)

Statement of Comprehensive Income	Accounting Period ended 31 December					
	2019		2020		2021	
	"000" Baht	%	"000" Baht	%	"000" Baht	%
Share of other comprehensive income (expense) of associates accounted for using equity method	(935)	(0.00)	(3,778)	(0.01)	12,735	0.03
Income tax relating to items that will be reclassified	25	0.00	-	-	-	-
Total items that will be reclassified subsequently to profit or loss	(1,271)	(0.00)	(3,790)	(0.01)	13,090	0.03
Items that will not be reclassified to profit or loss						
Gain on investments in equity instruments designated at fair value through other comprehensive income (expense)	-	-	3	0.00	7	0.00
Share of other comprehensive income (expense) of subsidiaries accounted for using equity method	-	-	-	-	-	-
Losses on remeasurements of defined benefit plans	(245,792)	(0.66)	-	-	-	-
Income tax relating to items that will not be reclassified	49,235	0.13	(1)	(0.00)	(2)	(0.00)
Total items that will not be reclassified to profit or loss	(196,557)	(0.53)	2	0.00	5	0.00
Other comprehensive income (expense) for the year, net of tax	(197,828)	(0.53)	(3,788)	(0.01)	13,095	0.03
Total comprehensive income for the year	2,566,743	6.93	2,835,378	8.27	6,931,054	17.81
Profit (loss) attributable to:						
Owners of the parent	1,393,525	3.76	1,498,152	4.37	5,670,534	14.57
Non-controlling interests	1,371,046	3.70	1,341,014	3.91	1,247,425	3.21
Profit for the year	2,764,571	7.46	2,839,166	8.28	6,917,959	17.77
Total comprehensive income (expense) attributable to:						
Owners of the parent	1,195,695	3.23	1,494,363	4.36	5,683,629	14.60
Non-controlling interests	1,371,048	3.70	1,341,015	3.91	1,247,425	3.21
Total comprehensive income for the year	2,566,743	6.93	2,835,378	8.27	6,931,054	17.81
Basic earnings per share (in Baht)	0.073		0.079		0.297	

Revenues from sales - Outside customers

	2019		2020		2021	
	"000" Baht	%	"000" Baht	%	"000" Baht	%
Construction Materials	20,670,418	55.80	17,468,305	50.96	16,968,829	43.60
Petrochemical and Chemicals	7,901,438	21.33	7,616,357	22.22	12,550,440	32.25
Energy and Utilities	8,364,041	22.58	9,072,251	26.47	9,266,087	23.81
Agriculture	104,666	0.28	118,857	0.35	134,429	0.35
Total	37,040,563	100.00	34,275,770	100.00	38,919,785	100.00

3) Statement of cash flow (Consolidated)

	Accounting Period ended 31 December		
	2019 ("000" Baht)	2020 ("000" Baht)	2021 ("000" Baht)
Net cash from operating activities	7,770,137	11,876,001	7,270,922
Net cash used in investing activities	(8,149,630)	(12,195,171)	(9,618,405)
Net cash from financing activities	(1,248,327)	4,244,530	1,376,824
Net increase (decrease) in cash and cash equivalents, before effect of exchange rates and changes in holding of investments in subsidiary	(1,627,820)	3,925,360	(970,659)
Effect of exchange rate changes on cash and cash equivalents	5,105	(11,801)	(18,612)
Cash and cash equivalents from change in holding of investments in subsidiary	-	475	-
Net increase (decrease) in cash and cash equivalents	(1,622,715)	3,914,034	(989,271)
Cash and cash equivalents at 1 January	4,366,560	2,743,845	6,657,879
Cash and cash equivalents at 31 December	2,743,845	6,657,879	5,668,608

4) Key Financial Ratio

Financial Ratio	Accounting Period ended 31 December		
	2019	2020	2021
Liquidity Ratio			
1. Current Ratio (times)	1.36	1.02	1.46
2. Quick Ratio (times)	0.53	0.55	0.74
3. Cash Ratio (times)	0.41	0.52	0.28
4. Receivable Turnover (times)	8.28	7.38	7.24
5. Collection Period (days)	43.46	48.77	49.75
6. Inventory Turnover Period (times)	1.99	1.97	1.97
7. Inventory Turnover(days)	180.68	182.55	182.98
8. Account Payable Turnover (times)	10.26	9.21	8.13
9. Payment Period (days)	35.09	39.07	44.29
10. Cash Cycle (days)	189.05	192.25	188.43
Profitability Ratio			
11. Gross Profit Margin (%)	23.32	27.25	32.19
12. Operating Profit Margin (%)	11.37	18.32	23.23
13. Other Profit Margin (%)	(3.69)	(9.86)	(3.90)
14. Cash to Net Profit Ratio (times)	1.85	1.89	0.80
15. Net Margin (%)	7.04	7.85	16.76
16. Return on Equity (%)	5.40	5.48	12.61
Efficiency Ratio			
17. Return of Assets (%)	2.46	2.38	5.33
18. Return on Fixed Assets(%)	7.19	6.66	10.58
19. Assets Turnover (times)	0.35	0.30	0.32
Financial Policy Ratio			
20. .Debts to Equity Ratio (times)	1.22	1.38	1.36
21. Net Debts to Equity Ratio (times) ²	1.12	1.18	1.15
22. Interest Bearing Debt to Equity Ratio (times)	1.03	1.20	1.18
23. .Net Interest Bearing Debt to Equity Ratio (times) ²	0.93	1.00	0.97
24. Interest Coverage Ratio (times) ³	4.13	4.12	4.95
25. Debt Service Coverage Ratio (times) ³	2.07	2.34	2.67

Financial Ratio	Accounting Period ended 31 December		
	2019	2020	2021
26. Dividend Payout Ratio (%) ¹	82.19	75.95	30.30
27. Net Debt to EBITDA Ratio (times)	6.47	5.57	4.61
28. BE Size to Interest Bearing Debt Ratio (times)	0.02	0.02	0.05
29. Current Interest Bearing Debt to Interest Bearing Debt Ratio (times)	0.22	0.32	0.25
30. Long Term Borrowings from Financial Institutions to Liabilities Ratio (times)	0.12	0.06	0.06
Shares data			
31. Book Value per Share (Baht) ⁴	2.68	2.75	3.01
32. Earnings per Share (Baht)	0.073	0.079	0.297
33. Dividend per Share (Baht)	0.060	0.060	0.090
Growth Ratio			
34. Total Assets (%)	3.51	8.34	9.53
35. Total Liabilities (%)	5.58	14.10	8.94
36. Sales(%)	5.85	(7.46)	13.55
37. Operating Expenses (%)	3.00	(20.04)	9.80
38. Net Profit (%)	94.05	2.70	143.66

Remarks : 1. Calculation based on Separate Financial Statements.

2. After Deducting Cash and Cash Equivalents and Current Investments

3. Cash basis

Interest coverage ratio = Cash from (used in) operating activities (before change in operating assets and liabilities) divided by finance cost paid from cash flow from financing activities.

Debt service coverage ratio is calculated based on formula of Financial Covenants stipulated in Financial Agreements of the Company with commercial bank creditors, which is as follows:

Debt service coverage ratio = Cash from (used in) operating activities (before change in operating assets and liabilities) divided by repayment of long-term loan + finance lease payments + finance cost paid

4. Number of 5,899,999,300 shares of TPIPP, held by TPI Polene, not yet marked to market. The above share price was realized at the par value of Baht 1 per share.

5. Other key information

5.1 General information

Based on Section 1.1.5, name, location, head office, business type, Company registration number, telephone, fax, company website Total number and type of securities sold

5.2 Other important information

- No -

5.3 Legal disputes

See the details shown in the notes no.38 to the 2021 financial statements.

5.4 Secondary market

The Company does not have securities listed on other countries' exchanges.

5.5 Regular Contact Financial Institutions only in case of debt instruments

CIMB Thai Bank Plc.	44, Langsuan Road, Lumpini Subdistrict, Pathumwan District, Bangkok 10330
Bank of Ayudhya Plc.	1222, Rama 3 Road, Bang Phongphang Subdistrict, Yan Nawa District, Bangkok 10120
Asia Plus Securities Co., Ltd.	3/1 FL., Sathorn City Tower, 175 South Sathorn Road, Thungmahamek, Sathorn, Bangkok 10120



Corporate Governance 2

6. Corporate Governance Policy

6.1. Overview of Corporate Governance Policy and Guidelines

The Board of Directors place great importance and commitment to operate the business to be in compliance with the principles of good corporate governance, based on the Code of Conduct policy of the TPI Polene Group, which has been continuously reviewed and updated, and delivered to the Board of Directors. The Group's corporate governance policies and business ethics are presented on the Company's website to guide corporate governance at all levels throughout the organization to create a corporate culture, as well as for investors to understand and to be able to serve as a way to further monitor the group's business direction. Recently, the Company announced a guidelines policy for employees following the way of Four Noble Truths and Four Sublime States of Mind, as per details as follows:-



Announcement

Issue no. 1/2022

Subject: Principles of employee duties

For success in creating sustainable business growth of the Company, TPI Polene group adheres to Environmental, Social and Governance (ESG) criteria, (Environmental, Social, Corporate Governance), by embracing the Bio Circular Green Economy as a sustainable business model under the standards of good corporate governance. In carrying out duties and responsibilities, all employees are required to work under Four Rddhippada : Basic For Success 4, which consists of the follows:

1. Chanda: (Aspiration) Intention or purpose or desire or zeal. The need to do and always be willing to do what is assigned and aspire to make it work even better.
2. Viriya: (Effort) or energy or will,
3. Citta: (Concentration) Consciousness or mind or thoughts ,concentrate on work
4. Vimansa: Planning, Result Checking, Good Governance, Research and Development

With a committed heart to create a balanced happiness with a better quality of life in a sustainable manner pursuant to Four Sublime States of Mind, which consists of the following:

Metta: Mercy

Karuna: Kindness

Mudita: Sympathetic Joy

Upekkha: Equanimity

Announced on January 2, 2022

Prachai Leophairatana

Chief Executive Officer

Note: This principle of living follows metaphysical concept of Four Noble Truths.

Brahma-vihara (FOUR SUBLIME STATES OF MIND)

Metta (Mercy)	Love, desire for others to be happy.
Karuna (Kindness)	Desire to get others out of their sufferings
Mudita (Sympathetic joy)	Pleasure that comes from delighting in other people's well-being, even if one did not contribute to it.
Upekkha (Equanimity)	Even-mindedness and serenity, treating everyone impartially

Iddhipada 4 BASIS FOR SUCCESS 4

Chanda (Aspiration)	To be content and happy in doing good deeds with enthusiasm and strong intention.
Viriya (Efforts)	Diligence, patience, commitment, endurance, willingness to work hard and to never give up; having the courage to tackle any obstacle and having the courage to make changes.
Citta (Concentration)	Consciousness of the senses, Subconscious mind and Intellect, is of immense power
Vimamsa (R&D)	Involves conducting an investigation or discrimination, a plan, a measure, an invention of a solution.

The Principles of Iddhipada 4: Path of accomplishment in work, which consists of the following:

Chanda (Aspiration) - Satisfaction with the work we're performing.

Firstly, we need to explore ourselves for what kind of job we like or what areas of work we have faith in, and then go down that path. We can start easily by questioning ourselves what we work for and whether we are happy if such job is not a loving job. In case we have time to find and adjust ourselves or adapt our faith to our work.

Viriya (Efforts) - Diligence in our work

All work that can be done requires diligence. Viriya is another tool that can lead to success. The more we work hard, the rewards received are even more. More importantly, Viriya can be achieved with the love of work, not just dedicated the work to life but virility is a self-training one.

Citta (Concentration)

The mind that focuses on the work is completely good for the work that is done. Chitta is Thammas that represents conscious, prudence and responsibility and helps us to work without distractions. Once we have both Chanda and Viriya, Chitta can be considered as the fence of a path that does not distract us from success.

Vimamsa - The contemplation and use of wisdom to monitor work

The best way to get the job done is in this last element of the basis for success 4. Vimamsa means contemplate, working with wisdom and thinking, not just working on it. Probably, reconsidering ourselves steadily what we have done all day, summarizing the reasons why we have done all things today and we can be encouraged in the next following days and we're not going to repeat our mistakes, and can see a way to see which paths will actually lead to success.

Therefore, if Iddhipada 4 (Basis for Success 4) is applied at work, we love the work, work hard, and take responsibility for the work and know to contemplate carefully. The way of success is not beyond the reach (Source: Division of Planning, Office of the President, Maha Sarakham University), which is the main principle of Iddhipada 4 and is the way to success at work, a commitment to creating balanced happiness with a sustainable quality of life.

(Catvari Aryasatyani) FOUR NOBLE TRUTHS Heart of Buddhism (Ariyatham to the Cessation or Extinction of Suffering)

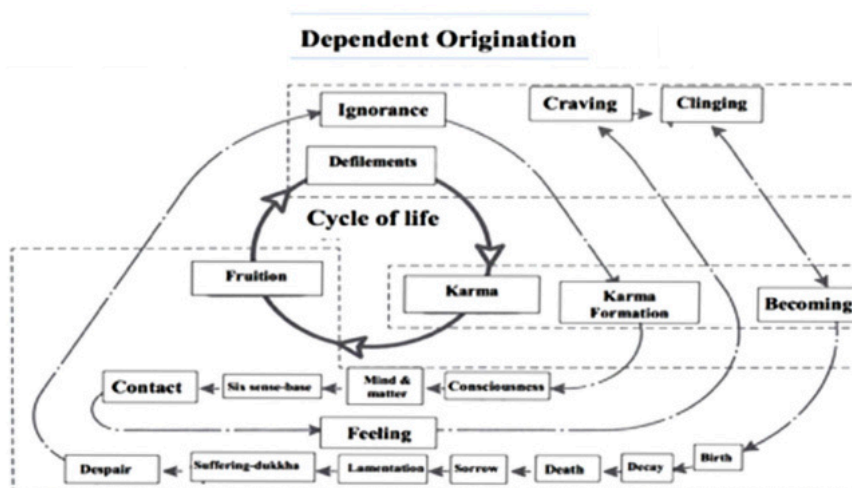
The basic doctrines of Buddhism is noble path leading to the complete destruction of suffering.

Dukkha	Suffering
Samudaya	The Cause or Origin of Suffering
Nirodha:	The Cessation or Extinction of Suffering can be attained by the renouncement or letting go of Tanha
Marga	The Path leading to the Cessation or Extinction of Suffering

Dukkha: The word suffering in Heart of Buddhism is not just to mean suffering in Thai as it is understood. It also means difficult conditions to endure in the same condition and clinging to impermanent states and things or stress conditions.

Samudaya: The origin or arising of Dukkha

Consideration of Paticca-samuppada: Cause of Suffering. Paticca-samuppada or the Law of Dependant Origination is the Dhamma or natural law



Nirodha: The Cessation or Extinction of Suffering) can be attained by the renouncement or letting go of Tanha

Marga: The Noble Eightfold Paths

The Path leading to the Cessation or Extinction of Suffering

1. Right view
2. Right intention
3. Right speech
4. Right action
5. Right livelihood
6. Right effort
7. Right mindfulness
8. Right concentration

Chants conquering The Evil : Panmare Chino Na Tho

Panmare Chino Natou Patto Sampothimuttaman

Chatur Satjung Pakasti Thammajakang Pawattayi

Etena Sajjavajchena Hotu Me Chayamankalang

Devil 5 (What Kills a Person to Die from Goodness)

THE EVIL ONE, THE TEMPER, THE DESTROYER

1. The MARA of Defilement
2. The MARA of Aggregates²
3. The MARA of Karma Formations³
4. The MARA of Deity
5. The MARA of Death

After conquered the five devils, the Buddha enlightened Four Noble Truths

Note

1. **MARA (The Destroyer)** is something that depletes one from his virtues or noble results or something that consumes virtues or prevents one from attaining good results.
 1. MARA of Defilement is love, greed, anger, delusion, evil spirit.
 2. MARA of Aggregates is something that destroys one's Aggregates, makes him pain, sick, crippled, depriving one of the opportunity to do good deeds.
 3. The MARA of Karma Formations is the thought, emotion, and karma cultivator that prevents one from avoiding the suffering in samsara or rebirth of one in 31 places of existence
 4. The MARA of Death is death that deprives one of the opportunity to do good deeds.
 5. The MARA of Deity is an evil deity who is powerful and inspires one not to do the good deeds.
2. **Five Khandha (Five Groups of Existence or Five Aggregates)** are the five aggregates of form and abstract that make up the collective units which are ordinarily called animals, persons, beings, he, we, etc. The five components incorporated into life.
 1. The corporeality group (rūpa - khandha) is the aggregate of form which is the mixture of earth, water, air and fire elements such as hair, skin, bone, and blood.
 2. The feeling group (vedanā - khandha) is the aggregate of processing feelings such as happiness, suffering, or indifference.
 3. The perception group (saññā - khandha) is the aggregate that remembers what one received or felt. It is the part that defines or perceives the meaning of what have known (Arrom 6) such as white, green, black, red, etc.

4. The mental-formation group (sankhāra - kkhanda) is the aggregate of thought to identify what you feel and remember whether it good or bad or indifference, neither good nor bad. The mind was led by intention to be good or bad or upyakrit (neither good nor bad) such as kaya-sankhara (physical intent), vācī-sankhara (verbal intent), and mano-sankhara (mind intention).
5. The consciousness-group (viññāna-kkhandha) is the aggregate of cognition or knowing of things through the six senses including eyes, ears, nose, tongue, body and mind.

The Five Aggregates are abbreviated into two groups, namely the abstract and the form (Rupa Khandha).

3. **Apisankhara 3** is the thought, emotion, and karma cultivator, comprising of:

1. Punyaphisangkara is a thought that enhances good karma (merit).
2. Apunyahisangkara is a thought that enhances evil karma (sin).
3. Anenchaphisangkara is a thought that is calm, unable to be upset or excited

4. **Fetter** is the defilement that binds the animals to suffering or defilement that binds the mind to the cycle of defilement, karma, and the result of karma. There are 10 fetters, i.e.

1. Sakkaya-ditthi One has the view that the five aggregates are self.
2. Vicikicchā One has doubts about the virtues of the Three Jewels, namely the Buddha, the Dharma, and the Sangha
3. Silappatāpamasā One adheres to the sacred things or customs by believing in magic which is not Buddhism or adheres to the wrong practices, which is not the aims of Buddhism.
4. Kamārāga One has contentment in sensual pleasures or lust.
5. Veleppa One adheres with anger.

Udhamphakiasayojana or the Five Higher Fetters are:

6. Rūpa-rāga One has greed for material existence or attachment to realms of form.
7. Arūpa-rāga One has greed for immaterial existence or attachment to formless or abstract realms.
8. Māna One has conceit or pride with the feeling of being better, worse, or equal with others.
9. Uttāra One is distracted or restless.
10. Avijjā One has ignorance of the Four Noble Truths

Phra Sodāhan is the one who puts an end to all first 3 fetters, namely Sakkaya Ditthi, Vicikicchā, and Silabbatāpamasā.

Sakāthakāmi is the one who puts an end to all first 3 fetters, and reduces lust and anger. Anāgāmi is the one who puts an end to the 5 lower fetters.

Arahant is the one who puts an end to all 10 fetters.

5. **Sankhara** is Body and Mental Formations, together with Volitional Formations and Volitional Activities. Sankhara also means “formations” or “that which has been put together” of all including ingredients, decorations, parts of the body, mind, life, spirit, all things that made up. (Volitional Formation is what our brains think. The more we think, the more formations follows like a shadow following our body. What is in the brain will be expressed through words and actions, which is karma. Since our minds are endlessly concerned or embellished, we commit karma endlessly, resulting in us being reborn indefinitely). In the Trinity (Trilak), sankhara is the thing being formed or improvised, which is all the the mind and forms.

Paticca-samuppāda (the Dependent Origination; conditioned arising) Sankhara 3 is

1. Kāyasāṅkhara bodily formation, bodily volition
2. Vācīsāṅkhara verbal formation, verbal volition
3. Manosāṅkhara mental formation, mental volition

Sankhara has three qualities known as trilak (three marks of existence as follows:

1. Anicca: Impermanence
2. Dukkha: State of suffering or being oppressed, state which cannot stand in its original condition, state that will deteriorate because of being oppressed by Anicca.
3. Anatta: No real self, incapable of being in power

The opposite of Sangkhara is Wisangkhara

Wisangkhara is Nirvana, which is eternal. It leads to nicca, sukhang, anatta (dharma).

As per Details Disclosed on <https://www.tpipolene.co.th/en/aboutus-en/employee-handbook>

As a listed company on the Stock Exchange of Thailand, TPI Polene Group recognizes its important mission in the field of good management, transparency and equality for all stakeholders, ensuring investment and creating long-term value for shareholders, building trust with all stakeholders, as well as ensuring the organization has the right management, most effectively promote the competitiveness of the organization to grow sustainably to raise corporate governance standards.

However, to operate the business under a good corporate governance and business ethics will lead TPI Polene Group to achieve stable and sustainable growth to create confidence for shareholders and all stakeholders and to be able to develop in operational standards to be at international level. Performance monitoring is followed to ensure effective implementation, which covers investments, which are planned jointly; define a clear roadmap and follow-up report on the progress of operations on a regular basis, as well as formulate long-term strategies and goals for sustainable growth development. The Board of Directors recognizes their role as leaders of the organization and understands the benefits of the continuous implementation of good corporate governance principles and business ethics in the organization in order to be internationally recognized.

TPI Polene Group has reviewed its CG policies and CG manuals to comply with the law, best practices for business operations, changing socioeconomic and environment and has designated the Directors, the Management and employees at all levels to be acknowledged and adhered to as part of their work as a commitment and to take action. The Board of Directors has established the following good corporate governance policies for TPI Polene as follows:

1. The Board of Directors, the Management and employees are committed to implementing the core principles of good corporate governance in the implementation of the management structure that is related to the Board of Directors, the Management and shareholders, including fair practices to the stakeholders.
2. The Board of Directors has to perform duties with dedication and responsibility, to be independent with roles and duties between the Chairman of the Board and the Managing Director and the President are clearly separated.
3. The Board of Directors plays an important role in determining the Company's vision, strategy, policies and plans by considering risk factors and plan management guidelines, manage appropriately, and must take steps to ensure that the accounting system, financial reports and audits are trustworthy and reliable.
4. The Board of Directors must be a leader in ethics as an example of the implementation of regulatory guidelines, under good corporate governance and monitor the management of conflict of interest and connected transactions.
5. The Board of Directors may appoint a specific committee as appropriate to help carefully verify important tasks.
6. The Board of Directors must provide an annual self-assessment as a framework for monitoring duties of the Board of Directors.
7. The Board of Directors determines the ethical standards and integrities of the Company in order to the Board of Directors, the Management, employees, and all employees to be used as a guideline for conduct, along with the Company's rules and regulations.
8. The Board of Directors must provide adequate disclosure of the Company's information both financially and non-financially adequately and to be reliable and timely to ensure that stakeholders of the Company receive information equally. Public relations department and investor relations are responsible for providing information to investors and the general public.

9. The Board of Directors Shareholders must be treated equally and have the right to access information and appropriate ways to communicate with the Company.
10. The Board of Directors must provide a system for selecting personnel to be responsible for important management positions at all levels appropriately under a transparent and fair recruitment process.
11. The Board of Directors must provide a system that supports effective anti-corruption in order to confirm that the Management recognizes and focuses on the importance of as well as following an anti-corruption measurement policy

6.1.1 Policies and Guidelines relating to the Board of Directors

The Board of Directors intends to promote the Company as an effective organization to conduct its business effectively under the good corporate governance and excellent management. It focuses on creating good benefits for shareholders, employees, customers and taking into account stakeholders and all related parties as a whole under good governance principles in business that make the work processes of the Company's management and employees transparent and auditable, and therefore establish topics related to policies and practices related to the Board of Directors as follows:

1. **The Board of Directors, the Management and all employees adhering to the adoption of six key principles of good corporate governance** with a structure of management that is associated with the board of directors, the Management and shareholders as follows:
 - Accountability, responsibility for decisions and their own actions
 - Responsibility for performing the duties with sufficient competence and efficiency
 - Equitable Treatment and fair treatment of stakeholders
 - Auditable operational transparency and transparent disclosure to those involved
 - Vision to create long term for creating value-added for the organization
 - Integrity and Ethics for Business Operation
2. **The Board of Directors and the Management of the Company play an important role in determining the Company's vision, strategy, policies and plans**, considering risk factors and setting out appropriate management practices, responsible for the performance of duties to shareholders, determining the direction of growth to make important decisions of the Company with caution and integrity, as well as ensuring that the accounting system is implemented, financial reports and audits are reliable and shareholders are treated equally.
 - The Board of Directors must be a leader in ethics of the implementation of regulatory guidelines, take good care of business operations, and monitor conflicts of interest and connected transactions.
 - The Board of Directors is responsible for determining the ethical standards and principles of the Company for the Board of Directors, the Management and all employees, as a guideline for their conduct in conjunction with the Company's rules and regulations.
 - The Board of Directors must provide adequate disclosure of the Company's information, both financially and non-financially adequately, reliably and timely to ensure that shareholders and stakeholders of the Company receive equal information, as well as to provide public relations agencies and investor relations agencies to be responsible for providing information to investors and the general public.
 - The Board of Directors must ensure that shareholders are treated equally, have access to information and have appropriate channels to communicate with the Company.

3. **3. The Board of Directors and the Management are leaders in ethics**, as a good model to operate in accordance with the Company's good corporate governance guidelines and to monitor the management of conflicts of interest and connected transactions.

4. **4. The Board of Directors acts with dedication, responsibility and independence** with clearly separate roles between the Chairman of the Board of Directors and the Chief Executive Officer and The President.

5. **Roles of the Chairman**

To ensure the separation of authority in terms of policymaking and management of the Company is clearly separate. Therefore, the Company requires the Chairman of the Board, the Chairman of the Executive Committee and the President are separate persons, with the Chairman playing a role. (as publicized on the Company's website <https://www.tpipolene.co.th/en/aboutus-en/organization-management/roles-of-the-chairman> The Chairman of the Board is an independent director in another role, with the freedom to be of the opinion, ensuring that the Company's director structure is properly balanced as follows:

1. Call the Board of Directors' Meeting, as a Chairman of the Board of Directors' meeting and the Shareholders' Meeting, as well as play a role in setting the agenda with the Chief Executive.
 2. Play a role in controlling meetings effectively in accordance with regulations and the Articles of Association of the Company and allow the Directors to express their opinions independently.
 3. Support and encourage the Board of Directors to perform duties to the best ability in accordance with the scope of authority, duties, responsibilities and in accordance with good corporate governance principles.
 4. Monitor the management of the Board of Directors and other sub-committees to achieve the planned objectives.
 5. Be the decisive voter in the event that the Board of Directors' meeting has the same vote and in case votes on both sides are equal.
6. **The Board of Directors provides self-evaluation** and annual evaluation of other directors to serve as a framework for reviewing the duties of the Board of Directors and consider, review and analyze performance for further work improvement.
7. **Succession Plan:** The Board of Directors and management must take steps to ensure that the Company has a system of personnel selection that will be properly responsible for key management positions at all levels. Personnel preparation is required to plan succession, especially in executive positions, by setting policies, the management policy and development approach, including individual development plans to be ready to take higher positions with vacancies.
8. **Establishment of a specific committee:** The Board of Directors may appoint a specific committee as appropriate to help carefully review sensitive work; the Board of Directors has appointed a qualified and appropriate director to serve as an important member of Board of Directors, the Company's sub-committee consists of: Executive Committee and Audit Committee.

The Executive Directors consists of six directors who have knowledge, competence, ethics and experience in business operations.

The Audit Committee consists of four independent directors who are fully qualified as announced by the Securities and Exchange Commission, including the Stock Exchange of Thailand to perform the duties of auditing and balancing the management of the Company's business to be accurate, fair and in the best interests of shareholders.

In addition, at the Board of Directors' Meeting No. 10/2564, on October 28, 2021, the nomination and remuneration committees were considered at the meeting and therefore approved all directors as the Nomination and Remuneration Committees of the Company.

9. **The Board of Directors and the management have recommended and determined the Company's business ethics** for the Board of Directors, administrator, including all employees used business ethics as a guideline for conducting in conjunction with the Company's rules and regulations as publicized on the Company's website <https://www.tpipolene.co.th/en/aboutus-en/code-of-conduct>
10. **The Board of Directors and the Management will provide adequate disclosure of the Company's information, financially and non-financially adequately, reliably and timely** to ensure that shareholders and stakeholders of the Company receive equal information, as well as to provide public relations agencies and investor relations agencies to be responsible for providing information to investors and the public.
11. **The Board of Directors and the Management provide effective anti-corruption and anti-corruption support** to ensure that management is aware of and focused on anti-corruption, as well as to implement anti-corruption measures, as publicized on the Company's website <https://www.tpipolene.co.th/en/investment-en/social-responsibility>
12. **Director Development:** the Company requires the orientation of new directors and provides a manual of directors, documents and useful information for directors by encouraging directors to continue to consider training with the Thai Institute of Directors and other related institutions throughout the year to promote understanding of the work under the principles of good corporate governance of listed companies, in order to increase knowledge of the roles of directors that will contribute to continuous and modern improvements in operation
13. **The meetings of the Boards and receipt of information:** All board members should attend the Board meetings. The Office of the Directors is responsible for preparing the documents, the place and coordinating the meetings. Each director must be informed of the date of the meeting and agenda and meeting information for reasonable study in advance. The Company holds regular board meetings on average at least once a month. Additional meetings may be held as appropriate so that the Board of Directors can continuously supervise the management's operations as detailed on the Company's website <https://www.tpipolene.co.th/en/aboutus-en/board-meeting>

In every meeting, time is allocated appropriately and adequately so that the Directors can consider the agenda generally. The Chairman and Chief Executive Officer are the agenda co-ordinators and consider the agenda of the Board of Directors to ensure that all important issues in business operations are considered by the Board of Directors in full. Each Director is free to propose topics for consideration at the meeting and has an open and free expression of opinion. It is encouraged to exercise discretion in all issues entering the meeting.
14. **The agendas of the Board of Directors** must be voted on by at least two-thirds of the Directors who attended the meeting.
15. **The Board of Directors meetings may be subject to all or part of electronic meetings, and the Company shall properly comply with the Public Limited Companies Act** and related legal regulation regarding the board of directors meetings; minutes of meeting are written and certified minutes of meetings are stored systematically and securely kept by the Board of Directors.

16. At the Board of Directors' Meeting, the Company properly complies with the Public Limited Companies Act regarding board meetings. The meeting notes are written and the Board of Directors keeps the minutes of the certified minutes systematically and with good security.

17. Remuneration of Directors and The Management

Determination of remuneration of the Board of Directors is fair and reasonable, by considering the appropriateness and compliance with the responsibilities of the Directors and the performance of the Company. Remuneration of directors has also been approved in the Shareholders' Meeting in terms of executive remuneration. The Company determines the compensation appropriately based on responsibilities, the Company's performance and the practices of listed companies within the same industry.

18. Corporate Secretary: The Board of Directors appoints a Corporate Secretary to supervise the Board of Directors' meetings and shareholders' meetings in a smooth and transparent manner, in accordance with the rules and legal regulations and to keep track of compliance correctly and regularly. In addition, the Corporate Secretary performs his/her duties to oversee the activities of the Board of Directors, including coordinating compliance with the board's resolutions and complying with the Company's good corporate governance principles.

19. Principles of other positions of TPI Polene Group's management

Details shown in Section 8 Important Corporate Governance Performance Report Subsection 8.1.3 Supervision of subsidiary and associate companies.

6.1.2 Policies and Guidelines relating to shareholders and stakeholders

The Company's Directors acknowledged best practice for directors of a listed company as their principle guideline by encouraging the Company to be an organization that operates with transparency, virtue and responsibility to shareholders, customers, employees, society and other stakeholders, it can be concluded as follows:

1. Shareholder Rights

The Company realizes and respects the importance of the rights of all shareholders. The Company has policies to protect shareholders fundamental rights and ensure equitable treatment under the related governing laws as follows:

1. Shareholders' Meeting

The Company schedules an annual general meeting of the shareholders ("AGM") within 4 months of the annual closing date of its accounting books. In case there are emergency issues that might affect the interest of the shareholders and/or related to the terms and regulations or any legal issues, to be proposed for approval in the meeting. The extraordinary shareholders' meeting will be held as the case may be. On December 31, 2021, the Annual General Shareholders' meetings were held on April 22, 2021 at the Conference Room on the 9th floor of TPI Tower, 26/56 Chan Tat Mai Rd, Thungmahamek, Sathorn, Bangkok. Total of 12 directors attended the AGM.

The Audit Committee of the Company and the Legal Advisor acted as the agents for the ballot throughout the meeting and the Chairman allocates sufficient time for each item and facilitates the meeting appropriately according to related governing laws and all respective agenda were proposed and resolved in the meeting.

2 Delivering Meeting Notices

After the Company's Board of Directors approved and resolved the Annual General Shareholders Meeting, the Company will disclose the Invitation to the Annual General Shareholders Meeting with all relevant documents on the Company's website at <http://www.tpipolene.co.th> for shareholders' consideration in advance of the meeting.

The Company assigned Thailand Securities Depository Co., Ltd., its SEC Securities Registrar, to mail meeting notices together with details of the agenda and accompanying documents (both Thai and English). The invitation letter to the shareholders' meeting contains details of the meeting, as well as important and necessary information for the decision of the Board of Directors. The Securities Registrar mails the opinion of the Board, minutes of the previous meeting, the annual report, all meeting documents, and proxy forms designed by the Ministry of Commerce, to shareholders at least seven days ahead of the meeting date. An invitation to the AGM is also announced in newspapers for three consecutive days in advance of the meeting. Foreign shareholders will receive the invitation document of the Annual General Meeting of Shareholders in English.

For Institutional Investors, the Company has contacted institutional investor representatives to coordinate and provide institutional investor information to prepare the documents correctly and completely prior to the meeting date.

3. Facilitating Shareholders

The Company treats all shareholders in a fair manner. The Company always allows registration of shareholders at least one hour before each meeting. A barcode system summarizing details of each shareholder is printed on the registration form, or the proxy form, to facilitate registration and save time as well as a suitable reception is also extended to all shareholders.

4. Conduct of Shareholders' Meetings

The Company held a meeting venue at TPI Tower, a place accessed by public transport. Before the meeting starts, the Chairman explains clearly the rules on voting and vote counting for individual agenda items. Once information has been disclosed for each item, the Chairman allocates sufficient time for each item and facilitates the meeting appropriately. During the meeting, the Chairman allows thorough expression of views and queries by shareholders before voting and summarizes the meeting's resolution on each agenda item and minutes of the meeting must be completely and accurately recorded, with a summary of voting results on each item.

5. Action after the Shareholders' Meetings

The Company duly submits the resolution of the Shareholders' meeting to the SET one day after the meeting ends. The Company duly submits the minutes of the Shareholders' meeting to the SET, the Securities Registrar of Public Company, Department of Business Development, the Ministry of Commerce, within 14 days and also disclosed the minutes of the Shareholders' meeting on the Company's website at www.tpipolene.co.th

Meeting Invitations in advance

In 2021, in the Board of Directors No. 2/2021, on February 25, 2021, the Annual General Meeting of Shareholders was held on April 22, 2021, which disclosed the resolutions of the meeting, the meeting date and agenda and informed the announcement on the Website of the Stock Exchange of Thailand to inform shareholders in advance of the date that the Board of Directors passed a resolution prior to the delivery of the invitation. Important and necessary information for the decisions/opinions of the

Board of Directors Minutes of past meetings in full detail as well as the Annual Report with meeting documents required to proxy and clearly indicated how to use them and delivered to shareholders at least 14 days prior to the shareholders' meeting date. Invitations to the export meeting on April 7, 2021 and announced in both Thai and English daily newspapers for three consecutive days and not less than 7 consecutive days prior to the meeting date (March 31, April 1 - 2, 2021) to inform the shareholders' meeting in advance enough for preparation before attending the meeting.

In the Annual General Meeting of Shareholders, the Company has disclosed the information of the invitation to the shareholders' meeting and the supporting documents on the Company's website in advance of the meeting date (starting from March 29, 2021), the implementation of the shareholders' meeting prior to the start of each shareholder meeting. The chairman of the meeting will recommend the board of directors. The management, the Company's auditors and legal advisors, acting as intermediaries and witnessing the meeting, then clarified all the rules, including how to count the votes of shareholders who must vote on each agenda in accordance with the Company's regulations, including the clear exercise of voting rights in each session and once the agenda is provided.

The Chairman will give all attendees the opportunity to express their opinions and comments for each agenda. In 2021, the AGM was held under the circumstances of controlling the COVID-19 pandemic, the Company provided a question paper for the attendees to inquire instead of using the microphone, and then the Chairman and the Management answered the questions clearly to the point and focused on every question.

The Chairman shall conduct the meeting in order of each agenda and not add the agenda without prior notice to shareholders unless the meeting has resolved to change the order of the agenda with a vote of at least two-thirds of the number of shareholders attending the meeting, or shareholders holding at least a third of the total number of shares. The issue might be raised in the meeting to consider matters other than those set out in the invitation letter. Once the Meeting has completed the agenda as defined in the Company's Articles of Association, the meeting will be determined. However, at the 2021 Annual General Meeting of Shareholders, no agenda was been changed.

In every meeting, notes are taken and the minutes are accurate and concluded with a vote with the votes counted. At the 2021 Annual General Meeting of Shareholders, the meeting was scheduled for 4:30 p.m., registration started at 3 p.m. At the opening of the meeting, with a total of 158 shareholders attending the meeting, 42 in person, and receiving 116 proxies, totalling 14,136,355,337 shares, representing 73.91 percent, which exceeds one-third of the Company's total registered shares. A total of 19,126,486,900 shares were attended by participants and clarified information as follows:

Twelve directors attended the meeting with the Chairman of the Board of Directors presiding over the meeting. The Chairman of the Board of Directors, the Chief Executive Officer and President, along with the Directors, Vice Presidents, Executive Vice Presidents and The Management from TPI Polene Group, were at the front of the forum to clarify and provide information in the event of relevant inquiries. However, Independent directors are also proxies from minor shareholders as follows:

- Auditors from KPMG Phoomchai Audit Limited :
 1. Mr. Bunyarit Thanormcharoen
 2. Mr. Chutsorn Likitpipattanakul
 3. Ms. Monthira Sirilak

- Legal Advisor from SCL Nishimura & Asahi Limited (acting as a witness to review and test the voting in case there are arguments throughout the meeting).
1. Mr. Vira Kammee
 2. Ms. Nilobon Tangprasit

Practices Guideline for Conflicts of interest

Guideline of the Good Corporate Governance of the Executive Directors and all employees to prepare a conflict of interest report in both the annual and new reports during the year in case of change, and in any meeting of stakeholders or have conflicting interests with the Company, it shall be notified in the meeting and not to participate in or abstained in that agenda. At the Shareholders' Meeting, if any directors have any interest in or are involved in any agenda, the director will notify the meeting to request not to attend the meeting and abstain from voting on such agenda.

Disclosure of the results of the votes in the Shareholders' Meeting

In 2021, TPI Polene Public Company Limited delivered a summary report on the results of the vote at the shareholders' meeting to the SET and the SEC by the evening after the completion of the meeting (April 22, 2021) and delivered the minutes of the shareholders' meeting (the minutes of the meeting, with a clear agenda and specifying the number of directors attending the meeting/ absent from meeting, shareholder inquiries and clarifications of the Board of Directors, voting count and the results of the votes in complete) to the SET and the SEC within 14 days.

2. Equitable Treatment of Shareholders

The Company values and treats all shareholders equally and fairly through the following actions:

1. **Conducting the meeting in sequence of agenda items as specified in the invitation** and not adding agenda items without notifying shareholders in advance, to ensure they have enough time to investigate before making their decisions.
2. **Appointing Proxies** to maintain the rights of those shareholders who cannot attend in person: they are able to appoint proxies, or to delegate their votes to any independent director in attendance. Shareholders can appoint proxies to others attending the meeting and votes on behalf of the shareholders and shareholders can also give proxies to the Company's audit committee to vote on their behalf. It can be indicated in the proxy statement (Form B) that the proxy will be provided to vote on whether to agree or disagree at will.

In addition, the Company also discloses the format of the proxies together with all details and procedures on the Company's website at <http://www.tpipolene.co.th> in advance of the meeting.
3. **Encouraging shareholders to use ballots for every agenda item**, voting tickets are provided for each agenda item separately.
4. **All groups of shareholders can access the Company information** completely, accurately, transparently, and in a timely manner. The Company has established an Investor Relations Office to take responsibility for providing information in both Thai and English to all shareholders, equally and completely, to ensure that shareholders can make appropriate investment decisions. Corporate information is disclosed on the Company's website, as well as on the websites of the SET and the SEC to facilitate access by shareholders and other interested investors.

3. Ensuring strict supervision of the use of inside information

by explicitly defining in writing the misuse of inside information as part of the Code of Conduct. In addition, in order to prevent any conflicts of interest, or misuse of inside information by the Board and Management, the Company has put in place internal information controls to supervise the use of inside information as follows:

- (1) Directors and Management will be regularly informed of related laws and regulations pertaining to misuse of inside information, through various communication channels.
- (2) The Company discloses in the TPIPL annual report the shareholdings of Directors, Management (and the holdings of management equivalents in Finance and Accounting Division) in compliance with the regulations of the Office of Securities and Exchange Commission.
- (3) The Directors and Management of the Company are fully responsible for submitting a report of their shareholdings in the Company, and those of their spouses and minors, in accordance with provisions contained in the Securities and Exchange Act B.E. 2535.
- (4) Any misuse of internal information shall be subject to disciplinary action,
- (5) The penalty for violations of the rules has been imposed, as announced in the Company's Notice of Discipline and Employee Regulations, with a maximum penalty of dismissal.

4. Stakeholder Roles

The Company is well aware of the roles of all stakeholders. The Company sets precise responsibilities to be prudent, fair, and respect the rights of all stakeholders in operating its business. Hence, the Company has established a Code of Business Conduct emphasizing the balanced consideration of all stakeholders, in which TPI Polene has embraced the Code of Conduct as a policy for Directors, Management, and all employees to put the Code into practice and to abide by strict moral guidelines. All management levels have to strictly follow the Code of Conduct as best practice principles, and it is a strict policy to ensure that all employees under each relevant organization line will acknowledge, understand, and follow the Code of Conduct.

The Company has a strict policy to treat all stakeholders fairly as follows:

- (1) **Shareholders:** the Company is committed to representing shareholders in transparent business operations, reliable accounting and financial system to ensure maximum satisfaction for shareholders by taking into account the company's long-term growth and consistently reasonable returns.
- (2) **Customers:** The Company places a great emphasis on customer satisfaction through the quality of its products and services, provided at reasonable prices. For the manufacturing of cement, plastic resin and ready-mixed concrete, the Company and its subsidiaries have also been awarded ISO 9001:2015 certifications from the International Organization for Standardization. In addition, TPI Group has gained recognition for the quality of all cement products from the Thai Industrial Standards Institute and the Office of Customer Protection Board.

In addition, the Company holds seminars for customers to enhance relationships and to educate them about the variety of products offered. We also develop customer interaction via certified agents that welcome all customer suggestions, as these lead to higher efficiency of product development, and maintain customer with brand loyalty.

- (3) **Management and Employees:** The Company realizes the importance of human resources in the organization, regardless of the work, without discrimination, with a policy to continuously improve the potential of the management and employees. It provides training both inside and outside the Company. In addition, the Company has an effective recruitment and hiring process, as well as consideration of equal and appropriate returns and benefits. This can be compared to companies in the same industry.

It has also paid attention to the hygiene and safety of employees as workers as can be seen from the cement plant, plastic resins factory and concrete mixing units which are certified to the management system standard. The system focuses on reducing the risk of harm and accidents of employees and stakeholders. Details shown in Section 3: Driving Sustainable Business Sub-topic 3.4.1 Sustainability management in social dimensions and 3.4.2 Social Performance.

- (4) **Trade partners:** The Company ethically sets its business operation strategies, thus enhancing relationships with all trade partners through transparent and fair practices. The Company has a policy of benefit sharing and equitable treatment for trade partners and strictly adheres to contractual agreements and does not have any business commitments that favor or strong involvement with any trade partners. Details are disclosed on the Company's website,
<https://www.tpipolene.co.th/th/aboutus/supplier-code-of-conduct-th>.
- (5) **Competitors:** The Company applies equitable treatment and abides by the framework of fair competition. Details are disclosed on the Company's website,
<https://www.tpipolene.co.th/th/aboutus/supplier-code-of-conduct-th>.
- (6) **Community and Society:** The Company, as a Thai Company, continues to be determined to discharge its responsibilities towards the nation, society and communities. Accordingly, the Company is continuously committed to promoting and supporting beneficial activities towards society, religion, education and youth by establishing a full-scale foundation under the name, "the Environment for Better Life Foundation" as detailed in Section 3: Driving Sustainable Business Sub-topic 3.4.1 Sustainability management in social dimensions and 3.4.2 Social Performance.
- (7) **Environmental Responsibility:** The Company acts as a good citizen, conscious and aware of being one part of this society. It continues to be determined to discharge its responsibilities towards relevant rules and regulations and support the community surrounding its facilities by eliminating problems and protecting the environment, thus providing better living standards for the communities near its plants. As reflected in its full support for environmental enhancement, the Company has received ISO 14001 certification for Environmental Management System Details shown in Section 3: Driving Sustainable Business Sub-topic 3.4.1 Sustainability Management in social dimensions and 3.4.2 Social Performance, as per details disclosed on the Company's website
<https://www.tpipolene.co.th/en/investment-en/social-responsibility>

5. Anti-Corruption Policy

The Company has an anti-corruption policy and establishes anti-corruption practices, which are set out in the Code of Conduct code of conduct regarding gift giving or receiving, detailed as follows: Details are disclosed on the Company's website:

<https://www.tpipolene.co.th/en/investment-en/social-responsibility> and
<https://www.tpipolene.co.th/en/aboutus-en/anti-corruption-policy>

Gift giving or receiving

- (1) Directors, the Management and employees can receive gifts, assets or other benefits for the benefit of the Company's business and avoid it in a way that exceeds or exceeds normal relationships from other parties concerning the Company or will be future partners, and such receipts or giving must be done with transparency. It must be done in an open way.
- (2) Avoid receiving gifts either in monetary or non-monetary terms from partners or those related to the Company's business, except in festivals or traditions.

- (3) The Company does not have a policy of offering money, incentives, gifts or special benefits in any form to customers, partners, external agencies or individuals to obtain business, except for traditional business certification, trade discounts and company promotions.
- (4) Directors, the Management and employees are responsible for reporting the receipt of gifts, assets or other benefits from partners, contractors, customers or stakeholders of the Company's business. In any case, it may affect decisions to perform duties in a biased or embarrassing way, or cause a conflict of interest.
- (5) Directors, the Management and employees are responsible for reporting the receipt of gifts, property or other benefits by the Company to promote to partners, contractors, customers or stakeholders of the Company's business.
- (6) Gifts, property or any other benefit accepted or provided shall not be illegal.
- (7) The Company does not prohibit the preparation of gifts with the Company's emblem, as long as the gifts to the person are reasonable and consistent with the business operation.

Practical measures

Anti-Corruption (Business Dealings with Partners and Third Parties)

Employees must comply with the following anti-corruption policies: To deal with customers, sellers, or third parties with business relevance (hereinafter referred to as "third parties with business relevance").

1. Employees must comply with the law, regulations, business practices and business etiquette for dealing with third parties with business relevance.
2. Staff must not accept or make any direct or indirect claims, which are money, vouchers, checks, stocks, gifts or other bribes, any special compensation or incentives of value from third parties with business relevance.
3. Employees may receive gifts that are not cash or any priced gifts from third parties with business interests. It must be approved by direct supervisors first. However, receiving such gifts must be in accordance with the rules, business traditions or business ethics and must not influence employee business decisions.
4. Employees shall not exploit any of their positions in the Company to receive or call on third parties who are business-related or related to such third parties, including not providing any services that are not related to the Company's business.
5. When an employee refers a person to the Company, such actions shall not contravene the Company's interests or procurement procedures. It must also not be done for unlawful personal gain.
6. Employees who are supervisors with subordinates in the same unit, there should be no relationship as a spouse or parent/child.
7. Employees must not give bribes to officials or government officials by offering money, vouchers, checks, stocks, gifts or other bribes. Any special compensation or incentives are valued.
8. Employees who violate the terms in the previous paragraph shall be punished in accordance with the relevant regulations of the Company and may be prosecuted according to the law.
9. Employees must obtain the approval of their superiors before offering gifts (for example, company products) or certifying them to third parties with business relevance. It remains to be followed by practical traditions or business etiquette, local laws and related regulations of the Company. If an employee is not approved by their superiors in advance due to urgent grounds, the employee will not be approved by his superiors. Such employees must also be approved by their superiors after giving gifts or accreditation to third parties who are already relevant to the business.

10. Employees should not exploit any of their positions in the Company to have unlawful relationships, perform sexual harassment, discrimination in any form (including discrimination based on race, gender, disability or religion as a criterion), burglary, intimidation, coercion or other unlawful conduct.
11. If the employee has already questioned anti-corruption, employees must seek the opinion of their superiors so that there is no dispute.

Dissemination of anti-corruption policies

In order for everyone in the organization to be aware of the anti-corruption policy, the Company will take the following actions:

1. The Company will post an anti-corruption policy to employees.
2. The Company will publish its anti-corruption policy through its communication channels such as electronic letters, company websites, annual reports, etc.
3. The Company will conduct a regular review of its anti-corruption policy.

Additional practices regarding prevention of corruption

The Group has an anti-corruption policy focused on promoting morality, ethics, transparency in business practices in accordance with the Company's business ethics, as well as conducting business with an effective management system, that is transparent, and verifiable. In addition, the Company encourages its personnel at all levels not to be directly or indirectly involved in corruption, and promotes the participation of employees at all levels in preventing and combating corruption related to the Company's business.

The Group has a policy of giving or receiving gifts, gifts, as well as other benefits from individuals or companies engaged in business with the Company so as not to cause conflicts of interest. Any special compensation or incentives of value from third parties with business relevance to employees of the Company must first be approved by direct supervisors. However, receiving such gifts must be in accordance with the rules, business traditions or business etiquette and must not influence employee business decisions.

In addition, the Group has a policy of not authorizing or encouraging unlawful payments or bribing government agencies, and also clearly determines how to report whistleblowers or complaints in cases where unlawful acts are witnessed. The Company also sets out guidelines for conducting investigations and penalties in the Company's anti-corruption policy.

6. Disclosure and Transparency

The Company is strictly aware of the securities act's compliance with the SEC's notices and related set requirements as follows:

1. **Disclosure of company information including financial reports** is executed accurately, completely and in a timely fashion as reflected in the Company's Annual Report (Form 56-1 One Report) and includes various financial and non-financial reports conducted in accordance with the relevant regulations of SEC and the SET.
2. **A plant visit** is provided for interested institutional investors, shareholders and analysts to access information. In addition, the Investor Relations Unit has been established to be responsible for communicating information to institutional investors, shareholders, analysts, and relevant authorities in an equitably and fair manner.
3. **Disclosure of company information is made through approved communication channels** via the SET, the SEC and the Company's Internet website in Thai and in English.

4. **The Company pays close attention to the quality of the financial information it provides**, particularly in its accuracy and adequacy. In addition, all financial information conforms to generally-accepted accounting principles and is audited by independent auditors. Hence, the Company has provided a report of the Board of Director's responsibility for financial statements in this Annual Report.
5. **Functions and responsibilities of the Board and Sub-Committees are disclosed: details** are shown in Clause 7 in the topic "Corporate Governance Structure and Important Information regarding the board of directors, sub-committees, the Management and employees, etc. This includes disclosure of the number of meetings and the number of meeting attendances each director attended. Details are shown in Clause 8 in the topic "Significant Corporate Governance Report".
6. **Disclosure of remuneration to Directors and Management Remuneration:** this is detailed above in the section "Management". Remuneration levels are based on the operating results of the Company during the previous fiscal year; reflect duties and responsibilities fairly and reasonably; and are comparable to general practices in the industry. ๒

7. Investor Relations

In 2020-21, the Company held important activities of the Company as follows:

Activities	2020	2021
Analyst Meeting / Zoom	The meeting was not held due to the COVID-19 pandemic.	4
Via e-mail/ Telephone	10 times/month	12 times/month
News & Broadcast	25	30

If investors and stakeholders require additional information, please contact Investor Relations at 02-213-1039 ext. 12983.

8. Conflicts of Interest

The Company has clear guidelines for determining transactions that may have conflicts of interest in the interests of the Company and its shareholders. The Company has adhered to the rules and regulations of the Securities and Exchange Commission and the Stock Exchange of Thailand. The disclosure process and approval of transactions between them by directors and the Management who have a stake in transactions made with the Company and its subsidiaries do not participate in the decision of such transactions.

Disclosure of transactions that may have conflicts of interest or connected transactions shall be in accordance with the criteria set out by the SEC and the SET as disclosed in the 2021 Annual Report (Form 56-1 One Report) or other report form on a case-by-case basis, as well as in accordance with generally accepted accounting standards as per details appeared in "Inter-Compnay Transaction".

In addition, in accordance with the Company's regulations, directors must notify the Company without delay if there is an interest in the contract with the Company or shareholding or debentures increases or decreases in the Company or its affiliates.

9. Internal control and inspection system

The Company has provided a good internal audit and control system that can help prevent possible damage, helps in the discovery of errors, reduces business risks and helps accurately report financial statements and other financial reports.

To help protect the Company's assets and shareholder investments, the Company has an internal audit body to monitor its performance effectively and efficiently under an adequate and appropriate internal control system. Independent units can report audit results honestly in order for management to be able to acknowledge operational problems or deficiencies in a timely manner and be used as information on the determination of measures to protect the Company's assets and shareholder investments, including unlawful exploitation from the Company and its subsidiaries, and to consider, improve and develop the Company's operating system to be more efficient and effective.

The Company also has an Audit Committee to perform its duties in reviewing and evaluating internal control systems as well as review the disclosure of information to investors to be in compliance with relevant laws and other important matters.

However, the Company has provided an internal control system of the Company and its subsidiaries with five elements in relation to the environment, risk management control, management operations control information and communication systems and tracking systems.

In addition, there are appropriate and adequate measures and procedures to operate, covering transactions with major shareholders, the Management or related persons to prevent conflicts of interest, which is to preserve the best interests of the Company and its shareholders and all relevant stakeholders.

6.2. Code of Conduct

The Company has focused on driving a concrete corporate governance culture with the Code of Conduct, it is a common obligation to comply with the scope of responsibility to the Company and its stakeholders within the Company's legal and regulatory framework on the basis of professional ethics and maintaining transparent, honest and fair business practices, taking into account the interests of all relevant stakeholders.

The Company has a policy to be updated according to the changing situation regularly. In addition, the Board of Directors acknowledges and adheres to the good practices of the listed directors. The Board of Directors, the management and employees at all levels have behaved with a conscience that adheres to integrity, morality, ethics and awareness of the Company's reputation as a leading company with credibility, stability and reputation for more than 20 years.

Principles of Ethical Business Practices

With the strong commitment of TPI Polene Group, to conduct business to thrive on the basis of ethics and morality, while being responsible for all stakeholders, the Company has prepared the Code of Conduct manual, codifying policies, responsibilities and treatment of stakeholders, as well as the principles of business operations of the Company that are under international standards and distributed to the Directors, the Management and employees, who have acknowledged the guidelines set out in this Business Code of Conduct manual to enable the Company's operations to achieve business goals while reflecting the values and culture of the organization. At the same time, the Company is also looking forward to ensure that the Company's business parties and all relevant stakeholders are informed and adhering to the same principles for sustainable growth.

The Company's Business Code of Conduct has classified into 14 categories as follows:

1. Respect and compliance with the law Related Regulations and Regulations
2. Anti-Corruption Practices
3. Interests and Conflicts of Interest
4. Use of internal information and confidentiality
5. Internal control, internal audit, risk management and financial accounting reports

6. Receiving and giving gifts, property or other benefits
7. Sourcing and treatment of partners
8. Intellectual Property Using Information Technology
9. Political Rights and Impartiality
10. Employee Code of Conduct
11. Universal Respect for Human Rights
12. Incident Reports/Complaints/Suggestions/Whistleblowing Channels Causing Damage to the Company and Protection Whistleblower Rights
13. Responsibility to Stakeholders
 - 13.1. Treatment of shareholders
 - 13.2. Treatment of customers
 - 13.3. Treatment of partners
 - 13.4. Treatment of commercial competitors
 - 13.5. Treatment of creditors
 - 13.6. Treatment of the government
 - 13.7. Treatment of employees
 - 13.8. Treatment of communities, society, culture and the environment
 - 13.9. Priority for quality, safety and occupational health
14. Research and Innovation

Details and guidelines for compliance with the Company's Code of Conduct Publish on the Company's website to keep stakeholders and the public informed at <https://www.tpipolene.co.th/en/aboutus-en/code-of-conduct>

6.3 Significant changes and developments of policies Best Corporate Governance Practices and Systems in the previous year

6.3.1 Significant changes and developments regarding policy review Guidelines and Good Corporate Governance System or Charter of the Board of Directors in 2021 are as follows:

- 1) Define and review policies and practices in 2021 as follows:
 - Issue compliance policies for applicable legal regulations, including complaints and protection policies.
 - Publicized the CG & Code of conduct guide on the Company's website <https://www.tpipolene.co.th/en/aboutus-en/code-of-conduct>
 - The Board of Directors shall be the nomination committee and the remuneration committee convened the meeting on October 28, 2021.
- 2) Compliance
 - Issue relevant legal and regulatory policies, including fair competition support and antitrust trade policy, by handing out manuals, partner ethics for procurement (details and compliance with the Partner Code of Conduct for procurement, and ethics), as disclosed on the Company's website on <https://www.tpipolene.co.th/th/aboutus/supplier-code-of-conduct-th>

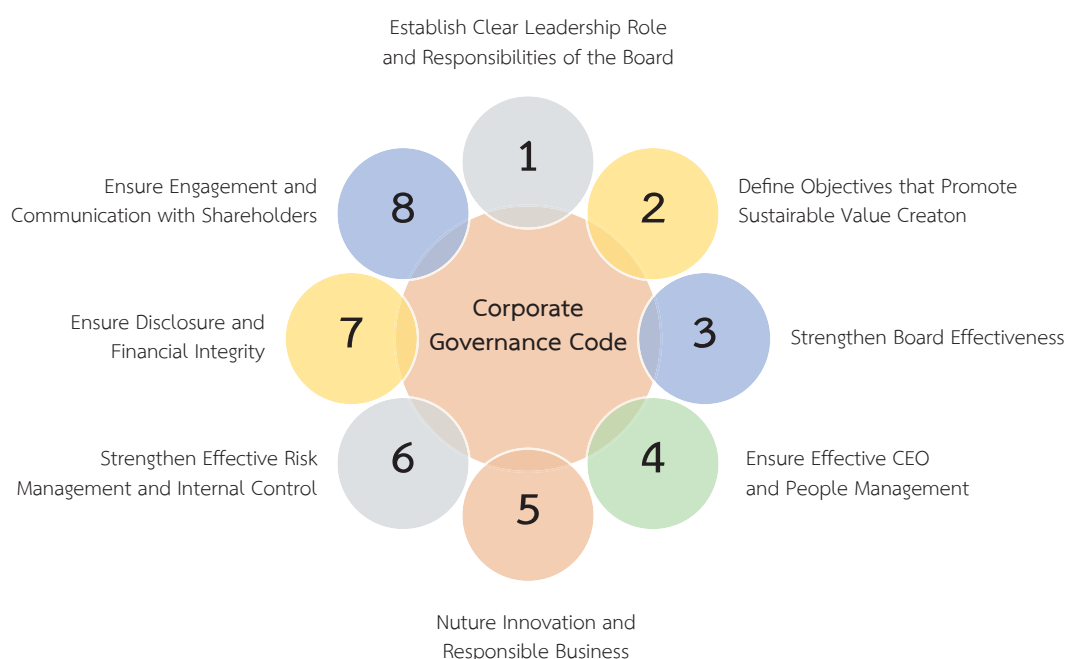
- Privacy Policy to support the enforcement of the Personal Data Protection Act B.E. 2562 (2019) and providing training to the Management and media via email to employees and planning operations with other relevant agencies to manage the Company's personal data, to support fair competition and antitrust trade.

The Company has published on its website to keep stakeholders and the public informed at <https://www.tpipolene.co.th/th/aboutus/pdpda>

- Provide educational materials to employees via Email/Line Application and in-house posts.

6.3.2 Adoption of good corporate governance principles for 2017 listed companies (CG Code) of the SEC

The Company reviewed the Corporate Governance Policy based on the 2012 Corporate Governance Policy of the Stock Exchange of Thailand and the Good Corporate Governance Principles for Listed Companies 2017 (CG Code) of the Securities and Exchange Commission, considering and recognizing its role as a leader of the Organization (Governing Board). The environment and corporate governance to create value for sustainable development consists of eight main categories as follows:



Establish Clear Roles and Responsibilities for the Board

Principle 1 Recognize the role and responsibility of the Board of Directors as the leaders of the organization that create value for sustainable affairs.

Principle 1.1

The Board of Directors should understand their roles and recognize their responsibilities as leaders to ensure good management of the organization, which covers:

- (1) Determination of objectives and goals
- (2) Determining strategies, operational policies, as well as allocating important resources to achieve objectives and goals.
- (3) Monitoring, evaluating and supervising performance reporting.

Principle 1.2

To create value for sustainable business: The Board of Directors should supervise the business leading to the governance outcome at least as follows:

- (1) Competitiveness and performance with long-term perspective
- (2) Conduct business ethically, respect the rights and responsibilities of shareholders and stakeholders
- (3) Benefit society and develop or reduce negative environmental impacts (good corporate citizenship)
- (4) Adaptability under corporate resilience

Principle 1.3

The Board of Directors has a duty to supervise and ensure that all directors and the management perform their duties of care, duty of loyalty and integrity to the organization and ensures compliance with the law, regulations and resolutions of the Shareholders' Meeting

Principle 1.4

The Board of Directors should understand the scope, duties and responsibilities of the Board of Directors and clearly define the scope of assignment of duties and responsibilities to the president and management as well as monitoring the president and management to perform their duties as assigned.

Principle 2 Define Objectives and Central Ideas

Principle 2.1

The Board of Directors should define or ensure that the objectives are sustainable, with objectives and goals in line with the creation of value for the business, customers, stakeholders and overall society.

Principle 2.2

The Board of Directors should ensure that the objectives and goals, as well as strategies in the medium period and/or annuality of the business, are in line with achieving the main objectives and goals of the business. Thus, innovation and technology are applied appropriately and safely.

Principle 3 Strengthen effective committees

Principle 3.1

The Board should be responsible for determining and reviewing the board structure in terms of size, proportion of independent directors which is appropriate and necessary to lead the organization to its intended primary objectives and goals.

Principle 3.2

The Board of Directors should select the appropriate person as chairman of the Board of Directors and ensure that the composition and operation of the Board of Directors is conducive to the exercise of discretion in independent decision making.

Principle 3.3

The Board should supervise the nomination and selection of directors with a transparent and clear process to obtain qualified members of the Board in accordance with the defined elements.

Principle 3.4

In proposing the board's remuneration for approval, the Board should consider the structure and remuneration rates to be appropriate for responsibility and incentivize the Board to lead the organization to pursue both short-term and long-term goals.

Principle 3.5

The Board of Directors should ensure that all directors are responsible for performing their duties and allocate sufficient time.

Principle 3.6

The Board of Directors should administer a framework and mechanism for significant oversight of the policies and operations of subsidiaries and other entities in which the Company invests to be at the appropriate level for each business operation, including subsidiaries and other businesses that the Company invests in, whereby is a consistent understanding.

Principle 3.7

The Board of Directors should hold an annual assessment of the performance of duties of the board of directors, sub-committees and individual directors. The evaluation should also be used for the development of duties.

Principle 3.8

The Board of Directors should supervise the Board of Directors and each director to have an understanding of its roles as well as supporting all directors to be strengthened with skills and knowledge for regularly performing director duties.

Principle 3.9

The Board of Directors should ensure that the board's operations are carried out, have access to the necessary information, and have a corporate secretary with the necessary knowledge and experience that is appropriate to support the Board's tasks.

Principle 4 Recruitment and Development of Senior Executives and Personnel Management

Principle 4.1

The Board of Directors should ensure that the nomination and development of the president and senior management is to have the knowledge, skills, experience and attributes necessary to drive the organization towards its goals.

Principle 4.2

The Board of Directors should oversee the proper determination of the remuneration and evaluation structure.

Principle 4.3

The Board of Directors should understand the structure and relationship of shareholders that may affect the management and operation of the business.

Principle 4.4

The Board of Directors should monitor the management and development of personnel to the appropriate amount of knowledge, skills, experience and motivation.

Principle 5 Promoting Innovation and Responsible Business Operations

Principle 5.1

The Board of Directors should focus on and support the creation of innovations that value the business while creating benefits for customers or related parties and having social and environmental responsibilities.

Principle 5.2

The Board of Directors should monitor the management of business with social and environmental responsibility and reflected in the operational plan to ensure that all parties to the organization are aligned with their objectives, key goals and strategies of the business

Principle 5.3

The Board of Directors should monitor management to allocate and manage resources efficiently and efficiently, taking into account the impact and development of resources throughout the value chain so that they can achieve their core objectives and goals sustainably.

Principle 5.4

The Board of Directors should provide a framework for corporate governance and management of information technology in accordance with the needs of the business, as well as ensure that information technology is used to increase business opportunities and develop operations. Risk Management in order for the business to achieve its main objectives and goals.

Principle 6 Strengthen Effective Risk Management and Internal Control

หลักปฏิบัติ 6.1

Principle 6.1

The Board of Directors should ensure that the Company has a risk management system and internal control to achieve its objectives effectively and to comply with applicable laws and standards.

Principle 6.2

The Board of Directors must establish an Audit Committee that can perform its duties effectively and independently.

Principle 6.3

The Board of Directors should monitor and manage potential conflicts of interest between the Company and the management, the Board of Directors or shareholders, including the prevention of dissemination of property, information and opportunities of the Company and transactions with people who have an inappropriate relationship with the Company.

Principle 6.4

The Board of Directors should manage the preparation of clear anti-corruption policies and practices and communicate at all levels of the organization and to outsiders to achieve practicality.

Principle 6.5

The Board of Directors should supervise the affairs to have mechanisms for receiving complaints and to process the cases with appropriate suggestions.

Principle 7 Ensure Disclosure and Financial Integrity

Principle 7.1

The Board of Directors is responsible for ensuring that the system of financial reporting and disclosure of important information is accurate, adequate, timely, and in accordance with relevant rules, standards and practices.

Principle 7.2

The Board of Directors should monitor the adequacy of financial liquidity and the ability to pay debts.

Principle 7.3

In the circumstance of financial difficulties or likely to experience problems, the Board of Directors should ensure that the business has a plan to resolve the issue or that there are other mechanisms that will be able to resolve financial issues, under consideration of the rights of stakeholders.

Principle 7.4

The Board should consider preparing a Sustainability Report as appropriate.

Principle 7.5

The Board of Directors should supervise the management to provide an agency or person in charge of investor relations that is responsible for communicating with shareholders and other stakeholders such as investors, analysts appropriately, equally and timelyly.

Principle 7.6

The Board of Directors should encourage the introduction of information technology to disseminate information.

Principle 8 Supports Engagement and Communication with Shareholders

Principle 8.1

The Board of Directors should ensure that shareholders are involved in decisions on important matters of the Company.

Principle 8.2

The Board of Directors should ensure that the implementation of the shareholders' meeting date is carried out in order, transparent, efficient and allows shareholders to exercise their rights.

Principle 8.3

The Board of Directors should ensure that the disclosure of the resolutions of the meeting and the preparation of the minutes of the shareholders' meeting is accurate and complete.

In 2021, there is a matter under consideration to determine appropriate replacement measures as follows:-

The Board of Directors has not set a policy limiting the number of years in the tenure of independent directors because the Company has considered knowledge, competence and experience. The duties of each independent director that benefits all stakeholders and benefits the Company's business operations, based on the performance of each independent director's position, can be independent and without conflicts of interest, and considering the Company's current business structure, continuing to hold positions should be beneficial to the Company's business operations.

However, the Company acts in accordance with non-legal practices and in accordance with the corporate culture of the Company and the Company has determined that such actions do not affect the qualifications of the director's independence.

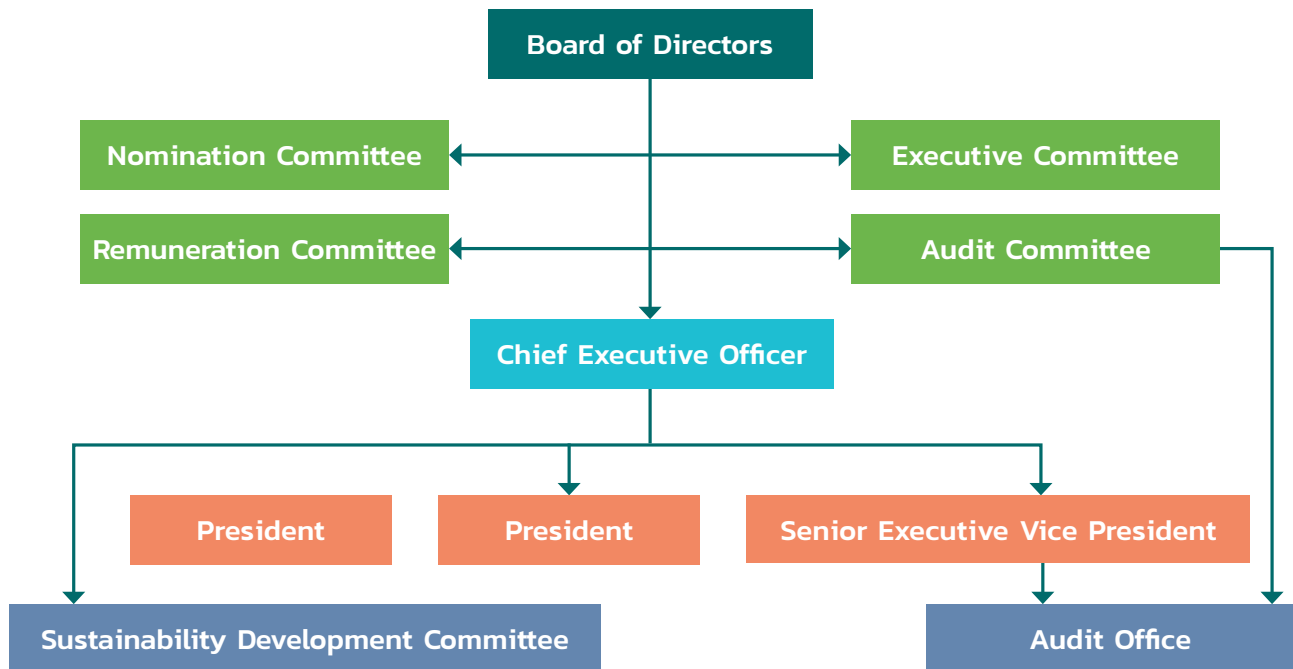
6.3.3 Conducting good corporate governance principles in other matters

In June 2021, the Company submitted the assessment information and CGR Checklist 2021 to the Thai Institute of Directors Association (IOD).

The Company's Corporate Governance Survey of the Thai Institute of Directors Association (IOD), based on the 2021 Survey and Supervision of Listed Companies as a whole, the Company was appraised at "good" level and received an overall average score and category of 73% based on a total survey of 716 companies and the survey was based on data disclosed by the Company in 2021. The Company has a good practice in accordance with the criteria for the survey of the Thai Registered Corporate Governance Program for the year 2021.

7. Corporate Governance Structure and key information about the Board of Directors, sub-committees, the management, employees and etc.

7.1 Corporate Governance Structure



As at 31 December 2021, the management structure of the Company consists of the Board of Directors, which comprises four Committees: the Executive Management, the Audit Committee, Nomination Committee and Remuneration Committee.

The Board of Directors of the Company consisting 14 directors, which comprises five independent directors, which exceeds one third of the total number of directors.

The Board of Directors' Meeting No. 10/2021 on October 28, 2021 resolved to appoint the Nomination and Remuneration Committees in order to comply with the principles of good corporate governance by the entire Board of Directors together with the consideration, in which the Company has established the principles of determining the remuneration of directors of the Company by holding the criteria for determining the remuneration of directors in accordance with the same guidelines as public limited companies on the SET, comparing and referring to the same industry and similar size in return for the performance of duties, motivate qualified personnel, knowledge, competence, skills and experience to maximize the Company's business success. In addition, the Company has established criteria for the selection and appointment of the management, including the payment of compensation in accordance with the criteria held by large companies on the stock exchange of Thailand.

In this regard, the Sustainability Development Committee is appointed by the Chief Executive Officer to perform the following duties and responsibilities:

1. Set policies, strategies, frameworks to implement strategies and consider selecting issues that promote the sustainable development of the organization, as well as set sustainability development goals in line with business operations in the economic, social & environment dimension to presented to the Chief Executive Officer for approval.
2. Supervise, review, monitor the progress of the action and evaluate the effectiveness of the implementation of the sustainability policy.

3. Encourage action and engage in projects within the framework for Sustainable Development with related parties both inside and outside the organization.
4. Provide advice, and promote and support the right resources and personnel in order to implement sustainable development strategies throughout the organization and be aligned in the same direction.
5. The Chairman of the Board of Directors has the power to appoint sub-committees or working groups to be responsible for the implementation of sustainable development in each area in order to be comprehensive and in line with key aspects of the organization.
6. Report on the performance of the preparation of sustainability reports to senior management.

The list of sustainability development committees and responsibilities can be found on the Company's website at <https://www.tpipolene.co.th/th/aboutus/org-tpi/esg-board>

7.2 Information of the Board of Directors

7.2.1 Composition of the Board of Directors

As at December 31, 2021, the Board of Directors of the Company comprises 14 persons as follows:

- Eight Non-executive directors, representing 57.14% of total directors
- Five Independent Directors, representing 35.71% of total directors
- Six Executive Directors, representing 42.86% of total directors
- Three Female Directors, representing 21.43% of total directors
- Eleven male Directors, representing 78.57% of total directors

The Board of Directors consists of directors who have a wide range of qualifications in terms of experience skills, each with morality, ethics, and independence, specialized capabilities that benefit the Company and can take care of the overall interests of shareholders. In addition, all directors have an understanding of the Company's responsibilities and business characteristics and act with integrity and careful care whereas knowledge is constantly updated and sufficient time has been devoted to fulfilling their full responsibilities.

The Board of Directors has established the qualifications of independent directors in accordance with the rules and regulation imposed by the SEC and the SET.

7.2.2 Information of the Board of Directors and the Controlling persons

The Board of Directors as at 31 December 2021:

No.	Name	Position
1	Mr. Khantachai Vichakkhana	Chairman and Independent Director
2	Mr. Prachai Leophairatana	Director
3	Dr. Pramuan Leophairatana	Director
4	Mr. Prayad Liewphairatana	Director
5	Mrs. Orapin Leophairatana	Director
6	Mr. Tayuth Sriyusiri	Director
7	Miss Malinee Leophairatana	Director
8	Mr. Supoj Singsanei	Chairman of the Audit Committee and Independent Director

No.	Name	Position
9	Mr. Pises Iamsakulrat	Audit Committee and Independent Director
10	Mr. Thavich Taychanavakul	Audit Committee and Independent Director
11	Mr. Pakorn Leopairut	Director
12	Mr. Pornpol Suwanamas	Audit Committee and Independent Director
13	Miss Thanyarat Imsopana	Director
14	Dr. Virat Chatdarong	Director *

Remark: * At the Company's Board of Directors' meeting no.10/2021, held on Oct. 28, 2021, has appointed Dr. Virat Chatdarong as a director of the Company effective Oct. 28, 2021 onwards.

However, all directors of the Company have undertaken at least one training course of the Thai Institute of Directors Association regarding directors, including the Directors Certification Program (DCP) or the Directors Accreditation Program (DAP).

7.2.3 Functions and Responsibilities of the Board of Directors

Authority of the Board of Directors

1. To carry out activities prudently and in compliance with related governing laws, the objectives of the Company, and the Articles of Association, in order to protect the Company's interests and for the benefit of shareholders.
2. To consider policy, vision, work plans and key strategies, as well as ethical standards for business operations, and to supervise and monitor Management, to ensure that they perform duties efficiently and are in compliance with the Company's policies.
3. To monitor the operational results of the Company and any other key progress criteria.
4. To determine interim dividends to shareholders.
5. To ensure that financial reports are complete, accurate, reliable and timely, and are prepared in compliance with generally accepted accounting principles.
6. To monitor the implementation of internal control and audit systems; to comply with all regulations and related governing laws; and to ensure appropriate risk management.
7. To ensure that the Company performs in compliance with good corporate governance policies, and focuses on fair treatment for all related parties, and discloses all relevant information that might affect the interests of related parties and the public.
8. To monitor and to prevent conflicts of interest and ensure that connected transactions and any other transactions that might affect the interests of related parties are in compliance with related rules and regulations.
9. To consider the nomination of qualified persons to perform the duties of directors.
10. To consider the need and appropriateness to determine remuneration to directors.

The actions of the Board of Directors that must be approved by the Shareholders' Meeting

1. Entering into the inter-company transactions or acquisition or disposition of the Group's significant assets or any other action as announced by law and the Capital Markets Committee.
2. Sale or transfer of all or part of the Company's business to another person
3. Amendments to the Memorandum of Association or Articles of Association of the Company.
4. Increase or decrease the Company's registered capital
5. Dissolution of corporations or mergers with other companies
6. Issuance of debentures of the Company

Roles and Responsibilities of the Chairman of the Board of Directors

To ensure the separation of authority in terms of policymaking and management of the Company is clearly separate. Therefore, the Company requires the Chairman of the Board of Director, the Chairman of the Executive Board and the President are different persons, with the Chairman of the Board of Directors has role and responsibilities as follows:

1. Call the Board of Directors' Meeting and act as the Chairman of the Board of Directors' meeting and the Shareholders' Meeting, as well as play a role in setting the agenda with the Chief Executive.
2. Play a role in controlling meetings effectively in accordance with rules and regulations of the Company, support and allow directors to express their opinions independently.
3. Support and encourage the Board of Directors to perform duties to the best of ability in accordance with the scope of authority, duties, responsibilities under good corporate governance principles.
4. Monitor and follow up the administration of the Board of Directors and other sub-committees to achieve the intended objectives.
5. Be the decisive voter in the event that the Board of Directors' meeting holds a vote and votes on both sides are equal. (Details are provided on the Company's website <https://www.tpipolene.co.th/en/aboutus-en/organization-management/roles-of-the-chairman>)

7.2.4 Nomination and appointment of directors and sub-directors and Presidents

1) Nomination and appointment of the directors of the Company

The Company's Board of Directors comprises qualified members who have skills, experience, honesty, ethics, and independence and have capabilities in diverse fields, pertinent to the Company's businesses and the appointment of new directors must be approved at the Board of Directors' Meeting and/or the Shareholders' Meeting (as the case may be).

The shareholders' meeting shall be elected the directors according to the following guidelines and procedures:

- (1) To assume that one shareholder has the same vote as 1 share per 1 vote.
- (2) Each shareholder can use all available votes according to (1) elect a single person or multiple persons as directors. In the event of an election of several individuals as the directors, votes cannot be divided into anyone more or less.
- (3) The person receiving the highest number of votes respectively will be elected as a director as much as the number of directors who will have or will be elected at that time. In the event that the person who is elected in the next order has the same votes and exceeds the number of directors who should have or will be elected at that time, the Chairman of the board will be the decisive voter.

At every annual ordinary meeting of shareholders, the directors shall be removed from their positions for one-third of the number of directors at the time. If the number of directors can't be straightened into three parts, the number issued by the closest number to one-thirds, considering the longest-in-position director is the one who leaves the position. Thus, departing directors may be re-elected by the shareholders' meeting to become new directors.

In the event that the director's position is vacated for reasons other than the term of issue under the term, the Board of Directors shall select a qualified person who does not have a prohibited nature under the law on public limited companies and the law on Securities and Exchange to be a replacement director at the next board meeting unless the term of the director is less than 2 months. The person who becomes the director only serves as much as the remaining term of the director he replaces. However, the resolutions of the board, as mentioned above, must consist of at least three-fourths of the remaining number of directors.

2) Nomination of independent directors

The Company has a policy of nominating independent directors in accordance with the Announcement of the Capital Market Supervisory Board No. 39/2016. Re: Permission and Authorization for IPO issuance, dated September 30, 2016 (including amended) as follows:

1. Are restricted in the number of shares they may hold to not greater than 1% of the voting shares in the Company, its affiliates, its associated companies, or its juristic persons that may impose conflicts of interest.
2. Have no management participation in the Company, its affiliates, and are not employees or regularly paid consultants, or persons, who have control over the Company or its associated companies, its affiliates, or its associated companies or is the same order as a major shareholder or of control over the Company, unless it has been removed from such characteristics at least two years prior to the date of appointment as an Audit Committee member. Such prohibited characteristics do not include cases where independent directors have been officials or advisors of government offices that are major shareholders or controlling persons of the Company.
3. Have no close relatives, or persons related in a way by legal registration in a manner that is a parent, spouse, siblings and children, as well as spouses of children of other directors, the management, major shareholders, controlling persons, or persons who will be proposed as the directors, the management or controlling authorities of the Company or its subsidiaries.
4. Have no business relationship with the Company, its affiliates, or its associated companies, major shareholders or controlling persons of the Company in a manner that may impede the use of their independent judgment, including not being or has been an implicit shareholder or controlling person of a person with a business relationship with a company, a major company, a subsidiary unless it has been removed from such characteristics at least two years prior to the date of filing an application for permission to the SEC.

Such business relationships include commercial transactions that are normally conducted for business operations as well as renting or leasing a property, assets or services transaction, or providing or receiving financial assistance by receiving or lending guarantees, provision of assets as collateral for liabilities, as well as other similar circumstances, which results in the Company or its parties having to pay debts to the other party, from 3% of net tangible asset of the Company or Baht 20 million or more, whichever is lower. The calculation of such debt obligations is based on value of connected transaction to comply with criteria as announced by the Capital Market Supervisory Board on for

connected transaction. However, such debt obligations include those incurred during the one year prior to the date of business relationship with the same person.

5. Not being or used to be an auditor of the Company, mother company, a subsidiary, associates, major shareholders or controlling persons of the Company and are not implicit shareholders, the supervisor or partner of the audit office, which the auditor of the Company, mother company, a subsidiary, associates, major shareholders or controlling persons of the Company unless it has been removed from such characteristics at least two years prior to the date of filing an application for permission to the SEC.
6. Not being or used to be a professional service provider, including providing services as legal advisors or financial advisors, which receive service fees in excess of Baht two million per annum from the Company, mother company, a subsidiary, associates, major shareholders or controlling persons of the Company and are not implicit shareholders unless it have been removed from such characteristics at least two years prior to the date of filing an application for permission to the SEC.
7. Not being a director appointed to represent by the Directors of the Company, major shareholders or shareholders who are related to major shareholders.
8. Not to operate a business of the same condition and be a competition that is materially to the business of the Company or its subsidiaries, or not to be a partner that is materially in the partnership or as a director who is involved in the management, employees, consultants who receive regular salaries or hold more than 1% of the total voting shares of other companies, which operate in the same condition and are competition that is materially with the Company's business or its subsidiaries.
9. There are no other characteristics that prevent them from giving an independent opinion on the Company's operations.

3) General guidelines for the appointment of directors on the Company's sub-committees

The Board of Directors may appoint one or more sub-committee members to support the performance of the Board of Directors. The sub-committee is responsible will be responsible for reviewing matters of particular importance. The Board of Directors will approve the appointment of sub-committee members, issuance of sub-committee charters to determine the relevant regulations, composition of the sub-committee, duties and responsibilities, as well as other matters related to such sub-committees, as deemed appropriate by the Board of Directors. Each year, the Board of Directors will review the charter of each subcommittee.

7.3. Information about sub-committees

The Sub-Committees consist of the followings:

7.3.1 Executive Management Committee as of 31 December 2021

no.	Name	Position
1	Mr. Prachai Leophairatana	Chairman of Executive Management Committee
2	Dr. Pramuan Leophairatana	Executive Director
3	Mr. Prayad Liewphairatana	Executive Director
4	Mrs. Orapin Leophairatana	Executive Director
5	Mr. Pakorn Leopairut	Executive Director
6	Miss Tanyaratt Iamsopana	Executive Director

Six Directors are authorized to sign on behalf of the Company. Two of the six directors must jointly sign, together with the affixation of the official company stamp.

Functions and Responsibilities of the Executive Management Committee

The Board of Directors is appointed by the Board of Directors or the Shareholders' Meeting to perform the following functions:

1. To govern and formulate the operational strategy of the business, goals and operational plans, the Company's financial goals and budgets, taking into account appropriate business factors. To present and seek approval to the Board of Directors in case the circumstances change, the Board of Directors will review the use of approved budgets to suit the situation, as well as implement business strategies in accordance with the policies of the Board of Directors.
2. To monitor the performance of parties in accordance with the policy, business strategy, goals and operational plans, the financial goals and budgets of the Company approved by the Board of Directors to be effective and effective in favor of business conditions and provide advice, advice, management to senior management.
3. To consider selecting and appointing senior executives. The Board of Directors will be the preliminary consideration of the nomination of qualified persons who have knowledge, skills and experience that are beneficial to the Company's operations before offering them to the Board of Directors for approval. Define organizational structure and policies regarding the management of the Company. Consider and monitor replacement management creation plans, including workforce plans and remuneration guidelines and management's performance evaluation criteria.
4. To appoint and remove employees as well as assign rewards to employees.
5. To consider and provide feedback or opinions to the Board of Directors regarding any projects, proposals or transactions related to the Company's business operations, as well as to consider fundraising options when necessary and exceeding the limits set and/or to applicable laws and regulations or in the Articles of Association of the Company to be approved by the Shareholders' Meeting and/or the Board of Directors.

6. To conduct business related to the general administration of the Company, including any authority and responsibilities as assigned or in accordance with the policies assigned by the Board of Directors.
7. To appoint and/or assign to the Executive Committee or any person or persons to act within the jurisdiction of the Executive Committee deemed appropriate by the Board of Directors, as well as the table of authority schedule specified by the Board of Directors, where the Board of Directors may withdraw or amend such powers within the scope of the Board of Directors.

7.3.2 The Audit Committee as at 31 December 2021

no.	Name	Position
1	Mr. Supoj Singsanei*	Chairman of the Audit Committee
2	Mr. Pisej Iamsakulrat	Audit Committee
3	Mr. Thavich Taychanavaku	Audit Committee
4	Mr. Pornpol Suwanamas**	Audit Committee

หมายเหตุ: * Possesses background and experience in auditing of financial statements.

** The Board of Directors' Meeting No. 5/2021 on May 27, 2021 resolved to appoint Mr. Pornpol Suwanamas as the member of the Audit Committee of the Company effective May 27, 2021 onwards.

Functions and Responsibilities of the Audit Committee

The Audit Committee is responsible for reviewing the Company's financial reports, adequacy of internal control systems, risk management systems, compliance with legal regulations and prepare reports or comments to the Board of Directors for approval or to be presented to the Shareholders' Meeting, as the case may be:

1. To monitor the auditing process and internal control systems of the Company to ensure that they are appropriate and efficient.
2. Review the Company's appropriate and effective internal control system and consider the independence of the internal audit agency as well as approve the appointment, removal, dismissal of the head of the internal audit agency and/or the hiring of an internal audit company or any other entity responsible for the internal audit.
3. To supervise and ensure that the Company acts in compliance with the regulations imposed by the SET and the SEC and related governing laws.
4. To consider, select and propose the appointment of an independent person to act as auditor of the Company and present the person's remuneration to the Board of Directors for approval from the shareholders' meeting, as well as attend meetings with the auditor without management attending the meeting at least once a year.
5. To consider the disclosure of information regarding connected transactions or transactions that may have conflicts of interest in accordance with the rules and legal regulations imposed by the Capital Market Committee and the terms of the SET to ensure that the transaction is reasonable and in the best interests of the Company.
6. Prepare the audit committee's report publicly in the Company's annual report. The report must be signed by the Chairman of the Audit Committee and must contain at least the following information:

- Opinion on accuracy, completeness and reliability of the Company's financial reports
 - Opinion on the adequacy of the Company's internal control system
 - Opinion on compliance with securities and exchange laws Set of Exchange of Thailand or laws relating to the Company's business operations
 - Opinion on the suitability of the auditor
 - Comments on transactions that may have conflicts of interest
 - Number of audit committee meetings and attendance of each audit committee member
 - Opinions or overall observations received by the Audit Committee for the performance of charter duties
 - Other items that shareholders and investors should
7. In the performance of the duties of the Audit Committee, if the following items or actions are found to have a significant impact on the Company's financial position and performance, the Board of Directors shall report to the Board of Directors to make revisions within the period designated by the Audit Committee.
- (1) List of conflicts of interest
 - (2) Fraud or irregularities or significant impairments in the internal control system.
 - (3) Violation of securities and exchange laws SET's terms or laws relating to the Company's business
- If the Board of Directors or management does not make revisions within the above period, the Company will not be updated. One of the audit committee members may report the above items or actions to the SEC or the SET.
8. Perform any other operations as assigned by the Board of Directors with the approval of the Audit Committee.
9. Review regulations and performance in the past year at least once (1) times a year.

7.3.3 Nomination Committee as of 31 December 2021

no.	Name	Position
1	Mr. Khantachai Vichakkhana	Chairman and Independent Director
2	Mr. Prachai Leophairatana	Director
3	Dr. Pramuan Leophairatana	Director
4	Mr. Prayad Liewphairatana	Director
5	Mrs. Orapin Leophairatana	Director
6	Mr. Tayuth Sriyusiri	Director
7	Miss Malinee Leophairatana	Director
8	Mr. Supoj Singsanei	Chairman of the Audit Committee and Independent Director
9	Mr. Pises Iamsakulrat	Audit Committee and Independent Director
10	Mr. Thavich Taychanavakul	Audit Committee and Independent Director
11	Mr. Pakorn Leopairut	Director

no.	Name	Position
12	Mr. Pornpol Suwanamas	Audit Committee and Independent Director
13	Miss Thanyarat Imsopana	Director
14	Dr. Virat Chatdarong	Director

Duties and Responsibilities of the Nomination Committee

1. Select persons who deserve to be nominated as new directors when there is a vacancy (from resignation or a full term) to propose to the Board of Directors or the Shareholders' Meeting to proceed with the appointment, taking into account the composition of the knowledge and skills of the Board member. The qualifications of directors who wish to be nominated must be in accordance with the Company's business strategy.
2. Consider the nomination of directors to act as a specific director based on the composition of the Board of Directors, knowledge and competence of Directors deemed appropriate to perform the duties of the directors and presented to the Board of Directors for appointment.
3. Disclose the nomination committee's operational report in the annual report.
4. The Nomination Committee should meet together at least once a year.

The nomination method has been set out for appointment as a director as follows:

1. The Nomination Committee determines the qualifications of directors who wish to nominate for replacements and have elements and qualifications in accordance with the related legal regulations and to be in line with the Company's strategy and business operation. The Guide to Good Corporate Governance, Ethical Standards and Business Ethics has stated the qualifications of the Board of Directors that each director must come from a qualified person in the various professions necessary to manage the Company's business that they should consist of those with business knowledge, legal and financial luminaries, political science, security, risk management in various crises / civil society, community enterprises, natural resource Environment and Sustainable Development
2. The Nomination Committee concludes the nomination and nomination of the appropriate person to be a director with the accompanying reasons and present it to the Board of Directors.
3. The Board of Directors considers the selection of qualified persons according to the list presented by the Nomination Committee for appointment as a director or to present the list to the Shareholders' Meeting for approval of the appointment of the next director.
4. Corporate Secretary performs duties as Secretary of the Nomination Committee

7.3.4 Remuneration Committee as at 31 December 2021

no.	Name	Position
1	Mr. Khantachai Vichakkhana	Chairman and Independent Director
2	Mr. Prachai Leophairatana	Director
3	Dr. Pramuan Leophairatana	Director
4	Mr. Prayad Liewphairatana	Director
5	Mrs. Orapin Leophairatana	Director
6	Mr. Tayuth Sriyusiri	Director
7	Miss Malinee Leophairatana	Director
8	Mr. Supoj Singsanei	Chairman of the Audit Committee and Independent Director
9	Mr. Pises Iamsakulrat	Audit Committee and Independent Director
10	Mr. Thavich Taychanavakul	Audit Committee and Independent Director
11	Mr. Pakorn Leopairut	Director
12	Mr. Pornpol Suwanamas	Audit Committee and Independent Director
13	Miss Thanyarat Imsopana	Director
14	Dr. Virat Chatdarong	Director

Duties and Responsibilities of the Remuneration Committee

1. Set guidelines or methods for determining compensation, as well as consider offering fair and reasonable compensation. For directors and directors and shareholders' meetings for approval
2. To consider and propose the evaluation and remuneration guidelines of the Management and the President for approval.
3. Acknowledge and provide feedback on organizational restructuring and job level, including evaluation and consideration of executive remuneration.
4. Responsibility to the Board of Directors directly by roles and board of directors responsible for the operation of the Company to all stakeholders.
5. Disclose the report of the remuneration committee's operations in the annual report.
6. The remuneration committee should meet at least once a year.
7. The Corporate Secretary Performs Duties of Secretary of the Remuneration Committee.

In 2021, the Remuneration Committee proposed the remuneration of the Board of Directors in the Board of Directors' meeting on December 23, 2021. The meeting considered discussions in comparison with businesses in the same industry with similar in size. The obligations, duties and responsibilities in each director's in the Company are greater than ever as the Company is in the process of expanding its scope of business operations more widely. In recent years, the Company had a satisfactory increase in performance, reflecting the dedication and attention of the board's undertakings for the Company.

In return for the good results of the duties to be productive in the management of the Company's business and to encourage the performance of duties to be more efficient and effective, the remuneration of the Board of Directors has been considered and approved in the Company's 2010 Annual General Meeting of Shareholders on April 30, 2010, effective from January 2010 onwards. The Company's board of directors' remuneration report shall be informed to shareholders in the annual general meeting of shareholders for further knowledge.

7.4 Information about executives

The management structure as of December 31, 2021 are disclosed on the Company's website at <https://www.tpipolene.co.th/th/aboutus/org-tpi/organization-structure-th>

7.4.1 The Management as at 31 December 2021

no.	Name	Position
1	Mr. Prachai Leophairatana	Chief Executive Officer
2	Dr. Pramuan Leophairatana	President
3	Mrs. Orapin Leophairatana	Senior Executive Vice President
4	Mr. Prasert Ittimakin	Senior Vice President – Accounting and Finance Division
5	Mr. Karan Pipitsombat	Senior Vice President – Plant Manager
6	Mr. Somkeart Srisuwan	Senior Vice President – Information Technology Division
7	Miss Chularat Danwattanachai	Vice President – Accounting and Finance Division
8	Mr. Pongsak Yiengsakun	Vice President – Finance Department
9	Mrs. Bussara Ketmanee	Asst. Vice President – Accounting Department

Functions and Responsibilities of the Chief Executive Officer

1. To carry out activities prudently; to be in compliance with the objectives of the Articles of Association; and to be in line with establishing policy as approved by the Board of Directors of the Company, in order to protect the Company's interests and for the benefit of shareholders.
2. To monitor and manage daily operational results of each department to ensure these are carried out effectively and efficiently.
3. To assign, nominate, remove and punish employees and staff of the Company to comply with Company discipline.
4. To report work progress to be in line with work plans and budgets as approved by the Board of Directors.
5. Have the power to issue orders, regulations, announcements, records to ensure compliance with the Company's policies and interests and to maintain work discipline within the organization.
6. To have the power to delegate the authorities and/or assign another person to perform a specific task instead by delegating such subsidies and/or assignments to be subject to the scope of power of attorney and/or in accordance with the regulations. The terms, as well as the table of authority table specified by the Board of Directors, or the orders set by the Board of Directors and/or the Company.

7. The Company has designated the Board of Directors to authorize the approval and amendment of the plan. Annual budget, investment plan, one-time investment expenses, as well as the Company's management and sales expense budget. The Chief Executive Officer and/or President and/or Senior Executive Vice President has the authority to approve investments from approved investment statements. Requesting expenses, determining or changing marketing plans and annual marketing budgets in accordance with an approved budget without limits, including: The Chief Executive Officer and/or The President and/or Senior Executive Vice President have the authority to approve advertising, promotions and marketing activities, both in accordance with the plan and not within the plan within the limits approved by the Board of Directors.

In addition, the Board of Directors has authorized the management of the Company to the Chief Executive Officer and the President with the following principles and jurisdictions as follows:

1. To be authorized to manage the Company's business in accordance with the objectives, regulations, policies, regulations, requirements, orders, as well as resolutions of the Board of Directors meeting and/or the resolutions of the Shareholders' Meeting of the Company in all respects.
2. Be an authorized contact person, order and process and sign legal agreements, contracts, order documents, notices or any necessary and appropriate notices in order to complete the above actions.

The use of the powers of the aforementioned CEO and President cannot be done if the Chief Executive Officer and President have a stake or may have any conflict of interest with the Company.

Succession for the Management

The Company has a policy and has continued to develop senior management in order to have qualified corporate executives to replace senior executives by setting out a Succession Plan for preparing personnel to be prepared for higher positions.

Business relationships or professional service relationships between independent directors and the Company, or the parent company, or its affiliates, or subsidiary companies, or associated companies, or juristic persons within the Company, that may impose conflicts of interest in an amount exceeding the restricted amount under the notification of the SEC regarding permission and approval of new shares issuance (if any), as well as the resolution and opinion of the Board of Directors approval (if any) for the transaction concerning such a business relation or professional service.

-None-

Selection of the Independent Directors

1. Guidelines as set out by the Securities and Exchange Commission and in accordance with the regulations of the Stock Exchange of Thailand, Independent Directors must:
 - (1) Hold no more than 1% of the total voting shares in the Company, affiliated companies, associates or persons who may have conflicts (including persons involved under Section 258 under the Securities and Exchange Act).
 - (2) Not be engaged in management, including non-employee, employees, consultants who receive regular salaries, or those with control over the Company, affiliated companies, associates or persons who may have conflicts of interest.
 - (3) Have no business relationship, and there are no direct or indirect interests or interests, both financially and administratively in the Company, affiliated companies, associates, or individuals who may have conflicts in a manner that would cause a lack of independence.

- (4) (4) Not being a close relative or have any other relationship that may cause a lack of independence with the management of the Company, major shareholders, affiliates, associates or persons who may be conflicted and not appointed as agents to preserve the interests of directors or major shareholders.
- (5) (5) Able to attend the Board of Directors' meetings regularly to monitor the performance and offer opinions for decisions in the Company's activities.
- 2. Have knowledge, competence and experience that is useful to the Company's business, such as knowledge of accounting and financial engineering, etc.
- 3. Qualified for autobiography and reputation in a good way and there has never been a behavior that represents misconduct in duties of care and loyalty for the best interests of all relevant stakeholders and of the business in which they are or have been executives.

7.4.2 Remuneration policy of directors and the Management

The remuneration of the Management at all levels is based on performance, which is determined by the Board of Directors, the Chief Executive Officer and the President and senior executives together, considering the perspectives of the processes within the organization and employees, and covering both the annual performance and the assessment of potential and leadership that will ensure that the organization can be led to achieving its long-term goals. Each executive has operational indicators that correspond to their roles. Each year, the Board of Directors considers the salary adjustment of the chairman of the executive committee, the president and senior executive vice president and chief executive officer and senior executives in accordance with their performance. However, salary adjustments must meet the Company's criteria and be comparable to companies in the same industry.

7.4.3 Remuneration of the Directors

In 2021, remuneration awarded to the Company's six Executives including salaries and bonuses was Baht 191,299,550 compared to Baht 205,281,900 for total of six persons in 2020.



7.5 Employee Information

7.5.1 Number of employees

As at 31 December 2021, the Company and its subsidiaries have a total of 9,951 employees, divided into line of business as follows:

Company/Business Group	Number of Employees (2021)			Number of Employees (2020)		
	Head Office	Plant	Total	Head Office	Plant	Total
1. TPI Polene Public Co., Ltd.						
1.1 Head Office	1,392	-	1,392	1,113	-	1,113
1.2 Cement plant and Cement Distribution Terminal	-	4,233	4,233	-	4,490	4,490
1.3 LDPE plant, Rayong Province	-	579	579	-	590	590
1.4 Concrete Roof Tiles plant and Fiber Cement plant, Saraburi Province	-	812	812	-	811	811
2. TPI Concrete Co., Ltd.	192	1,195	1,387	203	1,274	1,477
3. TPI Polene Bio Organics Co., Ltd.	33	46	79	36	44	80
4. TPI Polene Power Public Co., Ltd. and subsidiaries	98	1,044	1,142	103	1,070	1,173
5. TPI Refinery (1997) Co., Ltd.	-	-	-	2	-	2
6. Master Achieve (Thailand) Co., Ltd.	-	47	47	-	42	42
7. Thai Nitrate Co., Ltd.	10	73	83	10	72	82
8. TPI All Seasons Co., Ltd.	7	189	196	-	193	193
9. TPI Healthcare Co., Ltd.	1	-	1	-	-	-
Total	1,733	8,218	9,951	1,467	8,586	10,053

7.5.2 Employee remuneration

Remuneration to employees (excluding executives) for 2021 was Baht 6,011. Such remuneration includes salary, commissions, bonuses, allowances and other benefits.

7.5.3 Provident Fund

Some group of companies have set up provident funds for its employees on the voluntary basis of employees to become fund members, with employees paying cumulative rates of 3 percent to 10 percent of their monthly salary, and the Company paying contributions of 3 percent to 10 percent of the employee's salary every month. This provident fund is registered in accordance with the requirements of the Ministry of Finance and is managed by authorized fund managers.

7.5.4 Policy on Personnel Development

The Company places importance on training and developing employees to enhance their knowledge, experience skills, as well as to promote ethics and integrity in their ongoing operations. The Company has established development courses in line with employees at all levels. Employees who start working will have a coaching system to organize training courses by job title. Development training courses are organized to support career development, as well as new technology knowledge courses that have changed so that employees can complete their assignments efficiently, build operational pride and support the growth of employees. In 2021, as a result of the COVID-19 pandemic, employees will continue to improve and the Company has adopted a virtual classroom training model, which is similar to classroom training

Employee Development Courses total 884 courses

Course category*	Number of courses	Objective
1. Management and leadership courses	18	Enhance leadership skills such as driving people within the organization to accomplish their objectives.
2. Occupational Health and Safety and Environmental Program	130	Organizes safety tasks to reduce the risk associated from illness, injury or death and care for the quality of life of personnel within the organization.
3. Technical areas	718	Focuses on improving skills, employee efficiency with learning, especially professionals, to encourage employees to show their full potential.
4. Technology & Engineering	16	To adapt the organization to keep pace with the digital era. Therefore, it must have knowledge of technology, innovation, rules and ethics.
5. Support Delivering work and preparing for retirement	2	To prepare employees for retirement and delivering jobs smoothly.

Remark: * Hard Skill refers to specialist skills required for the profession. Soft Skill refers to performance skills that allow you to work and communicate with others effectively.

Average training hours of employees

Number of hours trained*	2019	2020	2021
Employees: target to 18 hours/person/year (hour)	31.37	25.60	25.49
Training Expense (TPIPL and subsidiaries)	3,940,756.69	2,600,249.59	3,570,689.34

Remark: *Training in companies and subsidiaries mainly uses speakers from within the organization.

(Covid-19) Pandemic Measurement

The Company prepared for the COVID-19 pandemic that has severely affected society and operations by having implemented a Business Continuity Plan, which has resulted in a low level of business operations. However, the Company is closely monitoring the situation and mitigates risk appropriately with measures taken to ensure confidence as follows:

- The Company provides RT-PCR screening form for COVID-19 to employees, contractors, and related employees who work in the same workplace, and for infected groups, the Company coordinates to access an immediate treatment system.
- The Company encourages employees and their families to be vaccinated against COVID-19 as quickly and comprehensively as possible; vaccination appointments are coordinated in the vaccination program free of charge by the public sector Social Security Office, with shuttles on employee vaccination trips. The Company also purchased “SinoPharm” option vaccine for employees in the provinces who do not have access to the vaccine, allowing for rapid injections and covering the number of employees. As of December 31, 2021, the rate of the 1st needle vaccination of TPI Polene group employees, 99.74% of total employees and the 2nd needle vaccination, representing 99.38% of all employees and the 3rd needles vaccination, representing 56.12% of all employees.

Purchase of ATK testing kits using saliva and nasal dribble to use screening for prevention for the vulnerable employees and visitors. If positive results are found, they will be sent through RT-PCR system for further treatment in the system, and also encourage employees who need to contact third parties to test with ATK testing kits before meeting, such as salespeople, freight workers, employees who need to meet with customers outside the premises to reassure safety for third parties.

- Support the cost of COVID-19 detection Both RT-PCR and Rapid Antigen for at-risk employees to help quickly isolate infected people from non-infected people. Infected people can enter the care system and non-infected persons can operate in the workplace safely.
- Arrange working hours to create social distancing by allowing toggle- work time, and shifting arrangements to keep space between individuals, reduce employee congestion whereas having lunch together is not allowed to reduce direct interseminal communication to reduce the risk and likelihood of spreading pathogens.
- For employees who reside in a severe outbreak areas or risk of infection during a round trip by bus, the Company provides temporary accommodation to employees within the Company and controls the employee’s outing in accordance with bubble and seal principles.
- The Company purchased and reserved “Andrographis” for employees who have fever, cough, sore throat or covid-19 infection. It helps to relieve mild symptoms and is used in low-risk people to reduce the likelihood of pathogens spreading to the lungs.

The Company recognizes that human resources are a valuable and a force in driving the organization by focusing on developing people to be qualified, moral, ethical, and adherent to integrity, integrity, responsibility to organization and society. The Company also encourages employees to participate in corporate social responsibility, which the Company believes helps develop employees to be good and talented to further encourage sustainable growth in the organization.

7.6 Other key information

7.6.1 The list of persons assigned to perform the Company’s important tasks is as follows:

Corporate Secretary

The Company has appointed Mr. Nitisit Jongpitakrat as the Corporate Secretary since June 30, 2006, as approved and resolved in the Company’s Board of Directors’ meeting no. 6/2549 on June 30, 2006, with duties and responsibilities as defined in the Securities Act as follows:

1. Prepare and keep documents of the Company, namely the register of directors, Letter of The Board of Directors meeting, minutes of the Board of Directors Meeting, Letter of Shareholders' Meeting Minutes of the Shareholders' Meeting and Annual Report.
2. Keep track of conflict of interest reports, as reported by the directors or the management.
3. Conduct regarding the Board of Directors' meeting and the Shareholders' Meeting
4. To advise on the related rules and regulations that the Board of Directors and the management should be aware of.
5. Supervise and coordinate the Company's compliance with the legal regulations and resolutions of the Board of Directors' Meeting and the Shareholders' Meeting, as well as the Policy of Good Corporate Governance and Business Ethics in full and complete.
6. Take other actions as announced by the Capital Market Supervisory Board.

Details of the Corporate Secretary appear in attachment 1 on "Details about the Directors, the Management, controlling persons, the person directly responsible for supervision of the accounting work and the corporate secretary."

Supervision of the accounting work

The Company assigned Mrs. Bussara Ketmanee, Assistant Vice President, Accounting Department to be responsible directly for supervising the Company's accounting work, with an autobiography, in attachment 1 on "Details about the Directors, the Management, Controlling persons and the person directly responsible for supervising the Company's accounting work and the corporate secretary."

The Company's Internal Audit Supervisor

The Company has assigned Mr. Somchai Kitpipat, Assistant Vice President, Internal Audit Department, as the Head of Internal Auditing of the Company, with an autobiography in Attachment 3 on "Details about Supervision of the Internal Audit and Supervisor of Compliance"

Head of Corporate Compliance

The person assigned to the responsibility is the supervisor of the supervision of the Company's operations. Initially, the Company requires each supervisor to be responsible for the Company's job.

7.6.2 List of Investor Relations

Contact Person

Mr. Siam Viriyosuttikul: Finance Management Manager
Tel : 02-213-1039 Ext. 12983/12985

7.6.3 Audit Fees and other remuneration

1. The Company and its subsidiaries paid audit fees for 2021 as follows:
 - (1) The statutory auditor of the Company for the financial year ended 2021 in the amount of Baht -0-
 - (2) The office of the statutory auditor of the Company, or other persons or related enterprises relating to the statutory auditor of the Company for year 2021 in the amount of Baht 11,600,000.
2. Non-Audit Fees

TPIPL and its subsidiaries paid a fee to KPMG Phoomchai Audit Limited to review the report of promotional privileges and benefits of exemption from payment of corporate income tax by virtue of the promotional certificates of the Board of Investment in 2021 for a total of Baht -0-

8. Report on the important performance of corporate governance

8.1. Summary of the board's performance in 2021

In 2021, the Board of Directors reviewed and established the Group's policy, direction and business strategy, including the Group's vision, mission and business goals.

The Board of Directors evaluates the Company's performance both financially and non-financially, assessing it from stakeholders (e.g. customer satisfaction, employee satisfaction, etc.), In-house processes in the organization and learning and growing of organizations and employees.

8.1.1 Nomination, Development and Training of Directors

1) Criteria for selection of the independent directors

The Company has a policy of nominating independent directors in accordance with the Announcement of the Capital Market Supervisory Board No. 39/2016. Re: Permission and Authorization for The IPO reissued, dated September 30, 2016 (including amended) as follows:

1. Holding shares not more than 1% of the total voting shares of the Company and its subsidiaries. The Company shall count the shareholdings of the relevant directors of the independent directors.
2. Not being or not have been a director who is involved in management Employees, consultants with regular salaries, or controlling personsof the Company, the subsidiaries, the Associates, the subsidiaries Company in the same order as a major shareholder or of controlling over the Company, unless it has been removed from such characteristics at least two years prior to the date of appointment as audit committee member. Such prohibited characteristics do not include cases where independent directors have been officials or advisors of government offices that are major shareholders or controlling personsof the Company.
3. Not being a person with a family relationship or by legal registration in a manner that is parents, couple marriages, brothers and sisters, and offspring, as well as children of other directors, the management, major shareholders, controlling persons, or persons who will be proposed as directors, the management, or controlling persons of the Company or its subsidiaries.
4. Have no any business relationships with the Company, the subsidiary, associates, major shareholders or controlling personsof the Company in a manner that may impede the use of their independent judgment, including not being or has been an implicit shareholder or controlling person of a person with a business relationship with a company, a major company, a subsidiary unless it has been removed from such characteristics at least 2 years prior to the date of filing an application for permission to the SEC.

Such business relationships include entering into commercial transactions that are normally conducted for business operations, namely renting or leasing the property, assets or services transaction, or providing or receiving financial assistance by receiving or lending guarantees, provision of assets as collateral for liabilities, as well as other similar circumstances, which results in the Company or its parties having to pay debts to the other party, from 3% of the net tangible asset of the Company or Baht 20 million or more, whichever is lower. The calculation of such debt obligations is based on rule and regulation imposed in connection with connected transactions in accordance with the Notification of the Capital Market Supervisory Board in determining the debt obligations incurred during the one year prior to the date of business relationship with the same person.

5. Have not been an auditor of the Company, the subsidiary, associates, major shareholders or controlling persons of the Company in a manner that may impede the use of their independent judgment, including not being or has been an implicit shareholder or controlling person of a person with a business relationship with a company, a major company, a subsidiary unless it has been removed from such characteristics at least two years prior to the date of filing an application for permission to the SEC.
6. Have not been a professional service provider, including providing services as legal advisors or financial advisors, which receive service fees in excess of Baht two million per annum from the Company, the subsidiary, associates, major shareholders or controlling persons of the Company in a manner that may impede the use of their independent judgment, including not being or has been an implicit shareholder or controlling person of a person with a business relationship with a company, a major company, a subsidiary unless it has been removed from such characteristics at least two years prior to the date of filing an application for permission to the SEC.
7. Not being a director appointed to represent on behalf of the Directors of the Company, major shareholders or shareholders who are related to major shareholders.
8. Not to operate a business of the same condition and be a competition that implies to the business of the Company or its subsidiaries, or not to be a partner with implications in the partnership or as a director who is involved in the management, employees, consultants who receive regular salaries or hold more than 1% of the total voting shares of other companies, which operate in the same condition and are implicit competition with the Company's business or its subsidiaries.
9. There are no other characteristics that prevent it from giving an independent opinion.

2) Criteria for nomination of directors and the management

In appointing directors of the Company, the Company will consider the knowledge, competence and experience related to the business or by the major shareholders of the Company with experience in the business that will benefit the Company. However, the appointment of new directors must be approved by the Board of Directors' Meeting and/or the Shareholders' Meeting (as the case may be).

1. To assume that one shareholder has the same vote as one share per one vote.
2. Each shareholder can use all available votes according to (1) elect a single person or multiple persons as directors. In the event of an election of several individuals as the directors, votes cannot be divided into anyone more or less.
3. The person receiving the highest number of votes respectively will be elected as a director as much as the number of directors who will have or will be elected at that time. In the event that the person who is elected in the next order has the same votes and exceeding the number of directors who should have or will be elected at that time, the Chairman of the board will be the decisive voter.

At every annual ordinary meeting of shareholders, the directors shall be removed from their positions for a third of the number of directors at that time. If the number of directors can't be straightened into three parts, the number is issued by the closest number to one-thirds, considering the longest-in-position director is the one who leaves the position. Departing directors may be elected by the shareholders' meeting to become new directors.

In the event that the director's position is vacated for reasons other than the term of issue in accordance with the term, the Board of Directors shall select a person who is qualified and does not have a prohibited nature under the Law on Public Limited Companies and the Securities and Exchange Act, to be a replacement

director at the next board meeting unless the term of the director is less than two months, with the person who becomes the director only as much as the remaining term of the director he replaces. However, the resolutions of the board, as mentioned above, must consist of at least three-fourths of the remaining number of directors.

In 2021, the Board of Directors' Meeting resolved to appoint directors as follows:

1. The Board of Directors' Meeting No. 10/2021 on October 28, 2021 passed a resolution to approve Dr. Virat Chatdrong as a director of the Company, effective from October 28, 2021 onwards.
2. The Board of Directors' Meeting No. 5/2021 on May 27, 2021 passed a resolution to approve Mr. Pornpon Suwanmas as a member of the Audit Committee of the Company effective From May 27, 2021 onwards.

3) Development and Training of Directors

The Company has arranged for directors to participate in trainings organized by the Thai Institute of Directors Association (IOD) to increase knowledge of directors' duties.

In 2020 - 2021, the directors participated in the training as follows:

1. Mr. Pornpol Suwanmas: Directors Association Program (DAP) Class 196/2020 with Thai Institute of Directors Association
2. Dr. Virat Chatdarong will participate in Directors Association Program (DAP) in January 2022 as the seats in such courses of 2021 were full prior to the appointment date.
3. The Board of Directors participated in two seminars organized by Thaipat Institute :1) "Sustainability Reporting Process according to GRI Standards", held on September 17, 2021, and 2) "Sustainability Report Preparation" course held on October 15, 2021.
 1. Mr. Prachai Leopharatana
 2. Mrs. Orapin Leopharatana
 3. Mr. Pakorn Leopairut.

In addition, the Company has always informed directors of information related to good corporate governance practices to increase knowledge and understanding.

However, information on the training of the directors from the Thai Institute of Directors Association (IOD); as per details appeared in attachment 1 on "Details about the Directors, the Management, controlling persons, the person directly responsible for supervision of the accounting work and the corporate secretary."

The Company recognizes the importance of the duties of new directors, thus providing the introduction of guidelines for the overall implementation of the Company, structure of subsidiaries, associates and related business companies to have an understanding of the shareholding structure between them. In addition, it provides important and necessary information to perform the duties of the directors, such as in-house structure, Memorandum of Association, Articles of Association, Business Ethics of the Board of Directors, Manual of Listed company, Good Corporate Governance Policy, related governing laws, Financial Statements, Notes to the financial statements, including holding meetings with the Chairman of the Board of Directors, Board of Directors, Sub-Committee of the Company to be informed about the Company's business operations.

Directors Orientation

For directors who have taken new positions in the Board of Directors, orientation has been held so that new directors can receive the Company's business policy, as well as related information such as management structure, shareholders, performance, as well as law, rules and handover of directors' manuals, which are useful for performing duties as a director. Director's Manual / Information for Directors consist of the following:

Director's Manual:

1. Public Limited Companies Act, B.E. 1992
2. Securities and Exchange Act, B.E. 1992
3. Company Registration
4. Company's Certificate
5. Company Memorandum of Association
6. Company Articles of Association
7. Code of conduct
8. Guide to Directors of Listed Companies

Information for Directors:

1. Presentation to recommend the Company's business operations.
2. List of Boards of Directors, Specific Committee and Management Structure Chart
3. Good Corporate Governance Principles for Listed Companies
4. Connected transactions of listed companies
5. Information Advice for Registered Executives
6. Company Profile
7. Annual Report
8. Financial Statements

This includes holding meetings with the Chairman of the Board of Directors, the Board of Directors, the Sub-Committee of the Company to be informed about the Company's business operations, which are listed on the Company's web site,

<https://www.tpipolene.co.th/en/aboutus-en/organization-management/directors-orientation>



8.1.2 Attendance and remuneration of the Board of Directors and audit committees of the Company individually

(1) Attendance of the Board of Directors and the Audit Committee of the Company.

The Company has set a formal pre-meeting date annually in accordance with good corporate governance principles so that directors can plan to allocate time to attend meetings regularly, and additional extraordinary meetings might be held to consider urgent matters of importance. In each meeting, The Company will send the invitation to the Meeting and the supporting documents to the Board of Directors not less than 7 days prior to the meeting; unless there are urgent circumstances such as extraordinary board meetings, for example, to provide directors with sufficient time to study the information prior to the meeting. The directors can make further relevant inquiries through the Company Secretary for further coordination.

However, the Company has provided a preliminary schedule on the date and time of the 2022 Board meeting* as detailed below:

Meeting number	Date/Month/Year of The Meeting	note
1/2022	Thursday, January 27, 2022	
2/2022	Thursday, February 24, 2022	
3/2022	Thursday, March 24, 2022	
4/2022	Thursday, April 28, 2022	
5/2022	Thursday, May 26, 2022	
6/2022	Thursday, June 23, 2022	
7/2022	Thursday, July 21, 2022	
8/2022	Thursday, August 25, 2022	
9/2022	Thursday, September 29, 2022	
10/2022	Thursday, October 27, 2022	
11/2022	Thursday, November 24, 2022	
12/2022	Thursday, December 22, 2022	

Remark: *For such preliminary schedules, changes are subject to appropriate. Additional details is shown on the Company's web site <https://www.tpipolene.co.th/en/aboutus-en/board-meeting>

In 2021, the Board of Directors and the Audit Committee convened meetings a total of 12 times and 5 times, respectively, with attendance as detailed below:

Name	Position	Number of Meeting Attendance	
		The Board of Directors 12 Times/2021	The Audit Committee 5 Times/2021
1. Mr. Prachai Leophairatana	Director	12/12	-
2. Dr. Pramuan Leophairatana	Director	12/12	-
3. Miss Malinee Leophairatana	Director	12/12	-
4. Mr. Prayad Liewphairatana	Director	12/12	-
5. Mrs. Orapin Leophairatana	Director	12/12	-
6. Mr. Manas Sooksmarn	Independent Director and Audit Committee	3/12*	2/5
7. Mr. Pises Iamsakulrat	Independent Director and Audit Committee	12/12	5/5
8. Mr. Thavich Taychanavakul	Independent Director and Audit Committee	11/12	4/5
9. Mr. Tayuth Sriyusiri	Director	11/12	-
10. Mr. Khantachai Vichakkana	Chairman and Independent Director	12/12	-
11. Mr. Supoj Singsanei	Chairman of the Audit Committee and Independent Director	12/12	5/5
12. Mr. Pakorn Leopairut	Director	12/12	-
13. Mr. Pornpol Suwanamas	Independent Director and Audit Committee	11/12	2/5*
14. Miss Tanyaratt Iamsopana	Director	12/12	-
15. Dr. Virat Chatdarong	Director	2/12*	-

Remarks: 1/Mr. Manus Suksaman, Independent Director of the Company passed away on April 16, 2021

2/At the Company's Board of Directors' meeting on May 27, 2021, it passed a resolution to approve an appointment of Mr. Pornpol Suwanamas to be in the position of Independent Director and Audit Committee.

3/At the Company's Board of Directors' meeting on October 28, 2021, it passed a resolution to approve an appointment of Mr. Virat Chatdarong to be in the position of Director of the Board.

However, at the end of the meeting, the Company will prepare the minutes of the meeting, proposed to the Board of Directors' meeting at the next meeting, and the Chairman of the Board of Directors to sign the authentication and certified minutes are systematically stored for reference queries.

(2) Remuneration of the Board of Directors

Remuneration of Directors and the Management

1. Monetary compensation

In 2021, the remuneration of 15 directors received in the form of director remuneration and bonuses totaling Baht 26,471,984 compared to the remuneration and bonuses of 15 directors totaled Baht 28,618,528 in 2020 with details of remuneration and bonuses for 2021 as follows:

No.	Name	Position	Remuneration	bonus	total
1	Mr. Khantachai Vichakkana	Chairman of the Board	1,804,908	150,409	1,955,317
2	Mr. Prachai Leophairatana	Director	1,804,908	150,409	1,955,317
3	Dr. Pramuan Leophairatana	Director	1,804,908	150,409	1,955,317
4	Mr. Supoj Singsanei	Director	1,804,908	150,409	1,955,317
5	Miss Malinee Leophairatana	Director	1,804,908	150,409	1,955,317
6	Mr. Prayad Liewphairatana	Director	1,804,908	150,409	1,955,317
7	Mrs. Orapin Leophairatana	Director	1,804,908	150,409	1,955,317
8	Mr. Manas Sooksmarn 1/	Director	601,636	150,409	752,045
9	Mr. Pises Iamsakulrat	Director	1,804,908	150,409	1,955,317
10	Mr. Tayuth Sriyusiri	Director	1,804,908	150,409	1,955,317
11	Mr. Thavich Taychanavakul	Director	1,804,908	150,409	1,955,317
12	Mr. Pakorn Leopairut	Director	1,804,908	150,409	1,955,317
13	Mr. Pornpol Suwanamas	Director	1,804,908	150,409	1,955,317
14	Miss Tanyaratt Iamsopana	Director	1,804,908	150,409	1,955,317
15	Dr. Virat Chatdarong 2/	Director	300,818	-	300,818
	Total		24,366,258	2,105,726	26,471,984

Remarks: 1/.Mr. Manus Suksaman, Independent Director of the Company passed away on April 16, 2021

2/.The Company's Board of Directors' meeting on October 28, 2021, passed a resolution to approve an appointment of Mr. Virat Chatdarong as the Director of the Board.

Remuneration of Directors in Subsidiary Company (Thai Nitrate Co., Ltd.)

No.	Name	Position	Remuneration	bonus	total
1	Mr. Prachai Leophairatana	Director	120,000	120,000	240,000
2	Dr.Pramuan Leophairatana	Director	80,000	80,000	160,000
3	Mr. Prayad Liewphairatana	Director	80,000	80,000	160,000
4	Mrs. Orapin Leophairatana	Director	80,000	80,000	160,000
5	Mr. Pakorn Leopairut	Director	80,000	80,000	160,000
	Total		440,000	440,000	880,000

2. Other remuneration

The Company provides personal c1ars to the management.

8.1.3 Supervision of subsidiaries and associates

The Company has an investment policy in subsidiaries and/or associates with policies in line with the Group's vision and growth plan, which will enable the Group to increase its performance or profitability in order to achieve its goals of becoming a leading entrepreneur in the business and to support the Company's core business operations, including convenience and mobility, efficiency in operations and increased competitiveness based on factors such as legal provisions, financial structure, taxation and risk management, etc.

However, the Company has a policy of managing TPI Polene Group by requiring the subsidiaries to conduct businesses in accordance with the Company's policies in order to have systematic management and supervision in the same direction. As for the management of associates and other subsidiaries, the Company has sent representatives to join as the Executive Committee to make decisions about policies and operational plans based on good corporate governance principles, ethical business operations to ensure efficient, transparent, fair operation and achieve the goals set forth.

The Company has a policy of supervising the operations of its subsidiaries and associates as follows:-

1. The Company will send the person on behalf of the Company to be a director in each subsidiary and/or associate in accordance with the shareholding in each company. However, sending representatives of the Company as directors in each subsidiary and/or associates must be considered and approved by the Board of Directors' Meeting, taking into account the suitability of each company.
2. The Board of Directors and the Management of each subsidiary and/or associates will have significant scope of authority and responsibilities in accordance with applicable laws, such as disclosure of information about financial position and performance. Connected transactions of subsidiaries and/or associates, as well as the acquisition or disposition of significant assets to the Company by applying the relevant notices of the Capital Market Supervisory Board and the Notification of the Board of Directors, including disclosing and submitting information on their interests and persons relating to the Board of Directors to the relationships and transactions with subsidiaries and/or associates in a manner that may cause conflicts of interest and avoid transactions that may cause conflicts of interest.
3. The Company will formulate the necessary plans and actions to ensure that the subsidiary and/or associates disclose information about their operating performance and financial position, and that the Company will take the necessary actions and monitor the subsidiary and/or associates with adequate and appropriate internal control systems and control systems to conduct the business.

In addition, the Company will closely monitor the performance and operations of such subsidiaries and/or associates and present the results of the analysis, including comments or recommendations, to the Board of Directors and the Board of Directors of those subsidiaries or associates for consideration, policy determination or improvement, to encourage the business of its subsidiaries and/or associates with developing and growing continuously.

8.1.4 Monitoring compliance with corporate governance policies and practices

The Company attaches an importance to good corporate governance by establishing relevant policies and practices in the Company's corporate governance policy and business ethics, while encouraging concrete actions to ensure confidence to all stakeholders.

In the previous year, the Company has monitored to ensure good corporate governance practices covering the following matters:

- 1) Employee care and indiscrimination
- 2) Anti- unfair competitiveness
- 3) Environmental care, hygiene and safety in the organization, and
- 4) Safeguard of technological Information

The follow-up monitoring indicating that the Company had fully implemented the guidelines of each issue. In addition, the Company has followed up to achieve good corporate governance compliance in four other areas as follows:

(1) Protection of Conflict of Interest

The Board has a clear policy to execute transactions, which have potential conflicts of interest in a manner that is in the best interests of the Company and its shareholders. Transactions between the Company (and its subsidiaries) and anyone, with which a possible conflict of interest might occur, require approval under the rules and regulations imposed by the SEC and the SET concerning information disclosure. In addition, such transactions are subject to an approval process in which only unconnected persons may participate.

Disclosure of the details of connected transactions that may involve conflicts of interest (according to criteria of the SET and the SEC) in the Company's Annual Report or or declared in other reports as the case may be. This also includes disclosure of information on connected transactions according to the general accepted accounting standard criteria. Details of connected transactions are disclosed in the section "Inter-Company Transactions".

In addition, pursuant to the Articles of Association, Directors shall notify the Company without delay of their interests in any contract executed with the Company or affiliated companies, and of their holding, and its increase or decrease, of shares or debentures of the Company.

(2) Dissemination of internal information

1) Monitoring of internal data usage

The Company maintains the use of internal information in accordance with the law and in accordance with good corporate governance guidelines. It is set out in writing in the Directors' Business Code of Conduct, the management and employees, which will be given to the directors, the management and employees when start working on the first day in the workforce, key policies can be summarized as follows:

1. The Company has designated the directors, the management and employees sign acknowledgement of the relevant notices of the SEC to designate directors and the management to be responsible for reporting changes in securities holdings to the SEC under Section 59 of the Securities and Exchange Act B.E. 2535 (1992) within three working days from the date of the change of securities holdings and shall notify the Corporate Secretary to provide a record of the change and summary of the number of securities of directors and the management individually to present to the Board

of Directors at the next meeting. In addition, penalties have been imposed if they have violated or not met such requirements.۵

2. The Company has a requirement not to use financial statements or other insider information that affects the price of the Company's securities to disclose to third parties or non-affiliated parties and do not trade securities for a month before financial statements or other information affecting the price of securities of companies/group companies in public. The Company must not trade securities until after 24 hours since all such information has been disclosed in public. Failure to act in accordance with such requirements constitutes a disciplinary act of the Company. If the director any executive or employee who has learned of important internal information, anyone who commits a disciplinary offense, will be punished from warning , payment cuts, unpaid suspensions, until dismissal.

However, the guidelines as above have been resolved and approved by the Board of Directors.

In recent years, it has not been found that directors and the Management have traded securities during the Company's term of referminion. In addition, the Company has begun to introduce electronic systems to enhance reporting efficiency with directors, the Management and employees as well.

The Company has made it a priority to achieve equality and fairness to all shareholders. Internal information or material information regarding changes in the price of unsealed securities is considered to be internal information used in the business operations and is classified information of the Company, which, if disclosed, will affect the Company, especially affecting the value of the shares of the Company that is traded on the SET. Therefore, the Management and employees at all levels of the Company must keep the internal information confidential Thus, guidelines practices are established as follows:

1. The Company's employees must maintain and keep customers' information and commercial information confidential, which must be maintained in respect of their responsibilities unless required by law to disclose for litigation purposes or the Board of Directors approves the disclosure.
2. 2. Disclosure of information that may have any impact on the Company must be undergone by the person who has the decision to act on such matters unless assigned by the disclosure authority.
3. 3. Internal information is information on business operations and management of confidential business. If disclosed in public, it will affect the Company.
4. 4. Employees and related persons must not disclose information that has not been disclosed in public and do not trade securities of the Company or the companies they are involved in when they know information that has not been disclosed in public.
5. 5. Important documents and confidential information must be maintained in specific ways defined at each level and type or type of data must be carefully stored, and easy to use. After the period of time, the data or documents or stored in electronic system, the employees involved must ensure that the destruction is made in an appropriate way, valid for each type of information or document, some documents must be preserved as required by legal regulations imposed and should be studied on a case-by-case basis.

The Company has policies and procedures to ensure that directors and the management do not provide internal information of the Company, that has not been made public to exploit themselves, including securities trading as follows:

1. The Company will educate the directors, the management, including executive positions in accounting or finance or equivalent, regarding the duties that must be prepared and submitted to their securities holding reports of their offspring the SEC under Section 59 and penalties under Section 275 of the Securities Act, including reporting the acquisition or distribution of their own securities, couple marriage and their offsprings to the SEC under Section 246 and penalty imposed under Section 298 of the Securities Act.
2. The Company requires the Directors, the management, including executive positions in accounting or finance or equivalent, to prepare and submit reports of the holding of their securities, of married couples and their offsprings to the Corporate Secretary before sending them to the SEC, the reports of which shall be prepared and delivered within 30 days from the date of appointment to the position of director and/or executive, or report the change in securities holdings within three business days from the date of the purchase, sale or transfer of such securities.
3. The Board of Directors and employees in particular business units of the related information (including couple marriage and offsprings of such persons) are prohibited to trade the Company's securities at least one month prior to the disclosure of quarterly and annual financial statements and within 24 hours after the disclosure of such financial statements.

In addition, in the event of the Board of Directors and employees in the particular business units concerned with the information (including couple marriage and offsprings of such person) know undisclosed information that may affect the Company's securities price, such persons must not trade the Company's securities until after 24 hours since all such information has been disclosed in public.

4. The Company imposes disciplinary penalties if there is a breach of internal information to exploit themselves, disciplinary action starts with written warning, wages cut, suspend unpaid work, or dismissal. The punishment will be determined by the intent of the offense and the seriousness of the offense.

Company shares held by the Directors and the Management (including couple marriage and their offspring) as at December 30, 2021.

Name	Shareholding As at December 30, 2020 (Shares)	Shareholding As at December 30, 2021 (Shares)	Change Increase/ (decrease) During year 2021 (Shares)
1. Mr. Prachai Leophairatana	874,346,240	615,746,240	258,600,000
2. Dr. Pramuan Leophairatana	808,900,000	544,900,000	264,000,000
3. Mr. Prayad Liewphairatana	867,122,740	603,122,740	264,000,000
4. Mrs. Orapin Leophairatana*	*	*	*
5. Mr. Pisej Iamsakulrat	8,128,400	8,128,400	-
6. Mr. Thavich Taychanavakul	270,800	270,800	-
7. Mr. Tayuth Sriyusiri	94,425,890	94,425,890	-
8. Mr. Khantachai Vichakkhana	27,760	27,760	-
9. Miss Malinee Leophairatana	8,143,080	8,143,080	-

Name	Shareholding As at December 30, 2020 (Shares)	Shareholding As at December 30, 2021 (Shares)	Change Increase/ (decrease) During year 2021 (Shares)
10. Mr. Supoj Singsanei	-	-	-
11. Mr. Pakorn Leopairut	862,745,810	596,651,800	266,094,010
12. Mr. Pornpol Suwanamas	-	-	-
13. Miss Tanyaratt Iamsopana	-	13,455,000	13,455,000
14. Dr. Virat Chatdarong**	3,000,000	8,000,000	5,000,000
15. Mr. Prasert Ittimakin	10,480	10,480	-
16. Mr. Karan Pipitsombat	29,000	29,000	-
17. Mr. Somkeart Srisuwan	-	-	-
18. Miss Chularat Danwattanachai	-	-	-
19. Mr. Pongsak Yiengsakun	-	-	-
20. Mrs. Bussara Ketmanee	6,000	6,000	-

Remark: * Included in shareholding changes of Mr. Prachai Leophairatana to comply with the provisions contained in the SEC Act, article 258.

** At the Company's Board of Directors' meeting on 28 October 2021, it passed a resolution to approve the appointment of Dr. Virat Chatdarong to be in the position of the Director of the Board.

3) Anti-Corruption Policy

The Company is committed to pursuing its business operations, with an emphasis on transparency with ethics and responsibility to shareholders, customers, employees, society and other stakeholders. The Company has the policy that the Directors, the Management and all levels of employees are prohibited from operating or accepting, soliciting, demanding, or accepting assets or other benefits to other persons in business dealings with the Company, whether directly or indirectly, as a motive for them to do or refrain from doing any act to acquire or keep benefits that are unsuitable to the business to perform in compliance with the principles of good corporate governance, codes of conduct and/or related to the terms and regulations or any legal issues to create sustainable value and long-term growth of the business.

Objective

1. All employees must not induce to act or refrain from acting that may lead to malfeasance and corruption, and not get involved in corruption, whether directly or indirectly.
2. To support all employees' roles and responsibilities to take part in the activities of the Anti-Corruption Policy.
3. To conduct its business with fairness and enhance the confidence of its stakeholders.

Scope of Anti-Corruption Policy

Stakeholders of the Company who are involved in the Anti-Corruption Policy are classified into 2 major groups as follows:

1. Internal: Director, Management Team, and all levels of staff/employees
2. External: Customer or suppliers, contractors, sub-contractors, business partners, creditors, governmental authorities and private officers.

Definition

Corruption means any type of bribery; an offering, agreement to give, giving, promising to give, soliciting, or receiving of money, assets, or other inappropriate benefits from government officers, government sectors, private sectors, or responsible person either in direct or indirect action so that such person could proceed or disregard his/her function in order to acquire, retain the business, recommend a specific company to the entity, or achieve any improper benefits in business transactions. Exceptions shall be applied in the case of laws, regulations, statements, standards, customs, or business traditions that are enabled to do so.

Roles and Responsibilities

The Board of Directors is responsible for determining the policy, monitoring, and forming of an effective system supporting the anti-corruption act in order to affirm that the Management Team is intensively concerned with, emphasizes, and cultivates an anti-corruption mindset as the Company's culture.

Presidents and the management are responsible for determining the anti-corruption system, promoting, and encouraging that anti-corruption manners are conveyed to all staff and related parties. This also includes reconsideration of systems or regulations in order to best adjust to business changes, regulations, standards, and laws.

The Audit Committee is responsible for the revision of financial and accounting reports, internal controls, internal audit functions, and risk management so that such operations are concise, appropriate, effective, and conform to global standards.

The Internal Audit Director is responsible for auditing, assessing, and evaluating whether business transactions are accurate and comply with guidelines, approval authorities, standards, laws, and policies in such monitored departments in order to assure that the internal controls are sufficient and suitable for probable risk in corruption. This shall be directly reported to the Audit Committee.

Anti-Corruption Guidelines

1. Staff members shall not be negligent in any corruption conditions involved directly with the Company. All staff members must notify such acts to supervisors or the responsible person provided in particular channels, including cooperating with any fact-finding investigation.
2. A person who commits corruption is considered for disciplinary offenses. This means such person is to be considered for discipline according to the Company's standards. Legal prosecution may be applied in case such acts violate laws.
3. The Company shall be fair and provide safeguards for staff members who report corruption cases relating to anti-corruption.
4. The Company understands the importance of dissemination, knowledge sharing, and constant communications with employees.

5. The Internal Audit Department of the Company will be responsible for reviewing and evaluating internal control systems, disclosure of Company information, and to review implementation of the provisions and risk management systems that can mitigate risks against corruption and report directly to the Audit Committee.

Provision in Implementation

Implementation of Anti-Corruption Policy (to interact properly with business partners and the related parties who have conflicts of interest)

All employees will be responsible for adhering to the Company's Anti-Corruption Policy in their business connections with customers, suppliers and all parties concerned. (Thereinafter called "related parties who have conflicts of interest" who have a direct impact on business operations)

1. The employees must comply with the Anti-Corruption Policy and measures, the Company's corporate governance principles and code of business conduct and hospitality activities from other persons in business dealing with the Company.
2. The employees must not accept gifts, entertainment and hospitality offerings or entertainment and hospitality activities from other persons in business dealing with the Company, whether directly or indirectly.
3. Employees must not be corrupt or accept corruption in any form under any circumstances, related to the business without getting prior approval from the direct supervisors. Any acceptance thereof as above from other persons must comply with the Anti-Corruption Policy and measures, the Company's corporate governance principles and code of business conduct and must not have any impact on the business decision of said employee.
4. Employees must not perform any act to acquire or keep benefits from their positions in the Company to accept gifts, entertainment and hospitality offering or entertainment and hospitality activities from other persons in business dealing with the Company.
5. Whenever the employees advise the HR department of the Company, those actions must not go against the benefits and/or recruitments of the Company and employees must refrain from doing any act to acquire or keep benefits that go against relevant laws and regulations.
6. There are to be no close relationships between supervisors and those under their supervision within the same departments such as married couples, or parents or offspring, that may impose conflicts of interest.
7. The Business Relations and Procurement Process with the Public Sector or all types of bribery or illegal payments are prohibited in all business transactions, operations, and connections to the government.
8. Corrupt persons who violate or fail to comply with the anti-corruption measures must face punishment under the Company's rules and may also face prosecution if the action violates the law.
9. Employees must be granted an approval from their supervisors before offering all types of gifts (such as the Company's products) or entertainment and hospitality activities to other persons for business purposes, to be in compliance with the Anti-Corruption Policy and measures, the Company's corporate governance principles, and its code of business conduct. In case of emergency that in any circumstances, supervisor approval has not been granted in advance, such employees are deemed to get an approval from their supervisors immediately after offering all types of gifts (such as the Company's products) or all forms in any circumstances to other persons for business purposes.

10. Employees must not acquire or take benefits from their positions in the Company to perform inappropriate relationships, sexual harassment and other verbal or physical harassment of a sexual nature, any kinds of treatment or consideration of, or making a distinction in favor of or against (discrimination based on race, sex, disabilities or religion). This also includes burglary, threats, force or any other kind of action that violates the law.
11. Employees should ask or request opinions from their supervisors or responsible persons when the employees face or have doubt about any act that is considered corruption in order to avoid any arguments.

Disclosure of the Anti-Corruption Policy

1. The Company announces the written publication of the Anti-Corruption Policy and measures as a principal guideline for employees to follow.
2. The Company discloses the written publication of the Anti-Corruption Policy and measures through the Company's channels, such as letters, the Company's website and Annual Report.
3. The Anti-Corruption Policy needs to be reviewed regularly, including with a possible revision of such policy.

Additional practices regarding prevention of corruption

The Group has an anti-corruption policy focused on promoting morality, ethics, transparency in business practices in accordance with the Company's business ethics, as well as conducting business with an effective management system, that is transparent and verifiable. In addition, the Company encourages its personnel at all levels not to be involved in any corruption directly or indirectly, and promotes the participation of employees at all levels in preventing and combating corruption related to the Company's business, including the Company., has trained employees at all levels.

The Group has a policy of giving or receiving gifts, as well as other benefits from individuals or companies engaged in business with the Company so as not to cause conflicts of interest. Any special compensation or incentives of value from third parties with business relevance. Employees of the Company must first be approved by direct supervisors. However, this is Receiving such gifts must be in accordance with the rules. Business traditions or business etiquette and must not influence employee business decisions.

In addition, the Group has a policy of not authorizing or encouraging unlawful payments or bribing government agencies, and also clearly determines how to report whistleblowers or complaints in cases where unlawful acts are witnessed. The Company also sets out guidelines for conducting investigations and penalties in the Company's anti-corruption policy.

4) Whistleblowing

1. Complaints or recommendations

- 1.1 A complaint if encountering any acts that are considered corruption, either directly or indirectly.
- 1.2 Any act that is considered corruption and/or has a direct effect on the internal controls of the Company, to cooperate in the fact-finding investigation stipulated by the Company's regulations.
- 1.3 Any act that has a direct impact on the Company's reputation and benefits.
- 1.4 Any misconduct that goes against the law, morals or business ethics.

2. Whistleblowing or complaint channels

All employees are obliged to report to the following persons and/or agencies when they see fraud, or corruption related to the Company's activities that violate this policy by using one of the channels.

3. Internal feedback mechanism (internal complainant)

- (1) Head of Audit Head of Human Resources or Head of Legal Affairs
- (2) Feedback box
- (3) Electronic mail (E-mail: orapinr@tpipolene.co.th)

4. External feedback mechanism (external complainant)

- (1) Letter: Mrs. Orapin Liaopiratana
Senior Executive Vice President
TPI Polene Public Company Limited
26/56 Chantad Mai Road, Tungmahamek, Sathorn, Bangkok 10120
- (2) Electronic mailbox (E-mail: orapinr@tpipolene.co.th)
- (3) Letter: Audit Committee
TPI Polene Public Company Limited
26/56 Chantad Mai Road, Tungmahamek, Sathorn, Bangkok 10120
- (4) Tel. 02-285-5090 or 02-213-1039 ext. 12962/12963 – Internal Audit Departmen

Identities and confidentiality protected

1. Identities protected

As the whistleblower or the person filing the grievance in good faith is greatly beneficial to the Company and all employees, said whistleblower or the person subject to such grievance and parties involving in the fact-finding and reporting process, regardless of the difficulties they might have, the Company will ensure that no employees shall be demoted, penalized or be otherwise affected because they honestly decline to participate in corruption.

The Company has a policy to investigate such reports with equality, transparency, care, and fairness and subject them to a proper investigation. All information will be kept confidential and only be revealed when necessary while we will take into consideration the safety of and damage to the whistleblower or the person filing the grievance, which will be carried out in a confidential manner to ensure staff that make the reports will have their identities protected.

2. Names and Confidentiality Protected

The whistleblower or the person filing the grievance (various groups of stakeholders or employees) may choose not to reveal his or her name, address or contact number unless he or she feels that such a disclosure will enable the Company to inform him or her of the progress. Information will be kept confidential and only be revealed when necessary while we will take into consideration the safety of and damage to the whistleblower or the person filing the grievance. The Company will hear all such reports with equality, transparency, care, and fairness and subject them to a proper investigation, which will be carried out in a confidential manner to ensure the staff members who make the reports will have their identities protected.

Fact-Finding Process and Penalties

1. Having received the grievance, the Management Representatives, whose members consist of the Compliance Unit and the Audit Committee, will be responsible for conducting an investigation.
2. During the fact-finding process, the Management Representatives and the Audit Committee might ask the Management Representatives to keep them informed of the progress of further investigation.
3. In case tips or grievances are found to contain material evidence, the person committing corruption or violating or failing to comply with the anti-corruption measures will be granted an opportunity to acknowledge the charges and will have the right to defend themselves by providing additional information or evidence that they weren't involved in any corruption or that they violated or failed to comply with the anti-corruption measures as accused.
4. In case the person who committed corruption or violated or failed to comply with the anti-corruption measures, is proven guilty, the Company will take actions in accordance with the established procedures to investigate and levy disciplinary punishment on employees at fault relating to corruption matters. Such person will be considered for discipline according to Company standards. Legal prosecution may apply in case such acts violate the laws. The Management's decision is considered the final judgment for punishment on employees at fault relating to corruption matters.

Disclosure of the Anti-Corruption Policy

1. The Company announces the written publication of the anti-corruption policy and measurements as a principal guideline for employees to follow.
2. The Company discloses the written publication of the anti-corruption policy and measures through the Company's channels, such as letters, the Company's website and annual report, etc.
3. The anti-corruption policy needs to be reviewed regularly, including with a possible revision of such policy and implementation provision in order to be in accordance with business changes, regulations, standards, and laws.

Anti-Corruption Performance

In 2021, all divisions of the Company, especially those that are in contact with third parties, risks associated with fraud and/or corruption, there are total of 75 department assessed as vulnerable to corruption, representing 100% and the proportion of employees who have trained in anti-corruption courses is 6.31% of the Company's total 7,016 employees (not including employees in affiliates and subsidiaries companies which have the same policy). Those 7,016 employees are aware of the anti-corruption policy and accounted for 100%. Besides, the Company's suppliers acknowledged the policies and practices regarding corporate anti-corruption representing 88.45% of total suppliers or accounting for total of 1,394 companies. There were no lawsuits filed by the organization for corruption, and there were no corruption incidents against suppliers, despatchers or trade partners, including fraud incidents that occur within the organization.

More details of the Privacy Policy can be found on the Company's website,
<https://www.tpipolene.co.th/en/aboutus-en/anti-corruption-policy>

Data Security Performance

The Company recognizes that personal data is important so that the personal data of customers, suppliers of employees and or those involved (visitor or all concerned) to the business of TPI Polene Group is collected, disclosed securely and being used for the purposes agreed by the data subject and in accordance with the Personal Data Protection Act B.E. 2562, under the establishment of a privacy policy.

As for Customer Information, the Company recognizes the importance of protecting personal data of customers with the aim of providing products and services to meet the needs of customers in the most efficient way.

In 2021, the Company has not received any complaints of personal data breaches. More details of the Privacy Policy can be found on the Company's website, <https://www.tpipolene.co.th/th/aboutus/pdpda>

8.2 Report on the performance of the Audit Committee in 2021

8.2.1. Attendance of individual audit committees

In 2021, the Audit Committee conducted a total of 5 meetings with the following details of the meeting:

Name	Position	Number of Meeting Attendance
1. Mr. Supoj Singaneai	Chairman of the Audit Committee and Independent Director	5/5
2. Mr. Pises Iamsakulrat	Independent Director and Audit Committee	5/5
3. Mr.Thavich Taychanavakul	Independent Director and Audit Committee	4/5
4. Mr. Pornpol Suwanamas	Independent Director and Audit Committee	2/5

8.2.2 Performance of the Audit Committee in 2021

As per details contained in the Audit Committee report



Audit Committee's Report for 2021

To: Shareholders:

Dear Sirs,

The Audit Committee of TPI Polene Public Company Limited consists of four independent directors, who are all qualified with knowledge of finance, law and management administration: namely, Mr. Supoj Singsaneai as the Chairman of the Audit Committee; Mr. Pises Iamsakulrat and Mr. Thavich Taychanavakul and Mr. Pornpol Suwanamas, as Audit Committee members: with Mr. Nitisit Jongpitakrat, the Corporate Secretary, as Secretary to the Audit Committee. All Audit Committee members possess appropriate qualifications and are, in all aspects, in compliance with the rules and regulations imposed by the Stock Exchange of Thailand.

The Audit Committee has fully performed its duties and responsibilities to review and evaluate internal control systems, disclosure of Company information, and to review implementation of the provisions of related governing laws, as well as any other important tasks, such as ESG principles to be in line with the Sustainability Report., etc. In 2021, the Audit Committee convened 5 meetings as follows:

1. To review and to evaluate internal control systems

The Company and its subsidiaries have appropriate internal control systems and have operated the business efficiently and effectively under appropriate and sufficient internal controls, as supported by the operational performance report. The Company and its subsidiaries have internal controls and risk management systems that can protect against potential risks to the Company and to all related parties. The systems are in place to ensure that any mistakes and irregularities will be identified in due course; and that financial reports are accurate, adequate and reliable; and the assets used by the Company and its subsidiaries, benefit all parties as well as shareholders. In addition, TPI Polene group adheres to Environmental, Social and Governance (ESG) criteria, (Environmental, Social, Corporate Governance), by embracing the Bio Circular Green Economy as a sustainable business model under the standards of good corporate governance as follows:

Environmental Dimension: regarding the use of materials, energy, waste water, pollution, waste, environmental practices, transportation and land degradation, contamination and soil restoration, with development into low-carbon societies targeting Net Zero GHG Emission, using waste fuel instead of coal, improve production efficiency to save energy, with an adherence to circular economy, to recycle waste from one plant as raw materials or fuel of another, aiming to zero waste, develop green manufacturing technology and innovation, using process automation system to control the production and unloading of cargos to be efficient, construct rainwater reservoirs to replace natural water sources, including recycle wastewater for reuse, conserve minig areas by co-planting forests, improve scenery and get rid of covid-19 contamination waste.

Social Dimension: regarding occupational health and safety, training and education, non-discrimination, non-child labor, labor criteria and forced labor, Security Practices, Human Rights Assessment, Customer health and safety, customer satisfaction, product and service label, data security, social and economic practices and products and services, to be in compliance with labor laws and labor relations, respect human rights principles and personal information of employees, suppliers,

contractors and create a good environment in the workplace with properly Occupational Health and Safety, training and developing skills for personnel and provides opportunities to progress with indiscriminate, provide scholarships to children of employees, conduct customer relationship activities with focusing launching green products, deliver quality products of standard quality that display complete label and conduct business with trade partners in accordance with the agreements in the Partner Code of Conduct.

Governance Dimension: regarding Economic Performance, anti- corruption policy, use technology and innovation to develop products and services and R&D to top up business with compliance with relevant regulations and transparency against corruption, under technology and innovation advancement to drive the organization while focusing on effective management with research and development results to create value added to the products, seek high return on investments and mitigate all-round risks including risk associated from climate change.

In carrying out duties and responsibilities, the Company has embraced Four Rddhippada: Basic For Success 4 and a commitment to creating a balanced happiness with a sustainable quality of life under the principles of Brahma-vihara or Four sublime states of mind and Four Noble Truths, the Heart of Buddhism (Ariyatham to the Cessation or Extinction of Suffering), which have been taught by the Buddha and has embraced the Code of Conduct as a policy for all employees to follow, by emphasizing the balanced consideration of all related parties, fair treatment to all parties concerned, including shareholders, suppliers, and contractors. The Company also fosters the development of all our staff to expand their knowledge so as to become a knowledge organization. This will further enhance our long-term development and create sustainable growth for the Company.

2. To review the disclosure of all relevant information for investors.

The Company has a policy of disclosing all relevant information for investors, such as connected transactions and any other transactions that might affect the interests of related parties. The Company always discloses accurate, reliable and relevant information on a timely basis.

3. To review and to ensure that the Company performs in compliance with all regulations and related governing laws.

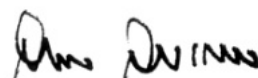
The Company has a clear policy to comply with all regulations and related governing laws, and codes of conduct, to protect against the use of insider information. As announced in the Company's Rules and Regulations, any misuse of internal information shall be subject to disciplinary action, including dismissal. The Company supervises submission by the Management of reports of their shareholding in the Company to comply with related governing laws. The Company realizes the importance of information disclosure, including financial statements and other reports, and ensures that they are complete, accurate, reliable and timely.

4. To select, nominate, and propose the remuneration of the statutory auditors of the Company for the year 2022.

The Audit Committee has taken into consideration the independence, performance, experience and an appropriate remuneration of auditors. The Audit Committee has passed a unanimous resolution to propose to the Company's Board of Directors for consideration and to propose to the shareholders' meeting to consider and approve the appointment of Mr. Ekkasit Chuthamsathit, CPA registration no. 4195 or Mr. Boonyarit Thanormcharoen, CPA registration no. 7900 or Mr. Natthapongse Thantijatthanond, CPA registration no. 8829, KPMG Phoomchai Audit Limited, or Miss Thanyalux Keadkaew, CPA registration no. 8179, to be the statutory auditors of the Company for the year 2022.

The Audit Committee considers that in the previous year, the Board of Directors as well as the Management of the Company, was in complete compliance with the principles of good corporate governance with an adherence to the importance of sustainable business management. They performed their duties and responsibilities ethically, with integrity, and in a professional manner, to achieve the objectives of the Company. In addition, a product quality system, in compliance with international standards and applicable laws, has been developed. The Audit Committee recognizes that the Company is committed to social and environmental responsibility. The Company has also prepared financial reports in compliance with generally accepted accounting principles, with an adequate disclosure of information, internal control and audit systems, and is able to ensure product quality and good corporate governance, without any material deficiencies.

On behalf of the Audit Committee,



Mr. Supoj Singsanei
Chairman of the Audit Committee

8.3 Summary of performance of other sub-committees

1. Report of the Executive Committee, which is included with the board of directors' report signed with Chairman of the Board of Directors and Chief Executive Officer
2. 2021 Audit Committee Report, signed by Chairman of the Audit Committee
3. The Board of Directors' Meeting no. 10/2021, on October 28, 2021 passed a resolution to approve all member of the Board of Directors to act as the Remuneration Committee of the Company and the Nomination Committee of the Company.

On December 23, 2021, the Board of Directors, acting as the Remuneration Committee of the Company, determined the scope of the duties for determining the remuneration of the Board of Directors and its management.



9. Internal Controls and Inter-Company Transactions

9.1 Internal Controls

At the Board of Directors' meeting no. 1/2565, held on 27 January 2022, attended by the four Audit Committee members, the Board considered and evaluated the sufficiency of the internal control systems of the Company by investigating the management and other relevant departments, and considering an assessment report which was prepared by the management and reviewed by the Audit Committee. These were 5 aspects of internal control systems as follows:

1. The organization and environmental control system
2. The risk management system
3. Management control system
4. Information and communication system
5. The monitoring system

The resultant assessment showed that the internal control systems of the Company operated appropriately and sufficiently. The Company provided sufficient employees to efficiently follow-up the internal control systems, and to sufficiently monitor the operations of the Company to safeguard the Company's assets including transactions which a possible conflict of interest might occur. The Board also considered that other aspects of the internal control systems are sufficient as well as the management of the Company who has established guidelines for business operations on the basis of integrity, ethics, Environmental, Social and Governance (ESG) criteria, by embracing the Bio Circular Green Economy as a sustainable business model under the standards of good corporate governance by adopting principles of justice to the distress of The Doctrine of the Buddha, a guide to the performance of executives and employees as follows:

1. **Iddhipada 4:** the Principles of Iddhipada 4 : Path of accomplishment in work, which consists of the followings:-

- 1.1 **Chanda (ASPIRATION):** Satisfied with the work we're performing.

Firstly, we need to explore ourselves for what kind of job we like or what areas of work we have faith in, and then go down that path. We can start easily by questioning ourselves what we work for and whether we are happy if such job is not a loving job. In case we have time to find and adjust ourselves or adapt our faith to our work.

- 1.2 **Viriya (EFFORTS):** Diligently on the work

All work can be done requires diligence. Viriya is another tool that can lead to success. The more we work hard, the rewards received are even more. More importantly, Viriya can be achieved with the love of work, not just dedicated the work to life but virility is a self-training one.

- 1.3 **Citta (CONCENTRATION)**

The mind that focuses on the work is completely good for the work that is done. Chitta is Thammasa that represents conscious, prudence and responsibility and help us to work without distractions. Once we have both Chanda and Viriya, Chitta can be considered as the fence of a path that does not distract us from success.

- 1.4 **Vimansa:** The contemplate and use of wisdom to monitor the work.

The best way of how to get the job done is in this last element of basis for success 4. Vimansa means contemplate, working with wisdom and a brain thinking, not just working on it. Probably, reconsidering ourselves steadily what we have done all day, summarizing the reasons why we have done all things today

and we can be encouraged in the next following days and we're not going to repeat our mistakes, and can see a way to see which paths will actually lead to success.

Therefore, if Iddhipada 4 (BASIS FOR SUCCESS 4) is applied at work, love the work, work hard, and take responsibility for the work and know to contemplate carefully. The way of success is not beyond the reach (Source: Division of Planning, Office of the President, Maha Sarakham University), which is the main principle of Iddhipada 4 and is the way to success at work, a commitment to creating balanced happiness with a sustainable quality of life.

2. **Four Sublimes States of Mind** is the dharma of the Great Brahma and Brahma-viharas is the key principle dhamma for everyone. It is a principle of heart that will allow us to live a virtuous and purified life, as the following principles:

2.1 Metta (MERCY): Love, desire for others to be happy.

2.2 Karuna (KINDNESS): Desire to get others out of their sufferings

2.3 Mudita (SYMPATHETIC JOY): Pleasure that come from delighting in other people's well - being, even if one did not contribute to it.

2.4 Upekkha (EQUANIMITY): Even-mindedness and serenity, treating everyone impartially

3. **Four Noble Truths:** the basic doctrines of Buddhism is noble path leading to the complete destruction of suffering, which consists of the following:

3.1 Dukkha: Suffering

3.2 Samudaya: The Cause or Origin of Suffering

3.3 Nirodha: The Cessation or Extinction of Suffering can be attained by the renouncement or letting go of Tanha

3.4 Marga: The Path leading to the Cessation or Extinction of Suffering

For internal controls on other topics, the Board of Directors considers that the Company has adequate internal controls as well.

However, the Company has an internal audit department within the organization to ensure that the internal processes are well overseen, risk management, internal control and compliance to achieve the organization's operational objectives. The Internal Audit Department is planning an annual internal audit for determining the objectives and risk assessment of the organization by establishing an audit plan in accordance with the direction of business strategy and significant risks affecting the operation and reporting the audit results to the Audit Committee and management for consideration, with follow-up of the practice according to the recommendations found from the inspection regularly. In the performance of the internal audit department, there are no restrictions on commentary and there is no conflict between the inspection unit and the internal audit department that has not yet been concluded.

The Company's Internal Audit Supervisor

The Company has assigned Mr. Somchai Kijpipat as Assistant Vice President, the Internal Audit Department is the head of Internal Auditing of the Company because he is knowledgeable in the Company's business, and has the knowledge, skills and experience in internal audit work for the Company's operations as appeared in Attachment 3 "Details about internal audit supervisor".

9.2 Inter-Company Transactions

Disclosure of information about inter-company transactions, and other transactions that might have the potential to involve conflicts of interest, is in compliance with the rules and regulations imposed by the SET and the SEC.

The Audit Committee has performed its duties and responsibilities to review inter-company transactions. The procedures used in inter-company transactions have always been subject to the normal terms and conditions of business and reflect applicable market prices. The Company established procedures for the above transactions in the same manner as for transactions with general customers and all inter-company transactions reflect applicable market prices to ensure that there are no conflicts of interest.

As of 31 December 2021, the Company and its subsidiaries had inter-company transactions with related persons, which might have the potential to involve conflicts of interest. The Directors and/or Management have considered the reasonableness of the above inter-company transactions, and all were undertaken for the maximum benefit of the Company and were subject to the normal terms and conditions of business to reflect applicable market prices and in compliance with the rules and regulations imposed by the SET and the SEC. Details of the inter-company transactions are contained in Note 4 of the consolidated financial statements as at December 31, 2021, which can be summarized as follows:

Company (Description of relationship)	Description of transaction	Baht million	Necessity and reasonableness
1. United Grain Industry Co., Ltd. ("UGI") There are 5 common Directors. Mr. Prachai Leophairatana Dr. Pramuan Leophairatana Mr. Prayad Liewphairatana Mrs. Orapin Leophairatana Miss Malinee Leophairatana	- The Company and its subsidiaries paid UGI for cement bags. - Accounts Payable	4.610 2.559	Transactions are always undertaken at market rates to support normal business operations of the Company.
2. Thai Plastic Film Co., Ltd. There are 7 common Directors. Mr. Prachai Leophairatana Mr. Prateep Leopairut Dr. Pramuan Leophairatana Mr. Prayad Liewphairatana Mrs. Orapin Leophairatana Miss Malinee Leophairatana	- The Company sells plastic resin to Thai Plastic Film Co., Ltd. - The Company hires Thai Plastic Film Co., Ltd. to produce cement bags at the rate of Baht 2.00 to 2.60 per bag. (This rate includes labor cost, rental charges, electricity and other related expenses) - The Company and its subsidiaries paid Thai Plastic Film Co., Ltd. for cement bags. - Accounts Payable	0 120.424 87.378 142.098	Transactions are always undertaken at market rates to support normal business operations of the Company.
3. Thai Plastic Product Co., Ltd. There are 6 common Directors. Mr. Prachai Leophairatana Mr. Prateep Leopairut Dr. Pramuan Leophairatana Mr. Prayad Liewphairatana Mrs. Orapin Leophairatana Miss Malinee Leophairatana	- The Company and its subsidiaries purchased cement bags for export from Thai Plastic Product. - Accounts Payable - The Company sells plastic resin to Thai Plastic Product Co., Ltd.	323.461 167.372 1.71	Transactions are always undertaken at market rates to support normal business operations of the Company.

Company (Description of relationship)	Description of transaction	Baht million	Necessity and reasonableness
4. Bangkok Union Insurance Plc. (BUI) There are 4 common Directors. Mr. Prachai Leophairatana Miss Malinee Leophairatana Mr. Thavich Taychanavakul Miss Tanyaratt Iamsopana	- The Company and its subsidiaries pay insurance premium to BUI.	242.994	Transactions are always undertaken at market rates to support normal business operations of the Company.
5. Bangkok Union Life Insurance Plc. There are 4 common Directors. Dr. Pramuan Leophairatana Mr. Prayad Liewphairatana Miss Malinee Leophairatana Miss Tanyaratt Iamsopana	- The Company and its subsidiaries paid life insurance premium to Bangkok Union Life Insurance Plc.	26.807	Transactions are always undertaken at market rates to support normal business operations of the Company.

The details of the connected transactions for the year 2021 are disclosed in the annual report of the Company through the Company's website (www.tpipolene.co.th)

Procedures to approve Related Transactions

Since the Company is a listed company, its practices regarding related transactions are conducted according to the rules and regulations of the SET and the SEC. The Company is highly aware of the sensitivity of this issue and closely monitors any situation in which a potential related transaction could occur. The above inter-company transactions were subject to the normal terms and conditions of business to reflect applicable market prices. Directors of the Company who are not deemed to be connected parties to such transactions are responsible for making decisions in regard to the said connected transactions.

The process for approval of connected transactions will be carried out under the standards of integrity and be reviewed by the Audit Committee to be in the best interests of the Company and its shareholders. This complies with SEC and SET regulations. The Company will disclose types and values of transactions that might present conflicts of interest accurately and completely. For any transactions that are considered to have potential conflicts of interest, market prices will be used as criteria to consider those transactions.

Potential Future Related Transactions

The Company expects to continue its business transactions with subsidiaries, the Joint Venture Company, affiliated companies, and related companies in the normal course of its business. Inter-company transactions are subject to normal terms and there is no conflict of interest. The Company adheres to practices for the above transactions that comply with the SET regulations, and regulations of other relevant governmental authorities, with regard to the reasonableness of the conditions and fair prices.

3 Attachment: Financial Statements

Consolidated Financial Statements for the year ended 31 December 2021



TPI Polene Public Company Limited and its Subsidiaries

**Financial statements For the year ended
31 December 2021
and
Independent auditor's report**

Independent Auditor's Report

To the Shareholders of TPI Polene Public Company Limited

Opinion

I have audited the consolidated and separate financial statements of TPI Polene Public Company Limited and its subsidiaries (the “Group”) and of TPI Polene Public Company Limited (the “Company”), respectively, which comprise the consolidated and separate statements of financial position as at 31 December 2021, and the consolidated and separate statements of comprehensive income, changes in equity and cash flows for the year then ended, and notes, comprising a summary of significant accounting policies and other explanatory information.

In my opinion, the accompanying consolidated and separate financial statements present fairly, in all material respects, the financial position of the Group and the Company, respectively, as at 31 December 2021 and their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards (TFRSs).

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing (TSAs). My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements* section of my report. I am independent of the Group and the Company in accordance with the requirements of the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions that is relevant to my audit of the consolidated and separate financial statements, and I have fulfilled my other ethical responsibilities in accordance with these requirements. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

Key audit matters are those matters that, in my professional judgment, were of most significance in my audit of the consolidated and separate financial statements of the current period. These matters were addressed in the context of my audit of the consolidated and separate financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

<i>Valuation of inventory</i>	
Refer to Note 3 and 8 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>Inventory is a significant balance. There is slow moving in some type of inventory. There is a risk arising from the degree of judgment involved in assessing the net realisable value which is based on assumptions concerning future events and activities.</p> <p>Due to the high level of management's judgment and the significant carrying amounts involved, this is one of the key judgmental areas that my audit is concentrated on.</p>	<p>My audit procedures in this area included, among others:</p> <ul style="list-style-type: none"> • understanding the Group's business plan and process on estimate the net realisable value derived from business plan; • considering the management's significant assumptions used in their assessment of the net realisable value of inventory, which included comparing them to internally and externally derived data; • assessing the appropriateness of the methodology used to calculate the net realisable value at year end, considering the reasonableness of selling price used by comparing to the selling price during subsequent sales and assessing the accuracy of the calculation; and • evaluating the adequacy of disclosure in accordance with the related Thai Financial Reporting Standards.

<i>Impairment assessment of property, plant and equipment in consolidated financial statements and loan to in separate financial statements</i>	
Refer to Note 5 and 14 to financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>The continuous loss in operation of two subsidiaries; TPI Polene Bio Organics Co., Ltd. and TPI All Seasons Co., Ltd. indicated that property, plant and equipment and loan to may be impaired.</p> <p>Since the consideration of impairment of assets depend on the management's judgments and assumptions in respect to the forecast of operating results, discount rate, economic conditions and key assumptions used to estimate the recoverable amount of aforementioned business, this is one of the key judgmental areas that my audit is concentrated on.</p>	<p>My audit procedures in this area included, among others:</p> <ul style="list-style-type: none"> • understanding the management's process of identifying impairment indicator, defining significant increase in credit risk and impairment testing, estimate recoverable amount and expected credit loss; • evaluating key assumptions used in discounted future cash flows such as growth rate, future outcomes, and economic conditions used to measure the credit loss and considering the reasonableness of forecasts by comparing historical estimation with the actual results as well as assessing the appropriateness of discount rate used; • evaluating credit risk and considering the reasonableness of supporting information; • assessing the accuracy of the calculation; and • evaluating the adequacy of disclosure in accordance with the related Thai Financial Reporting Standards.

<i>Recognition of deferred tax assets</i>	
Refer to Note 3 and 31 to the financial statements.	
The key audit matter	How the matter was addressed in the audit
<p>The Group has recognised deferred tax assets for unused tax losses that it believes are recoverable.</p> <p>The recoverability of recognised deferred tax assets is in part dependent on the Group's ability to generate future taxable profits sufficient to utilise tax losses (before the latter expire).</p> <p>Due to the inherent uncertainty in forecasting the amount and timing of future taxable profits, this is one of the key judgmental areas that my audit is concentrated on.</p>	<p>My audit procedures in this area included, among others:</p> <ul style="list-style-type: none"> • understanding the method of the management's recognition of deferred tax assets and the assessment of assumptions used in projecting the Group's future taxable profits; • considering the reasonableness of the forecast of future taxable profits by comparing the past forecast to the actual operating results and the operation plans and evaluating assumption used by management by comparing to operation plan and external information; • assessing the accuracy of the calculation; and • evaluating the adequacy of disclosure in accordance with the related Thai Financial Reporting Standards.

Emphasis of Matter

Without modifying my opinion.

I draw attention to notes 38(2) and 38(4) to 38(7) to the financial statements, which described the uncertainty related to the outcome of lawsuits filed against the Company in relation to its operation of mining. The Civil Court issued a judgement as follows:

- 1) On 2 August 2019, the Civil Court had an order on the Black Case No. SorWor.5/2559, engaging the mining activity unlawfully (engaging in the mining restricted area), that the Company has to return the limestone for cement industry back to the area where the mining activity was done and restore the area into its previous condition or pay the compensation of Baht 1,603 million with interest at 7.5 percent per year from the date of being notified of the land survey result until the date that payment is made in full. The Company filed the appeal together with a delay of judgement execution on 3 December 2019. The case is pending the consideration of the Court of Appeal and the date of hearing the Court of Appeal's judgement or order was set to be on 22 September 2020, however, the said date of hearing of judgement had been postponed because the case is under mediation during the appeal. Later, the mediation was cancelled, and the case is currently pending the consideration on the Court of Appeal.
- 2) On 13 December 2019, the Civil Court had an order on the Black Case No. SorWor.4/2559, the Black Case No. SorWor.6/2559 and the Black Case No. SorWor.1/2560, engaging the limestone and shale mining activity in the area outside its concession area and engaging the mining activity unlawfully, that the Company has to return the limestone and shale for cement industry back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation of Baht 4,688 million with interest at 7.5 percent per year from the discovery date of the unlawful of mining activity or the date of violation of mining until the date that payment is made in full. For the Black Case No. SorWor.4/2559 and the Black Case No. SorWor.6/2559, the Court of Civil, by reading the Court of Appeal's judgement, announced a revision of the calculation of interest. However, the Company will file the petition against the Court of Appeal's judgement which the Court allowed the date to submit the petition to the Supreme Court within 17 March 2022. For the Black Case No. SorWor.1/2560, the Court of Civil, by reading the Court of Appeal's judgement on 24 June 2021, announced a revision of the calculation of interest. Later, The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 9 November 2021. The case is currently pending the consideration on the Supreme Court.
- 3) On 24 March 2020, the Civil Court issued a judgment on the Black Case No. SorWor.2/2561, the violation in relation to Company's operation of mining outside its concession area that the Company has to either make a restitution of shale and a specific performance of soil rehabilitation or pay damages totaling Baht 67 million with interest at 7.5 percent per year from the date of violation of mining to the date that payment is made in full. On 20 October 2021, the Court of Civil, by reading the Court of Appeal's judgement, announced a revision of the calculation of interest. Later, The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 18 February 2022. The case is currently pending the consideration on the Supreme Court.

The Company has an opinion that the outcome of lawsuit is not yet final and uncertain, the Company has not recorded the provision for liability of lawsuit.

Other Information

Management is responsible for the other information. The other information comprises the information included in the annual report, but does not include the consolidated and separate financial statements and my auditor's report thereon. The annual report is expected to be made available to me after the date of this auditor's report.

My opinion on the consolidated and separate financial statements does not cover the other information and I will not express any form of assurance conclusion thereon.

In connection with my audit of the consolidated and separate financial statements, my responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the consolidated and separate financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

When I read the annual report, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance and request that the correction be made.

Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines is necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

My objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, I exercise professional judgment and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the consolidated and separate financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.



(Bunyarit Thanormcharoen)
Certified Public Accountant
Registration No. 7900

KPMG Phoomchai Audit Ltd.
Bangkok
23 February 2022

Statement of financial position

Assets	Note	Consolidated		Separate	
		financial statements		financial statements	
		31 December		31 December	
		2021	2020	2021	2020
		(in thousand Baht)			
Current assets					
Cash and cash equivalents	6	5,668,608	6,657,879	1,157,874	2,034,928
Trade accounts receivable	5, 7	5,965,998	4,675,711	8,657,063	6,237,977
Other receivables		952,730	853,591	585,366	575,380
Short-term loans to related parties	5	-	-	418,380	478,014
Receivables and advances to related parties	5	94,889	60,240	470,831	254,442
Inventories	8	15,715,380	11,112,402	12,653,929	8,543,237
Other current financial assets		6,480,787	3,448,590	2,502,208	1,702,353
Other current assets		638,477	486,494	203,274	199,586
Total current assets		35,516,869	27,294,907	26,648,925	20,025,917
Non-current assets					
Other non-current financial assets		34,978	34,979	18,447	18,400
Investments in associates	10	842,539	805,101	842,539	805,101
Investments in subsidiaries	10	-	-	26,088,167	24,911,629
Long-term investments in related party	5, 12	45,653	45,653	45,653	45,653
Receivables and advances to related parties	5	-	-	421,115	421,076
Investment properties	13	585,740	506,269	130,516	74,044
Property, plant and equipment	14	96,366,052	92,924,990	54,802,393	53,522,755
Right-of-use assets	15	652,953	619,236	359,483	324,990
Intangible assets	16	660,155	501,665	657,712	493,649
Advances payment for plant, machinery and equipment		240,381	93,552	108,361	34,757
Deferred tax assets	31	545,114	913,788	291,195	688,308
Other non-current assets		223,164	168,762	163,737	127,583
Total non-current assets		100,196,729	96,613,995	83,929,318	81,467,945
Total assets		135,713,598	123,908,902	110,578,243	101,493,862

Statement of financial position

		Consolidated		Separate	
		financial statements		financial statements	
		31 December		31 December	
Liabilities and equity	<i>Note</i>	2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
<i>Current liabilities</i>					
Short-term loans from financial institutions	17, 35	3,391,674	1,314,807	3,391,674	1,075,182
Trade accounts payable	5, 18, 35	3,616,626	2,877,681	3,155,688	2,453,991
Other payables	19	2,961,175	2,880,830	2,312,691	1,748,956
Payables and advances from related parties	5	7,513	39,271	984,447	936,231
Current portion of long-term loans from financial institutions	17, 35	1,000,000	1,607,914	1,000,000	1,607,914
Current portion of lease liabilities	15, 17, 35	157,073	132,369	97,055	83,553
Current portion of debentures	17, 35	12,565,000	17,180,000	8,567,000	13,180,000
Interest payable		383,089	348,777	324,667	298,235
Current income tax payable		72,562	85,178	-	-
Other current liabilities		251,152	251,469	93,905	100,499
Total current liabilities		24,405,864	26,718,296	19,927,127	21,484,561
<i>Non-current liabilities</i>					
Long-term loans from financial institutions	17, 35	-	1,380,711	-	1,380,711
Lease liabilities	15, 17, 35	350,856	323,626	150,222	120,815
Debentures	17, 35	50,678,600	40,506,200	39,964,200	32,744,200
Deferred tax liabilities	31	43,694	50,994	-	-
Non-current provisions for employee benefit	20	2,257,704	2,326,482	1,919,174	1,956,682
Other non-current liabilities		415,037	430,856	246,261	252,945
Total non-current liabilities		53,745,891	45,018,869	42,279,857	36,455,353
Total liabilities		78,151,755	71,737,165	62,206,984	57,939,914

Statement of financial position

		Consolidated		Separate	
		financial statements		financial statements	
		31 December		31 December	
Liabilities and equity	<i>Note</i>	2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Equity					
Share capital:	21				
Authorised share capital		<u>23,751,500</u>	<u>23,805,500</u>	<u>23,751,500</u>	<u>23,805,500</u>
Issued and paid-up share capital		19,126,500	19,180,500	19,126,500	19,180,500
Share premium:					
Share premium on ordinary shares		60,600	60,600	60,600	60,600
Other surpluses		9,840,436	9,840,436	9,840,436	9,840,436
Share premium on treasury shares	22	220,536	135,058	220,536	135,058
Retained earnings					
Appropriated					
Legal reserve	23	1,209,292	925,766	1,209,292	925,766
Treasury shares reserve	22	-	259,637	-	259,637
Unappropriated		17,796,425	13,307,213	17,796,425	13,307,213
Treasury shares	22	-	-259,637	-	-259,637
Other components of equity		<u>117,470</u>	<u>104,375</u>	<u>117,470</u>	<u>104,375</u>
Equity attributable to owners of the parent		48,371,259	43,553,948	48,371,259	43,553,948
Non-controlling interests	11	<u>9,190,584</u>	<u>8,617,789</u>	<u>-</u>	<u>-</u>
Total equity		57,561,843	52,171,737	48,371,259	43,553,948
Total liabilities and equity		135,713,598	123,908,902	110,578,243	101,493,862

Statement of comprehensive income

	Note	Consolidated		Separate	
		financial statements		financial statements	
		Year ended 31 December		Year ended 31 December	
		2021	2020	2021	2020
(in thousand Baht)					
Income					
Revenue from sale of goods	24, 32	38,919,785	34,275,770	28,570,130	23,252,776
Cost of sales of goods	8	(26,391,000)	(24,937,101)	(21,505,453)	(20,197,351)
Gross profit		12,528,785	9,338,669	7,064,677	3,055,425
Transportation income		1,348,630	1,113,565	1,184,514	1,175,558
Net foreign exchange gain		390,708	-	-	-
Investment income		60,416	59,151	76,245	69,280
Other income	25	559,515	738,177	803,752	650,345
Profit before expenses		14,888,054	11,249,562	9,129,188	4,950,608
Cost of distributions and transportations	26	(3,346,691)	(3,164,115)	(2,884,102)	(2,801,669)
Administrative expenses	27	(2,047,289)	(1,748,261)	(1,166,689)	(1,080,343)
Impairment loss of assets	14	-	(1,601,820)	-	-
Net foreign exchange loss		-	(11,943)	(69,448)	(29,655)
Total expenses		(5,393,980)	(6,526,139)	(4,120,239)	(3,911,667)
Profit from operating activities		9,494,074	4,723,423	5,008,949	1,038,941
Finance costs	30	(2,061,541)	(2,014,903)	(1,887,727)	(1,750,581)
Share of profit of subsidiaries accounted for using equity method	10	-	-	2,922,175	1,971,783
Share of profit of associates accounted for using equity method	10	24,703	56,321	24,703	56,321
Profit before income tax expense		7,457,236	2,764,841	6,068,100	1,316,464
Tax income (expense)	31	(539,277)	74,325	(397,566)	181,688
Profit for the year		6,917,959	2,839,166	5,670,534	1,498,152

Statement of comprehensive income

		Consolidated		Separate	
		financial statements		financial statements	
		Year ended 31 December		Year ended 31 December	
	Note	2021	2020	2021	2020
		(in thousand Baht)			
Other comprehensive income (expense)					
Items that will be reclassified subsequently to profit or loss					
Exchange differences on translating financial statements		353	-18	-	-
Gain on measurement of financial assets	9, 35	2	6	-	-
Share of other comprehensive income (expense) of subsidiaries accounted for using equity method	10	-	-	355	(13)
Share of other comprehensive income (expense) of associates accounted for using equity method	10	12,735	(3,778)	12,735	(3,778)
Income tax relating to items that will be reclassified	31	-	-	-	-
Total items that will be reclassified subsequently to profit or loss		13,090	(3,790)	13,090	(3,791)
Items that will not be reclassified to profit or loss					
Gain on investments in equity instruments designated at fair value through other comprehensive income	9, 35	7	3	7	3
Income tax relating to items that will not be reclassified	31	(2)	(1)	(2)	(1)
Total items that will not be reclassified to profit or loss		5	2	5	2
Other comprehensive income (expense) for the year, net of tax		13,095	(3,788)	13,095	(3,789)
Total comprehensive income for the year		6,931,054	2,835,378	5,683,629	1,494,363
Profit (loss) attributable to:					
Owners of the parent		5,670,534	1,498,152	5,670,534	1,498,152
Non-controlling interests		1,247,425	1,341,014	-	-
Profit for the year		6,917,959	2,839,166	5,670,534	1,498,152
Total comprehensive income (expense) attributable to:					
Owners of the parent		5,683,629	1,494,363	5,683,629	1,494,363
Non-controlling interests		1,247,425	1,341,015	-	-
Total comprehensive income for the year		6,931,054	2,835,378	5,683,629	1,494,363
Basic earnings per share (in Baht)	33	0.297	0.079	0.297	0.079

Consolidated financial statements

[illegible]

Consolidated financial statements

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

Statement of changes in equity

	Note	Separate financial statements						
		Other surplus		Retained earnings		Other components of equity		
		Share premium	Shareholding change in Group	Share premium on treasury share	Legal reserve	Treasury shares reserve	Unappropriated (in thousand Baht)	Treasury shares
Year ended 31 December 2020								
Balance at 1 January 2020		19,180,500	60,600	9,840,436	35,218	850,858	-	13,281,296
								(253)
								108,417
								108,164
								43,357,072
Transaction with owners, recorded directly in equity								
Contributions by and distributions to owners of the parent								
Treasury shares purchased	22	-	-	-	-	453,531	(259,637)	(453,531)
Treasury shares sold	22	-	-	-	-	(193,894)	-	193,894
Dividends	34	-	-	-	-	-	-1,137,690	-
								(1,137,690)
Total transactions with owners, recorded directly in equity		-	-	-	99,840	259,637	-1,397,327	-259,637
								-
								-
Comprehensive income (expense) for the year								
Profit		-	-	-	-	-	1,498,152	-
Other comprehensive income (expense)		-	-	-	-	-	-	-
Total comprehensive income (expense) for the year		-	-	-	-	-	1,498,152	-
								2
								-3,791
								-3,791
								-3,789
								1,494,263
Transfer to legal reserve	23	-	-	-	-	74,908	-74,908	-
Balance at 31 December 2020		19,180,500	60,600	9,840,436	135,058	925,766	13,307,213	-259,637
								-251
								104,626
								104,375
								43,553,948

Statement of changes in equity

		Separate financial statements									
		Other surplus			Retained earnings				Other components of equity		
		Share premium on ordinary share	Shareholding change in Group	Share premium on treasury share	Legal reserve	Treasury shares reserve (in thousand Baht)	Unappropriated	Treasury shares	Fair value reserve	Share of other comprehensive income (expense) of subsidiaries and associates using equity method	Total other components of equity
		Issued and paid-up share capital									Total equity
Note											
Year ended 31 December 2021											
	Balance at 1 January 2021	19,180,500	60,600	9,840,436	135,058	925,766	259,637	13,307,213	(259,637)	104,626	43,553,948
Transaction with owners, recorded directly in equity											
<i>Contributions by and distributions to owners</i>											
22	Reduction of ordinary shares	(54,000)	-	-	-	(63,843)	54,000	63,843	-	-	-
22	Treasury shares sold	-	-	85,478	-	(195,794)	195,794	195,794	-	-	281,272
34	Dividends	-	-	-	-	-	(1,147,590)	-	-	-	-1,147,590
	Total transactions with owners, recorded directly in equity	(54,000)	-	85,478	-	(259,637)	(897,796)	259,637	-	-	-866,318
Comprehensive income for the year											
	Profit	-	-	-	-	-	5,670,534	-	-	-	5,670,534
	Other comprehensive income	-	-	-	-	-	-	-	5	13,090	13,095
	Total comprehensive income (expense) for the year	-	-	-	-	-	5,670,534	-	5	13,090	5,683,629
Transfer to legal reserve											
23	Balance at 31 December 2021	19,126,500	60,600	9,840,436	220,536	1,209,292	17,796,425	-	-246	117,716	48,371,259

Statement of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Cash flows from operating activities</i>				
Profit for the year	6,917,959	2,839,166	5,670,534	1,498,152
<i>Adjustments to reconcile profit (loss) to cash receipts (payments)</i>				
Depreciation and amortisation	3,097,646	3,124,488	1,845,933	1,882,762
Interest income	(51,019)	(48,347)	(42,024)	(41,870)
Finance costs	2,061,541	2,014,903	1,887,727	1,750,581
Dividend income	(9)	(6)	(9)	(6)
Unrealised loss on foreign exchange	16,923	21,640	3,153	7,404
Reversal of expected credit losses	(174)	(8,743)	-	-
Reversal of losses on decline in value of inventories	(10,777)	(14,973)	(2,314)	(10,988)
Provision for employees benefits	2,792	32,751	-	23,466
Loss on sale and write-off of plant and equipment	74,188	1,298	18,148	9,960
Loss on impairment of exploration assets	-	1,601,820	-	-
Gain from sale investment properties	-	(29,000)	-	-
(Gain) loss on fair value adjusted	(11,201)	-	34	-
Gain on disposal of investments in subsidiary	(1,300)	-	(1,300)	-
Share of profit of subsidiaries and associates				
accounted for using equity method	(24,703)	(56,321)	(2,946,878)	(2,028,104)
Tax expense (income)	539,277	(74,325)	397,566	(181,688)
	12,611,143	9,404,351	6,830,570	2,909,669
<i>Changes in operating assets and liabilities</i>				
Trade accounts receivable	(1,282,780)	(201,847)	(2,418,164)	(2,144,760)
Other receivables	(137,989)	(5,694)	(37,906)	10,777
Receivable and advances to related parties	(34,649)	17,558	(215,823)	6,166
Inventories	(4,592,201)	3,080,629	(4,108,378)	3,183,455
Other current assets	(125,601)	(97,068)	(1,061)	(34,993)
Other non-current assets	(54,402)	(54,057)	(36,154)	(39,374)
Trade accounts payable	737,482	338,690	700,261	143,117
Other payables	477,170	(420,890)	539,133	(193,091)
Payable and advances from related parties	(31,758)	29,444	48,216	354,627
Other current liabilities	(317)	(3,127)	(6,594)	3,129
Provision for employee benefits	(71,570)	(43,826)	(37,508)	(37,323)
Other non-current liabilities	(6,705)	1,150	3,126	-
Cash generated from operating	7,487,823	12,045,313	1,259,718	4,161,399
Net tax received paid	(216,901)	(169,312)	(3,080)	(14,772)
Net cash from operating activities	7,270,922	11,876,001	1,256,638	4,146,627

Statements of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Cash flows from investing activities</i>				
Interest received	89,877	27,291	84,826	15,895
Dividend received	9	6	1,771,134	1,972,381
Increase in equity and debt instruments	(3,020,996)	(797,394)	(799,889)	(1,702,353)
Proceeds from disposal of investments in subsidiary	1,300	-	1,300	-
Acquisition of property, plant and equipment	(6,069,539)	(10,736,815)	(2,653,011)	(4,173,106)
Acquisition of investment properties	(79,771)	(14,074)	-	-
Acquisition of intangible assets	(215,412)	(320,680)	(214,529)	(312,664)
Proceeds from sale of plant and equipment	5,556	21,057	2,081	13,479
Proceeds from sale of investment properties	-	29,000	-	-
Proceeds from sale of intangible asset	-	-	1,776	-
Advance payment for plant, machinery and equipment	(328,650)	(399,808)	(177,874)	(164,144)
Acquisition of subsidiary, net of cash acquired	-	(2,959)	-	-
Cash outflow on loans to related parties	-	-	(38,600)	(319,629)
Proceeds from repayment of loans to related parties	-	-	1,100	2,000
Cash outflow for decommissioning	(779)	(795)	-	-
Net cash used in investing activities	(9,618,405)	(12,195,171)	(2,021,686)	(4,668,141)

Statements of cash flows

	Consolidated		Separate	
	financial statements		financial statements	
	Year ended 31 December		Year ended 31 December	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Cash flows from financing activities</i>				
Finance cost paid	(2,547,451)	(2,281,358)	(2,052,762)	(1,930,224)
Dividend paid to owners of the Company	(1,822,220)	(1,937,250)	(1,147,590)	(1,137,690)
Payment of lease liabilities	(180,044)	(135,450)	(127,979)	(85,932)
Increase (decrease) in short-term loans from financial institutions	2,076,492	(1,624,782)	2,316,492	(1,532,681)
Proceeds from short-term loan from related party	-	-	1,578,000	695,000
Repayment of short-term loans from related parties	-	-	(1,578,000)	(695,000)
Repayment of long-term loans from financial institutions	(1,988,625)	(1,605,033)	(1,988,625)	(1,605,033)
Proceeds from issue of debentures	22,950,400	19,544,000	16,000,000	15,600,000
Repayment of debentures	(17,393,000)	(7,555,800)	(13,393,000)	(7,555,800)
Proceeds from sale treasury shares	281,272	293,734	281,272	293,734
Payment of treasury shares	-	(453,531)	-	(453,531)
Net cash from (used in) financing activities	1,376,824	4,244,530	(112,192)	1,592,843
Net increase (decrease) in cash and cash equivalents, before effect of exchange rates	(970,659)	3,925,360	(877,240)	1,071,329
Effect of exchange rate changes	(18,612)	(11,801)	186	995
Cash and cash equivalents from changes in holding of investments in subsidiary	-	475	-	-
Net increase (decrease) in cash and cash equivalents	(989,271)	3,914,034	(877,054)	1,072,324
Cash and cash equivalents at 1 January	6,657,879	2,743,845	2,034,928	962,604
Cash and cash equivalents at 31 December	5,668,608	6,657,879	1,157,874	2,034,928
<i>Non-cash transactions</i>				
Advances of plant, machinery and equipment	240,381	93,552	108,361	34,756
Other payables - plant and equipment	250,149	737,159	185,912	161,310
Other non-current liabilities - intangible assets	77,730	84,414	77,730	84,414

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These notes form an integral part of the financial statements.

The financial statements issued for Thai statutory and regulatory reporting purposes are prepared in the Thai language. These English language financial statements have been prepared from the Thai language statutory financial statements, and were authorised for issue by the audit committee, as appointed by the Board of Directors of the Company, on 23 February 2022.

1 General information

TPI Polene Public Company Limited, the “Company”, is incorporated in Thailand and has its registered office at 26/56, TPI Tower, Chan Tat Mai Road, Tungmahamek, Sathorn, Bangkok.

The Company was listed on the Stock Exchange of Thailand in November 1990.

The Company operates in 3 major industries and has 18 distribution terminals around the country. It operates in the cement industry at Kang-Khoi, Saraburi and has 8 plants consisting of 4 cement manufacturing plants and 4 dry mortar manufacturing plants. It operates in the construction materials industry at Amphur Chalermprakiet, Saraburi and has cement roof tiles and fibre cement board manufacturing plants. It operates in the plastic industry at Amphur Muang, Rayong and has 2 LDPE and EVA plastic manufacturing plants. Details of the Company’s subsidiaries as at 31 December 2021 and 2020 are given in note 10.

2 Basis of preparation of the financial statements

The financial statements are prepared in accordance with Thai Financial Reporting Standards (“TFRS”), guidelines promulgated by the Federation of Accounting Professions and applicable rules and regulations of the Thai Securities and Exchange Commission. The financial statements are presented in Thai Baht, which is the Company’s functional currency. The accounting policies described in note 3 have been applied consistently to all periods presented in these financial statements.

The preparation of financial statements in conformity with TFRS requires management to make judgements, estimates and assumptions that affect the application of the Group’s accounting policies. Actual results may differ from these estimates. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

3 Significant accounting policies

(a) Basis of consolidation

The consolidated financial statements relate to the Company and its subsidiaries (together referred to as the “Group”) and the Group’s interests in associates.

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

When the Group loses control over a subsidiary, it derecognises the assets and liabilities, any related non-controlling interests and other components of equity of the subsidiary. Any resulting gain or loss is recognised in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

Associates are those entities in which the Group has significant influence, but not control or joint control, over the financial and operating policies.

The Group recognised investments in associates using the equity method in the consolidated financial statements in which the equity method is applied. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements in which the equity method is applied include the Group's dividend income and share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence ceases.

Intra-group balances and transactions, and any unrealised income or expenses arising from intra-group transactions, are eliminated on consolidation. Unrealised gains arising from transactions with associates are eliminated against the investment to the extent of the Group's interest in the investee. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

Business combinations

The Group applies the acquisition method when the Group assess that the acquired set of activities and assets include, at a minimum, an input and a substantive process that together significantly contribute to the ability to create output. The acquisition date is the date on which control is transferred to the Group, other than business combinations with entities under common control. Expenses in connection with a business combination are recognised as incurred.

The Group elect to apply a 'concentration test' that permits a simplified assessment of whether an acquired set of activities and assets is an assets rather than a business acquisition when substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets.

Goodwill is measured as the fair value of the consideration transferred including the recognised amount of any non-controlling interest in the acquiree, less net fair value of the identifiable assets acquired and liabilities assumed. Any gain on bargain purchase is recognised in profit or loss immediately.

Consideration transferred includes assets transferred, liabilities incurred by the Group to the previous owners of the acquiree, any contingent consideration and equity interests issued by the Group. If a business combination results in the termination of pre-existing relationships between the Group and the acquiree, then the lower of the termination amount, as contained in the agreement, and the value of the off-market element is deducted from the consideration transferred and recognised in other expenses.

Any contingent consideration is measured at fair value at the date of acquisition, and remeasured at fair value at each reporting date. Subsequent changes in the fair value are recognised in profit or loss.

A contingent liability of the acquiree is assumed in a business combination only if such a liability represents a present obligation and arises from a past event, and its fair value can be measured reliably.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group estimates provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period, or additional assets or liabilities are recognised, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognised at that date.

(b) Investments in subsidiaries and associates

Investments in subsidiaries and associates in the separate financial statements of the Company are accounted for using the equity method.

Interests in subsidiaries and associates are accounted for using the equity method. They are initially recognised at cost, which includes transaction costs. Subsequent to initial recognition, the separate financial statements include the Company's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or control ceases.

Disposal of investments in the separate financial statements

On disposal of an investment, the difference between net disposal proceeds and the carrying amount is recognised in profit or loss.

If the Company disposes of part of its holding of a particular investment, the deemed cost of the part sold is determined using the weighted average method applied to the carrying value of the total holding of the investment.

(c) Foreign currencies

Transactions in foreign currencies are translated to the respective functional currencies at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rate at the reporting date.

Foreign currency differences are generally recognised in profit or loss. However, foreign currency differences arising from the translation of the following items are recognised in other comprehensive income:

- an investment in equity securities designated as at FVOCI (except on impairment, in which case foreign currency differences that have been recognised in other comprehensive income are reclassified to profit or loss);

Foreign operations

The assets and liabilities of foreign operations, including goodwill and fair value adjustments arising on acquisition, are translated to Thai Baht at the exchange rates at the reporting date. The revenues and expenses of foreign operations are translated to Thai Baht at rates approximating the exchange rates at the dates of the transactions.

Foreign exchange differences are recognised in other comprehensive income and accumulated in the translation reserve until disposal of the investment, except to the extent that the translation difference is allocated to non-controlling interests.

When a foreign operation is disposed of in its entirety or partially such that control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as part of the gain or loss on disposal. If the Group disposes of part of its interest in a subsidiary but retains control, then the relevant proportion of the cumulative amount is reattributed to non-controlling interests. When the Group disposes of only part of an associate or joint venture while retaining significant influence or joint control, the relevant proportion of the cumulative amount is reclassified to profit or loss.

(d) Financial instruments

(d.1) Classification and measurement

Debt securities that the Group issued are initially recognised when they are originated. Other financial assets and financial liabilities (except trade accounts receivables (see note 3(f))) are initially recognised when the Group becomes a party to the contractual provisions of the instrument, and measured at fair value, taking into account for transaction costs that are directly attributable to its acquisition or issue of the securities, except for financial assets and financial liabilities measured at FVTPL, which are initially and subsequently measured at fair value, and any transaction costs that are directly attributable to its acquisition or issue of the securities are recognised in profit or loss.

On initial recognition, a financial asset is classified as measured at: amortised cost; fair value through other comprehensive income (FVOCI); or fair value through profit or loss (FVTPL). Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified prospectively from the reclassification date.

On initial recognition, financial liabilities are classified as measured at amortised cost using the effective interest method. Interest expense, foreign exchange gains and losses and any gain or loss on derecognition are recognised in profit or loss.

Financial assets measured at amortised costs are subsequently measured at amortised cost using the effective interest method. The amortised cost is reduced by expected credit losses. Interest income, foreign exchange gains and losses, expected credit loss and any gain or loss on derecognition are recognised in profit or loss.

Debt investments measured at FVOCI are subsequently measured at fair value. Interest income, calculated using the effective interest method, foreign exchange gains and losses and expected credit loss are recognised in profit or loss. Other net gains and losses are recognised in OCI. On derecognition, gains and losses accumulated in OCI are reclassified to profit or loss.

Equity investments measured at FVOCI are subsequently measured at fair value. Dividend income is recognised as income in profit or loss on the date on which the Group's right to receive payment is established, unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognised in OCI and are never reclassified to profit or loss.

(d.2) Derecognition and offset

The Group derecognises a financial asset when the contractual rights to receive the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognises a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognised at fair value.

The difference between the carrying amount extinguished and the consideration received or paid is recognised in profit or loss.

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to set off the amounts and the Group intends either to settle them on a net basis or to realise the asset and settle the liability simultaneously.

(d.3) Write offs

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering. Subsequent recoveries of an asset that was previously written off, are recognised as a reversal of impairment in profit or loss in the period in which the recovery occurs.

(d.4) Interest

Interest income and expense is recognised in profit or loss using the effective interest method. In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortised cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

(e) Cash and cash equivalents

Cash and cash equivalents comprise cash balances, call deposits and highly liquid short-term investments which has a maturity of three months or less from the date of acquisition. Bank overdrafts that are repayable on demand are a component of cash and cash equivalents for the purpose of the statement of cash flows.

(f) Trade accounts receivable

A trade receivable is recognised when the Group has an unconditional right to receive consideration. A trade receivable is measured at transaction price less allowance for expected credit loss. Bad debts are written off when incurred.

The Group estimates lifetime expected credit losses (ECLs), using a provision matrix to find ECLs rate. This method groups the debtors based on shared credit risk characteristics and past due status, taking into account historical credit loss data, adjusted for factors that are specific to the debtors and an assessment of both current economic conditions and forward-looking general economic conditions at the reporting date.

(g) Inventories

Inventories are measured at the lower of cost and net realisable value. Cost of finished goods, diesel and natural gas, is calculated using the first in first out principle. Cost of other inventories are calculated using the weighted average cost principle. Cost includes direct costs incurred in acquiring the inventories. In the case of manufactured inventories and work-in-progress, cost includes an appropriate share of production overheads based on normal operating capacity. Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs to complete and to make the sale.

A right to recover returned products is recognised when the products are expected to be returned by customers and measured by reference to the former carrying amount of the sold inventories less any expected costs to recover those products.

(h) Investment properties

Investment properties are measured at cost less accumulated depreciation and impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the investment property. The cost of self-constructed assets includes capitalised borrowing costs.

Depreciation is calculated on a straight-line basis over the estimated useful lives of buildings of 20 years and recognised in profit or loss. No depreciation charged on freehold land and assets under construction.

Differences between the proceeds from disposal and the carrying amount of investment property are recognised in profit or loss.

(i) Property, plant and equipment

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes capitalised borrowing costs, and the costs of dismantling and removing the items and restoring the site on which they are located. Purchased software that is integral to the functionality of the related equipment is capitalised as part of that equipment.

Differences between the proceeds from disposal and the carrying amount of property, plant and equipment are recognised in profit or loss.

Subsequent costs

The cost of replacing a part of an item of property, plant and equipment is recognised in the carrying amount of the item when the future economic benefits embodied within the part will flow to the Group, and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

Exploration assets

The Group follows the full cost method of accounting for petroleum and natural gas properties and related expenses whereby all costs associated with the exploration for productive and non-productive wells are treated as capitalised and will be charged to profit or loss when the exploratory wells have not identified proved reserves or have identified proved reserves but have not been found to be commercially producible or have abandoned.

Costs of properties comprise total acquisition costs of petroleum rights or the portion of costs applicable to properties as well as the decommissioning costs.

Depreciation

Depreciation is calculated on a straight-line basis over the estimated useful lives of each component of an asset or on unit of production method of relevant assets and recognised in profit or loss. No depreciation is provided on freehold land, assets under construction and major spare parts have not been issued.

The estimated useful lives are as follows:

Land improvement	5 - 10 years
Leasehold improvement	8 - 10 years
Buildings and structures	10 - 49 years and per lease period
Machinery and equipment for production (concrete)	3 - 10 years
Other machinery and equipment for production	5 - 40 years
Tools and factory equipment	3 - 30 years
Furniture, fixtures and office equipment	3, 5 and 10 years
Vehicles	5 - 25 years

Machinery and equipment for production of construction materials, cement roof tiles and fibre cement board, LDPE and EVA and machine for melt sheets and mixer trucks calculate depreciation based on units of production.

(j) Intangible assets

Concession

Cost of concessions on mining limestone and shale are include acquisition, exploration and development costs and are measured at cost less accumulated amortisation and accumulated impairment losses.

Research and development

Development expenditure is capitalised only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditure and expenditure on research activities are recognised in profit or loss as incurred.

Capitalised development expenditure is measured at cost less accumulated amortisation and impairment losses. The expenditure cost includes the cost of materials, direct labour, overhead costs that are directly attributable to preparing the asset for its intended use, and borrowing costs.

Other intangible assets

Other intangible assets that have indefinite useful lives are measured at cost less impairment losses. Other intangible assets are measured at cost less accumulated amortisation and impairment losses. Subsequent expenditure is capitalised only when it will generate the future economic benefits. Amortisation is calculated on a straight-line basis over the estimated useful lives of intangible assets and recognised in profit or loss.

The estimated useful lives are as follows:

Cost of raw material resources and cost of concessions	Life of concessions :	13 - 25 years
Software licenses		10 years
Capitalised development costs		5 years

(k) Leases

At inception of a contract, the Group assesses that a contract is, or contains, a lease when it conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

As a lessee

At commencement or on modification of a contract, the Group allocates the consideration in the contract to each lease component on the basis of its relative stand-alone prices of each component. For the leases of property, the Group has elected not to separate non-lease components and accounted for the lease and non-lease components wholly as a single lease component.

The Group recognises a right-of-use asset and a lease liability at the lease commencement date, except for leases of low-value assets and short-term leases which is recognised as an expense on a straight-line basis over the lease term.

Right-of-use asset is measured at cost, less any accumulated depreciation and impairment loss, and adjusted for any remeasurements of lease liability. The cost of right-of-use asset includes the initial amount of the lease liability adjusted for any prepaid lease payments, plus any initial direct costs incurred and an estimate of restoration costs, less any lease incentives received. Depreciation is charged to profit or loss on a straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the Group will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as those of property and equipment.

The lease liability is initially measured at the present value of all lease payments that shall be paid under the lease. The Group uses the Group's incremental borrowing rate to discount the lease payments to the present value. The Group determines its incremental borrowing rate by obtaining interest rates from various external financing sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

The lease liability is measured at amortised cost using the effective interest method. It is remeasured when there is a lease modification, or a change in the assessment of options specified in the lease. When the lease liability is remeasured, a corresponding adjustment is made to the carrying amount of the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

As a lessor

At inception or on modification of a contract, the Group allocates the consideration in the contract to each component on the basis of their relative standalone selling prices.

At lease inception, the Group considers to classify a lease that transfers substantially all of the risks and rewards incidental to ownership of the underlying asset to lessees as a finance lease. A lease that does not meet this criteria is classified as an operating lease.

The Group recognises lease payments received under operating leases in profit or loss on a straight-line basis over the lease term as part of other income. Initial direct costs incurred in arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as other income in the accounting period in which they are earned.

(l) Impairment of non-financial asset

The carrying amounts of the Group's assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, the assets' recoverable amounts are estimated. For goodwill and intangible assets that have indefinite useful lives or are not yet available for use, the recoverable amount is estimated each year at the same time.

An impairment loss is recognised in profit or loss if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount, unless it reverses a previous revaluation credited to equity, in which case it is charged to equity.

The recoverable amount is the greater of the asset's value in use and fair value less costs to sell. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. For an asset that does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the cash-generating unit to which the asset belongs.

Impairment losses of assets recognised in prior periods is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

(m) Employee benefits

Defined contribution plans

Obligations for contributions to the Group's provident funds are expensed as the related service is provided.

Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in the current and prior periods. The defined benefit obligations is discounted to the present value, which performed annually by a qualified actuary using the projected unit credit method.

Remeasurements of the net defined benefit liability, actuarial gain or loss are recognised immediately in OCI. The Group determines the interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period, taking into account any changes in the net defined benefit liability during the period as a result of contributions and benefit payments. Net interest expense and other expenses related to defined benefit plans are recognised in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in profit or loss. The Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Short-term employee benefits are expensed as the related service is provided. A liability is recognised for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

(n) Provisions

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as a finance cost.

(o) Fair values measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or, in its absence, the most advantageous market to which the Group has access at that date. The fair value of a liability reflects its non-performance risk.

When measuring the fair value of an asset or a liability, the Group uses observable market data as far as possible. Fair values are categorised into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows:

- Level 1: quoted prices in active markets for identical assets or liabilities.
- Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: inputs for the asset or liability that are based on unobservable input.

The Company recognises transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

If an asset or a liability measured at fair value has a bid price and an ask price, then the Group measures assets and asset positions at a bid price and liabilities and liability positions at an ask price.

The best evidence of the fair value of a financial instrument on initial recognition is normally the transaction price - i.e. the fair value of the consideration given or received.

(p) Treasury shares

When share capital recognised as equity is repurchased, the amount of consideration paid, including directly attributable costs, is classified as treasury shares and recognised as a deduction from equity. An equal amount is appropriated from retained earnings and taken to a reserve for treasury shares within equity. When treasury shares are sold, the amount received is recognised as an increase in equity by crediting the cost of the treasury shares sold, calculated using the weighted average method, to the treasury shares account and transferring the equivalent amount back from reserve for treasury shares to retained earnings. Surpluses on the sale of treasury shares are taken directly to a separate category within equity, 'Share premium on treasury shares'. Net deficits on sale or cancellation of treasury shares are debited to retained earnings after setting off against any remaining balance of surplus on treasury shares.

(q) Revenue from contracts with customers

Revenue recognition

Revenue is recognised when a customer obtains control of the goods or services in an amount that reflects the consideration to which the Group expects to be entitled, excluding those amounts collected on behalf of third parties, value added tax and is after deduction of any trade discounts and volume rebates.

Revenue from sales of goods is recognised on the date on which the goods are delivered to the customers. For the sales that permit the customers to return the goods, the Group estimates the returns based on the historical return data, does not recognise revenue for this transaction and remains recognition of inventory for the estimated products to be returned.

Revenue for rendering of services is recognised over time. The stage of completion is assessed based on surveys of work performed. The related costs are recognised in profit or loss when they are incurred.

For bundled packages, the Group recognises revenue from sales of products and rendering of services separately if a product or service is separately identifiable from other items and a customer can benefit from it or the multiple services are rendered in different reporting periods. The consideration received is allocated based on their relative stand-alone selling prices.

Long-term advances received from customers

Long-term advances received from customers is recognised as revenue when the Group transferred control over the goods to the customers. For the advances that contain a significant financing component, they include the interest expense accreted on the contract liability under the effective interest method. The Group uses practical expedient which is not adjust the consideration for any effects of a significant financing component for the contract for which the period is 12 months or less.

Customer loyalty programme

For customer loyalty programme that the Group offers to customers, the consideration received are allocated based on the relative stand-alone selling price of the products and the loyalty points. The amount allocated to the loyalty points is recognised as contract liabilities and revenue is recognised when loyalty points are redeemed or the likelihood of the customer redeeming the loyalty points becomes remote. The stand-alone selling prices of the points is estimated based on discount provided to customers and the likelihood that the customers will redeem the points, and the estimate shall be reviewed at the end of the reporting period.

(r) Income tax

Income tax expense for the year comprises current and deferred tax, which is recognised in profit or loss except to the extent that they relate to a business combination, or items recognised directly in equity or in other comprehensive income.

Current tax is recognised in respect of the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years.

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for the temporary differences: the initial recognition of goodwill; the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss; and differences relating to investments in subsidiaries and joint ventures to the extent that it is probable that they will not reverse in the foreseeable future.

The measurement of deferred tax reflects the tax consequences that would follow the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its

assets and liabilities, using tax rates enacted or substantively enacted at the reporting date. Current deferred tax assets and liabilities are offset in the separate financial statements.

A deferred tax asset is recognised to the extent that it is probable that future taxable profits will be available against which the temporary differences can be utilised. Deferred tax assets are reviewed at each reporting date and reduced to the extent that it is no longer probable that the related tax benefit will be realised.

(s) Earnings per share

Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held.

(t) Related parties

A related party is a person or entity that has direct or indirect control or joint control, or has significant influence over the financial and managerial decision-making of the Group; a person or entity that are under common control or under the same significant influence as the Group; or the Group has direct or indirect control or joint control or has significant influence over the financial and managerial decision-making of a person or entity.

(u) Segment reporting

Segment results that are reported to the Group's the chief operating decision maker include items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly insert unallocated items, e.g. corporate assets.

4 Impact of COVID-19 pandemic

COVID-19 pandemic is still on going, while vaccines for COVID-19 are being rolled out during 2021. Due to uncertainty of the situation in 2020, the Group applied accounting guidance on *temporary accounting relief measures for additional accounting options in response to impact from the situation of COVID-19* in preparing the financial statements for the year ended 31 December 2020 by excluding COVID-19 situation in impairment of assets, fair value measurement and deferred tax assets.

As the accounting guidance already expired on 31 December 2020, the Group had assessed the impact and found that these was an immaterial impact towards the financial statements for the year ended 31 December 2021.

5 Related parties

Relationships with subsidiaries and associates are described in notes 10. Other related parties that the Group had significant transactions with during the year were as follows:

Name of entities	Country of incorporation/ nationality	Nature of relationships
Key management personnel	Thailand	Persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including any director (whether executive or otherwise) of the Group.
Pornchai Enterprise Co., Ltd.	Thailand	Co-director
TPI Holding Co., Ltd.	Thailand	Co-director
Leophairatana Enterprise Co., Ltd.	Thailand	Co-director
Bangkok Union Insurance Public Co., Ltd.	Thailand	Co-director
Lampang Food Products Co., Ltd.	Thailand	Co-director
Hong Yiah Seng Co., Ltd.	Thailand	Co-director
Saraburi Ginning Mill Co., Ltd.	Thailand	Co-director
Thai Petrochemical Industry Co., Ltd.	Thailand	Co-director
Rayong Forest Co., Ltd.	Thailand	Co-director
Hong Yiah Seng Real Estates and Investment Co., Ltd.	Thailand	Co-director
TPI EOEG Co., Ltd.	Thailand	Co-director

Significant transactions with related parties Year ended 31 December	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Subsidiaries				
Sales of goods	-	-	16,269,875	14,536,701
Transportation income	-	-	186,344	224,215
Purchase of raw materials and spare parts	-	-	347,880	370,105
Purchase of electricity	-	-	1,638,787	1,982,754
Purchase of steam	-	-	34,006	35,397
Purchase of goods for sales promotion	-	-	102,822	70,248
Dividend income	-	-	1,771,125	1,972,375
Interest income	-	-	27,879	25,544
Interest expense	-	-	2,749	2,687
Waste disposal income	-	-	-	201,786
Other income	-	-	680,197	206,687
Administrative expenses	-	-	29,583	32,045
Associates				
Sale of goods	1,920	264	1,786	132
Purchase of raw materials	534,603	574,255	509,655	546,483
Interest expense	6,255	6,336	75	55
Other income	5	-	5	-
Insurance premium	26,807	28,133	19,291	20,350
Other related parties				
Sales of goods	2,521	3,261	327	933
Transportation income	75	9	1	6
Interest expense	4,558	3,031	2,685	1,769
Other income	300	499	300	499
Insurance premium	242,994	288,507	116,346	114,374
Administrative expenses	62,088	84,503	58,213	78,690
Key management personnel				
Key management personnel compensation				
Short-term employee benefits	330,539	372,120	239,555	290,248
Post-employment benefits	4,501	4,474	-	1,745
Total key management personnel compensation	335,040	376,594	239,555	291,993

Balances as at 31 December with related parties were as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Trade accounts receivable				
Subsidiaries				
TPI Concrete Co., Ltd.	-	-	1,524,103	1,047,111
TPI Polene Power Public Co., Ltd.	-	-	122,773	144,107
TPI All Seasons Co., Ltd.	-	-	444,953	338,467
Polene Plastic Co., Ltd.	-	-	5,601,944	3,897,628
TPI Polene Bio Organics Co., Ltd.	-	-	12,953	16,321
TPI Commercial Co., Ltd.	-	-	5,459	4,532
Thai Nitrate Co., Ltd.	-	-	38	17
Associates				
BUI Life Insurance Public Co., Ltd.	7	3	-	-
United Grain Industry Co., Ltd.	117	96	37	64
Other related parties				
Bangkok Union Insurance Public Co., Ltd.	17	11	4	6
Pornchai Enterprise Co., Ltd.	165	178	23	55
Lampang Food Products Co., Ltd.	9	-	9	-
Rayong Forest Co., Ltd.	455	410	-	-
Hong Yiah Seng Co., Ltd.	-	382	-	-
	770	1,080	7,712,296	5,448,308
<i>Less allowance for expected credit loss</i>	-	-	-	-
Net	770	1,080	7,712,296	5,448,308

	Interest rate		Separate financial statements			
	2020 (% per annum)	2021	1 January 2021	Increase	Decrease	31 December 2021
<i>Short-term loans to related parties</i>						
Subsidiaries						
TPI Polene Bio Organics Co., Ltd.	MLR-1.5	MLR-1.5	253,096	-	-	253,096
TPI All Seasons Co., Ltd.	MLR-1.5	MLR-1.5	44,153	-	-	44,153
TPI Commercial Co., Ltd.	MLR-1.5	MLR-1.5	97,993	-	-	97,993
TPI Refinery (1997) Co., Ltd.	MLR-1.5	MLR-1.5	397,858	38,600	(436,458)	-
Master Achieve (Thailand) Co., Ltd.	MLR-1.5	MLR-1.5	20,790	-	-	20,790
TPI Healthcare Co., Ltd.	MLR-1.5	MLR-1.5	1,000	-	-	1,000
			814,890	38,600	(436,458)	417,032
Accrued interest receivable			4,143	28,199	(30,994)	1,348
Total			819,033	66,799	(467,452)	418,380
<i>Less losses recognised using the equity method in excess of the investment</i>						
TPI Commercial Co., Ltd.			(20,803)	-	20,803	-
TPI Refinery (1997) Co., Ltd.			(320,216)	(31,856)	352,072	-
<i>Less allowance for expected credit loss</i>			-			-
Net			478,014			418,380

On 30 September 2021, the Company entered into a debt repayment memorandum with a subsidiary in total of Baht 444.65 million. Under the agreement, the subsidiary will transfer the land ownership valued at Baht 54.07 million and pay in cash of Baht 1.10 million to the Company. Then the Company will pay off the principal with interest to the subsidiary in the amount of Baht 366.75 million. The remaining debt of Baht 24.09 million, the subsidiary is in the process of requesting a refund VAT from the Revenue Department. If the amount is refunded, the subsidiary has committed to repay the Company within 30 days after the subsidiary received the refund from the Revenue Department. On 12 October 2021, the Company and the subsidiary have complied with the agreement.

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Receivables and advances to related parties - current				
Subsidiaries				
TPI Concrete Co., Ltd.	-	-	3,019	3,255
TPI Polene Power Public Co., Ltd.	-	-	74,970	88,298
TPI All Seasons Co., Ltd.	-	-	16,508	29,086
TPI Refinery (1997) Co., Ltd.	-	-	-	324
Polene Plastic Co., Ltd.	-	-	200,014	5,947
TPI Polene Bio Organics Co., Ltd.	-	-	98,994	103,768
TPI Commercial Co., Ltd.	-	-	66	327
TPI Service Co., Ltd.	-	-	139	144
Thai Nitrate Co., Ltd.	-	-	180	187
TPI Polene Power (International) Co., Ltd.	-	-	65	65
TPI Polene Power (On Nut) Co., Ltd.	-	-	65	64
Thai Propoxide Co., Ltd.	-	-	65	64
TPI Healthcare Co., Ltd.	-	-	36,319	1,105
TPI Bio Pharmaceuticals Co., Ltd.	-	-	75	1,078
Master Achieve (Thailand) Co., Ltd.	-	-	293	207
TPI Polene Power Investment Co., Ltd.	-	-	34	34
TPI Olefins Co., Ltd.	-	-	1	-
Associates				
BUI Life Insurance Public Co., Ltd.	5,415	2,071	4,642	1,267
United Grain Industry Co., Ltd.	8	6	8	6
Other related parties				
Bangkok Union Insurance Public Co., Ltd.	86,615	57,290	35,173	19,504
Pornchai Enterprise Co., Ltd.	2,718	672	68	77
Rayong Forest Co., Ltd.	67	73	67	73
TPI Holding Co., Ltd.	-	64	-	64
TPI EOEG Co., Ltd.	1	64	1	64
Thai Petrochemical Industry Co., Ltd.	65	-	65	-
Total	94,889	60,240	470,831	255,008
Less losses recognised using the equity method in excess of the investment				
TPI Bio Pharmaceuticals Co., Ltd.	-	-	-	(566)
Less allowance for expected credit loss	-	-	-	-
Net	94,889	60,240	470,831	254,442
	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Long-term investments in related parties				
Related parties				
Pornchai Enterprise Co., Ltd.	45,653	45,653	45,653	45,653

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Receivables and advances to related parties - non-current				
Subsidiary				
Thai Propoxide Co., Ltd.	-	-	421,984	421,984
Less losses recognised using the equity method in excess of the investment	-	-	(869)	(908)
Net	-	-	421,115	421,076

In 1997, the Company entered into an agreement to sell land to Thai Propoxide Co., Ltd. (a subsidiary) at the price of Baht 477 million, in consideration for a loan payable by August 2000, with interest of 16%. No payments of principal or interest were subsequently made by the subsidiary and consequently the Company deferred recording the gain on the sale land of Baht 40 million and interest income of Baht 155 million in income and ceased accrued interest. The deferred gain and interest income are disclosed as non-current liabilities in the statement of financial position of the separate financial statements.

The subsidiary used the land as collateral for a bank loan, the proceeds of which were subsequently loaned to the Company. In 2000, the subsidiary's bank loan was assigned to the Company. Subsequently, in 2011, the land has been released by the bank as collateral and the subsidiary has sold a part of land to the Company and repaid a part of the land loan to the Company of Baht 68 million.

At 31 December 2021, the outstanding amount of accounts receivable from the subsidiary from the sale of land total Baht 422 million (2020: Baht 422 million) and the deferred gain on the sale of Baht 35 million (2020: Baht 35 million) and deferred interest income of Baht 134 million (2020: Baht 134 million) in the statement of financial position of the separate financial statements.

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Expected credit loss for the year ended 31 December</i>				
Trade account receivables	-	-	-	-
Short-term loans to related parties	-	-	-	-
Receivables and advances to related parties	-	-	-	-
	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Trade accounts payable</i>				
<i>Subsidiaries</i>				
TPI Concrete Co., Ltd.	-	-	30	24
TPI Polene Power Public Co., Ltd.	-	-	43,595	3,190
TPI All Seasons Co., Ltd.	-	-	13,872	14,302
Polene Plastic Co., Ltd.	-	-	1,110	8,422
TPI Polene Bio Organics Co., Ltd.	-	-	171	5
Thai Nitrate Co., Ltd.	-	-	9,288	8,089
TPI Healthcare Co., Ltd.	-	-	4,499	8,792
TPI Bio Pharmaceuticals Co., Ltd.	-	-	-	2
<i>Associate</i>				
United Grain Industry Co., Ltd.	2,559	3,636	15	9
Thai Plastic Film Co., Ltd.	142,098	137,076	141,620	136,445
Thai Plastic Products Co., Ltd.	167,372	210,678	159,573	205,773
Total	312,029	351,390	373,773	385,053

	Interest rate		1 January 2021	Separate financial statements		31 December 2021
	2020	2021		Increase	Decrease	
	<i>(% per annum)</i>			<i>(in thousand Baht)</i>		
Short-term loans from related parties						
Subsidiaries						
TPI Polene Power Public Co., Ltd.	-	1.50, 1.65	-	1,400,000	(1,400,000)	-
Thai Nitrate Co., Ltd.	-	1.65	-	178,000	(178,000)	-
			-	1,578,000	(1,578,000)	-
Accrued interest			-	1,986	(1,986)	-
Total			-	1,579,986	(1,579,986)	-

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Payables and advances from related parties				
Subsidiaries				
TPI Concrete Co., Ltd.	-	-	1,944	1,367
TPI Polene Power Public Co., Ltd.	-	-	966,211	911,237
TPI All Seasons Co., Ltd.	-	-	2,000	2,000
Polene Plastic Co., Ltd.	-	-	12	11
TPI Polene Bio Organics Co., Ltd.	-	-	5,084	2,903
TPI Healthcare Co., Ltd.	-	-	4,020	2,871
TPI Bio Pharmaceuticals Co., Ltd.	-	-	983	556
Associates				
BUI Life Insurance Public Co., Ltd.	164	1,017	164	993
United Grain Industry Co., Ltd.	2,335	2,382	4	-
Thai Plastic Film Co., Ltd.	732	683	732	633
Other related parties				
Pornchai Enterprise Co., Ltd.	1,145	803	443	443
Bangkok Union Insurance Public Co., Ltd.	2,998	34,213	2,711	13,043
Hong Yiah Seng Co., Ltd.	109	107	109	107
Rayong Forest Co., Ltd.	30	66	30	67
Total	7,513	39,271	984,447	936,231

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Current portion of lease liabilities</i>				
Subsidiaries				
TPI Concrete Co., Ltd.	-	-	-	5,288
TPI Polene Bio Organics Co., Ltd.	-	-	-	3,290
Mondo Thai Co., Ltd.	-	-	151	143
Associates				
United Grain Industry Co., Ltd.	6,612	8,878	1,449	775
Other related parties				
Pornchai Enterprise Co., Ltd.	35,233	23,664	31,294	22,196
Hong Yiah Seng Co., Ltd.	2,810	1,556	2,015	537
Rayong Forest Co., Ltd.	23	11	23	11
Saraburi Ginning Mill Co., Ltd.	2,144	2,063	972	935
Leophairatana Enterprise Co., Ltd.	4,204	4,062	-	-
Hong Yiah Seng Real Estates and Investment Co., Ltd.	1,173	1,128	-	-
Total	52,199	41,362	35,904	33,175

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Lease liabilities</i>				
Subsidiaries				
Mondo Thai Co., Ltd.	-	-	14,878	15,031
Associates				
United Grain Industry Co., Ltd.	153,723	156,666	2,281	-
Other related parties				
Pornchai Enterprise Co., Ltd.	33,440	15,223	26,297	11,257
Hong Yiah Seng Co., Ltd.	2,631	795	2,631	-
Rayong Forest Co., Ltd.	985	1,458	985	1,458
Saraburi Ginning Mill Co., Ltd.	3,599	5,743	459	1,431
Leophairatana Enterprise Co., Ltd.	9,811	14,015	-	-
Hong Yiah Seng Real Estates and Investment Co., Ltd.	3,139	4,312	-	-
Total	207,328	198,212	47,531	29,177

Significant agreements with related parties

(a) Office building lease agreements

The Company and its subsidiary have long-term office building lease agreements with a related company. Previously, the initial lease term for each lease agreement was for 3 years, with the lease being renewable. In July 1999, the Company and a subsidiary entered into a 90 years office building lease agreement with a related company to replace the expired original office building lease agreements in which the Company and a subsidiary made one payment for the whole lease period (*the total rental for the 90 years term of the lease is Baht 40,000 per square meter, equivalent to a monthly rental, before discounting cash flows, of Baht 37 per square meter*). The annual rental is deducted from the prepaid rentals. Subsequently, on 24 July 2001, the Company and its subsidiary agreed to sign the amendments in addition to the existing office building lease agreements with a related company. The initial period of the lease is for 30 years, commencing from the original date on which the rentals of each respective agreement were prepaid. The related party warranted that the lease would be renewable for another 2 subsequent periods of 30 years under the same conditions, including rental fee as set out in the original agreements.

On 25 August 2006, the Company and its subsidiary registered the lease with the Land Department.

Should either party terminate the lease agreement, the unused prepaid rentals are refundable to the Companies. Both parties agreed in principle to execute a mortgage on the office building as security for the unused prepaid rentals. As at 31 December 2021, there was no mortgage agreement as security for the unused prepaid rentals, so the recoverability of prepaid rentals depends on the ability of the related company to repay.

(b) Electricity supply agreement

The Company entered into an electricity supply contract with a subsidiary company, to provide the waste heat to the subsidiary that will be used in the manufacturing process for electricity. The subsidiary company shall supply the electricity to the Company based on certain percentage as specified in the agreement. The agreement shall remain in full force and effect so long as, unless it is terminated by mutual agreement in writing of both parties.

(c) Office building services agreements

The Company and its subsidiaries entered into office building services agreements with related parties for 3 years. The details were as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Non-cancellable service contract commitments</i>				
Within one year	32,231	32,278	26,738	31,326
After one year but within five years	27,086	10,717	20,891	10,328
Total	59,317	42,995	47,629	41,654

Subsidiaries had made several land rental agreements with its related parties which specified that lessee has to decommission the assets from rental area at the end of contract, causing lessee to set up the decommissioning costs as at 31 December 2021 in amount of Baht 298.3 million (2020: Baht 294.6 million).

6 Cash and cash equivalents

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Cash on hand	5,278	3,576	4,247	2,703
Cash at banks - current accounts	63,060	32,200	27,107	20,474
Cash at banks - savings accounts	5,598,413	6,470,544	1,126,510	1,911,383
Cash at banks - savings accounts (Private funds)	1,551	896	10	10
Highly liquid short-term investments	306	150,663	-	100,358
Total	5,668,608	6,657,879	1,157,874	2,034,928

7 Trade account receivables

		Consolidated financial statements		Separate financial statements	
<i>At 31 December</i>	<i>Note</i>	2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Related parties	5	770	1,080	7,712,296	5,448,308
Other parties		6,014,765	4,739,415	977,274	826,911
Total		6,015,535	4,740,495	8,689,570	6,275,219
<i>Less allowance for expected credit loss</i>		<i>(49,537)</i>	<i>(64,784)</i>	<i>(32,507)</i>	<i>(37,242)</i>
Net		5,965,998	4,675,711	8,657,063	6,237,977

Aging analyses for trade accounts receivable were as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Related parties				
Within credit terms	689	954	2,024,029	1,717,970
Overdue:				
1 - 30 days	58	76	1,536,660	1,119,224
31 - 60 days	4	18	1,389,295	1,099,436
61 - 90 days	14	27	1,086,110	897,281
More than 90 days	5	5	1,676,202	614,397
Total	770	1,080	7,712,296	5,448,308
<i>Less allowance for expected credit loss</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Net	770	1,080	7,712,296	5,448,308

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Other parties				
Within credit terms	5,533,308	4,419,157	810,043	713,742
Overdue:				
1 - 30 days	321,775	207,699	106,223	54,553
31 - 60 days	48,208	22,739	6,451	7,677
61 - 90 days	25,980	11,608	2,939	833
More than 90 days	85,494	78,212	51,618	50,106
Total	6,014,765	4,739,415	977,274	826,911
Less allowance for expected credit loss	(49,537)	(64,784)	(32,507)	(37,242)
Net	5,965,228	4,674,631	944,767	789,669
Net total	5,965,998	4,675,711	8,657,063	6,237,977

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Allowance for expected credit loss				
At 1 January	(64,784)	(73,610)	(37,242)	(37,242)
Addition	(174)	(8,743)	-	-
Write-off	15,421	17,569	4,735	-
At 31 December	(49,537)	(64,784)	(32,507)	(37,242)

The Group requires various customers to provide cash, bank and personal guarantees as collateral.

The normal credit term granted by the Group ranges from 30 days to 360 days.

Information of credit risk is disclosed in note 35 (b.1).

8 Inventories

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Finished goods	1,799,241	1,098,870	2,096,425	1,446,287
Work in process	5,370,380	4,154,549	3,281,036	2,157,430
Raw materials and chemicals	1,670,665	1,165,931	1,405,548	991,804
Packages	479,828	434,596	390,381	347,534
Oil and coal	2,507,785	511,214	2,337,348	424,555
Spare parts and general supplies	4,012,616	3,721,522	2,946,455	2,816,579
Goods in transit	245,002	406,634	238,207	402,833
Total	16,085,517	11,493,316	12,695,400	8,587,022
Less allowance for decline in value	(370,137)	(380,914)	(41,471)	(43,785)
Net	15,715,380	11,112,402	12,653,929	8,543,237
Inventories recognised in cost of sales of goods				
- Cost	26,401,777	24,952,074	21,507,767	20,208,339
- Reversal of net realisable value	(10,777)	(14,973)	(2,314)	(10,988)
Net	26,391,000	24,937,101	21,505,453	20,197,351

9 Marketable financial assets

<i>Marketable equity and debt securities</i>	At 1 January	Consolidated financial statements		At 31 December
		Increase (decrease)	Fair value adjustment	
		<i>(in thousand Baht)</i>		
2021				
Current financial assets				
Debt securities measured at				
- FVTPL	2,699,273	1,624,655	11,201	4,335,129
Total	2,699,273	1,624,655	11,201	4,335,129
Non-current financial assets				
Equity/Debt securities measured at				
- FVOCI	1,431	-	9	1,440
Total	1,431	-	9	1,440
<i>Marketable equity and debt securities</i>	At 1 January	Separate financial statements		At 31 December
		Increase (decrease)	Fair value adjustment	
		<i>(in thousand Baht)</i>		
2021				
Current financial assets				
Debt securities measured at				
- FVTPL	1,302,891	501,066	34	1,803,991
Total	1,302,891	501,066	34	1,803,991
Non-current financial assets				
Equity securities measured at				
- FVOCI	226	-	7	233
Total	226	-	7	233

10 Investments in subsidiaries and associates

Investment in subsidiaries

	Separate financial statements	
	2021	2020
	(in thousand Baht)	
<i>Subsidiaries</i>		
At 1 January	24,911,629	24,591,555
Share of profit of subsidiaries	2,922,175	1,971,783
Dividends income	(1,771,125)	(1,972,375)
Losses recognised using the equity method in excess of the investment	25,133	320,679
Share of other comprehensive income (expense) of subsidiaries	355	(13)
At 31 December	26,088,167	24,911,629

All subsidiaries were incorporated and operated in Thailand, except TPI Polene Power Investment Co., Ltd. which was incorporated in Cambodia and still has no operation. As at 31 December 2021, the Company has registered the termination of the business.

None of the Company's subsidiaries are publicly listed and consequently do not have published price quotations, except for TPI Polene Power Public Co., Ltd. which is listed on the Stock Exchange of Thailand. Based on the closing price of Baht 4.16 at 31 December 2021 (31 December 2020: Baht 4.28), the fair value of the Company's investment in TPI Polene Power Public Co., Ltd. was Baht 24,544 million (31 December 2020: Baht 25,252 million).

On 28 October 2021, the Company's Board of Directors's meeting passed the resolution to approve the sale of 129,999,995 common shares in TPI Refinery (1997) Co., Ltd. or equivalent to 99.99% of the paid up share capital at the price of Baht 0.01 per share, in amount of Baht 1.30 million to the third parties, as it presently does not have any business operation and purpose to restructure the shareholding of the Group. On 2 November 2021, the Company sold the such common shares to the third parties.

Investments in subsidiaries as at 31 December 2021 and 2020, dividend income from those investments for the years then ended, were as follows:

	Type of business	Separate financial statements										Dividend Income for the year	
		Ownership interest		Paid-up capital		Cost		At equity method					
												(in thousand Baht)	
		2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Direct subsidiaries													
TPI Concrete Co., Ltd.	Manufacturing and distributing ready mixed concrete	99.99	99.99	2,000,000	2,000,000	1,999,999	1,999,999	1,477,194	1,664,654	-	-	-	
TPI Polene Power Public Co., Ltd.	Distributing gasoline, diesel and natural gas / Manufacturing and distributing electricity and refuse derived fuel (RDF) and organics waste	70.24	70.24	8,400,000	8,400,000	5,899,999	5,899,999	21,227,078	19,872,638	1,593,000	1,888,000		
TPI All Seasons Co., Ltd.	Manufacturing and distributing melt sheets	99.99	99.99	450,000	450,000	450,000	450,000	316,923	287,651	-	-	-	
TPI Polene Bio Organics Co., Ltd.	Manufacturing and distributing organic fertilizer	99.99	99.99	3,300,000	3,300,000	2,654,400	2,654,400	1,590,417	1,668,657	-	-	-	
TPI Refinery (1997) Co., Ltd.	Petroleum exploration	-	99.99	-	1,300,000	-	1,299,620	-	-	-	-	-	
Thai Propoxide Co., Ltd.	Manufacturing electricity (dormant)	99.99	99.99	250	250	250	250	-	-	-	-	-	
Thai Nitrate Co., Ltd.	Manufacturing and distributing nitric acids and ammonium nitrate	99.99	99.99	468,750	468,750	784,409	784,409	1,317,325	1,292,544	178,125	84,375		
TPI Healthcare Co., Ltd.	Manufacturing and distributing products for humans	99.99	99.99	5,050	5,050	4,950	4,950	7,256	6,387	-	-	-	
TPI Commercial Co., Ltd.	Retailing business	99.94	99.94	100	100	-	-	22,565	-	-	-	-	

Separate financial statements										
Type of business	Ownership interest		Paid-up capital		Cost		At equity method		Dividend Income for the year	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
	(in thousand Baht)									
Direct subsidiaries (continue)										
TPI Service Co., Ltd.	95.10	95.10	4,600	4,600	4,457	4,457	10,211	9,973	-	-
Master Achieve (Thailand) Co., Ltd.	99.99	99.99	100,000	100,000	99,931	99,931	102,172	99,796	-	-
TPI Bio Pharmaceuticals Co., Ltd.	99.99	99.99	5,500	5,500	5,647	5,647	7,547	-	-	-
Indirect subsidiaries										
Mondo Thai Co., Ltd.	83.27	83.27	36,000	36,000	10,350	10,350	9,479	9,329	-	-
Polene Plastic Co., Ltd.	99.93	99.93	10,000	10,000	-	-	-	-	-	-
TPI Polene Power Investment Co., Ltd.	70.24	70.24	3,957	3,957	-	-	-	-	-	-
TPI Polene Power (On Nut) Co., Ltd.	70.23	70.23	187,500	187,500	-	-	-	-	-	-
TPI Polene Power (International) Co., Ltd.	70.23	70.23	100,000	100,000	-	-	-	-	-	-
TPI Deep Sea Port Co., Ltd.	70.23	70.23	25,000	25,000	-	-	-	-	-	-

		Separate financial statements									
		Ownership interest		Paid-up capital		Cost		At equity method		Dividend	
		2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
		(in thousand Baht)									
Type of business		interest (%)									
Indirect subsidiaries (continue)											
TPI Olefins Co., Ltd.	Generate electricity and related businesses (dormant)	70.23	70.23	1,000	1,000	-	-	-	-	-	-
TPI Polene Power (Songkhla) Co., Ltd.	Generate electricity from refuse derived fuel and biomass (dormant)	70.22	70.22	1,000	1,000	-	-	-	-	-	-
TPI Solar Power Co., Ltd.	Generate electricity from solar energy (dormant)	70.22	70.22	1,000	1,000	-	-	-	-	-	-
TPI Wind Power Co., Ltd.	Generate electricity from wind energy (dormant)	70.22	70.22	1,000	1,000	-	-	-	-	-	-
Total						11,914,392	13,214,012	26,088,167	24,911,629	1,771,125	1,972,375

Investment in associates

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Associates				
At 1 January	805,101	752,558	805,101	752,558
Share of profit of associates accounted for using equity method	24,703	56,321	24,703	56,321
Share of other comprehensive income (expense) of associates accounted for using equity method	12,735	(3,778)	12,735	(3,778)
At 31 December	842,539	805,101	842,539	805,101

The Group has not recognised loss relating to an investment in an indirect associate accounted for using the equity method where its share of loss exceeds the carrying amount of its investment. As at 31 December 2021, the Group's cumulative share of unrecognised loss was Baht 985 million (2020: Baht 985 million). The Group has no obligation in respect of this loss.

Investments in associates as at 31 December were as follows:

	Type of business	Ownership interest 2021 (%)	Ownership interest 2020 (%)	Consolidated financial statements				
				Paid-up capital		Cost		At equity method 2021
				2021	2020	2021 (in thousand Baht)	2020	
Associates								
BUI Life Insurance Public Co., Ltd.	Life insurance	25.00	25.00	500,000	500,000	125,000	125,000	116,535
United Grain Industry Co., Ltd.	Manufacture and sale of packaging	19.00	19.00	550,000	550,000	104,500	104,500	688,566
						229,500	229,500	805,101
Indirect associates								
Thai Special Steel Industry Public Co., Ltd.	Manufacture and sale of steel (in the process of registering the dissolution)	29.53	29.53	4,220,000	4,220,000	1,246,200	1,246,200	-
Thai Plastic Film Co., Ltd.	Manufacture and sale of packaging	19.00	19.00	40,000	40,000	-	-	-
Thai Plastic Products Co., Ltd.	Manufacture and sale of packaging	19.00	19.00	60,000	60,000	-	-	-
Total						1,475,700	1,475,700	805,101

Separate financial statements

Type of business	Ownership interest		Paid-up capital		Cost		At equity method	
	2021	2020	2021	2020	2021	2020	2021	2020
	(%)				(in thousand Baht)			
Associates								
BUI Life Insurance Public Co., Ltd.	25.00	25.00	500,000	500,000	125,000	125,000	128,711	116,535
United Grain Industry Co., Ltd.	19.00	19.00	550,000	550,000	104,500	104,500	713,828	688,566
Total					229,500	229,500	842,539	805,101

No dividend distribution from investments in associates held by the Group and the Company during years ended 31 December 2021 and 2020.

None of the Group's and the Company's associates are publicly listed and consequently do not have published price quotations.

All associates were incorporated in Thailand.

Immaterial associates

The following is summarised financial information for the Group's interest in immaterial associates based on the amounts reported in the Group's consolidated financial statements:

	2021	2020
	(in thousand Baht)	
Carrying amount of interests in immaterial associates	842,539	805,101
Group's share of:		
- Profit (loss) from continuing operations	24,703	56,321
- Other comprehensive income (expense)	12,735	(3,778)
- Total comprehensive income (expense)	37,438	52,543

11 Non-controlling interests

The following table summarises the information relating to each of the Group's subsidiaries that has a material non-controlling interest, before any intra-group eliminations:

	TPI Polene Power Public Co., Ltd.	
<i>As at 31 December</i>	2021	2020
	(in thousand Baht)	
Non-controlling interest percentage	29.75%	29.75%
Current assets	9,590,602	7,158,067
Non-current assets	38,894,748	36,617,085
Current liabilities	(5,058,461)	(5,784,194)
Non-current liabilities	(12,575,068)	(9,062,820)
Net assets	30,851,821	28,928,138
Carrying amount of non-controlling interest	9,178,417	8,606,121
Other individually immaterial subsidiaries	12,167	11,668
Total	9,190,584	8,617,789

<i>For the year ended 31 December</i>	TPI Polene Power Public Co., Ltd.	
	2021	2020
	<i>(in thousand Baht)</i>	
Revenue	11,358,260	11,444,002
Profit	4,191,330	4,505,825
Other comprehensive income	353	(18)
Total comprehensive income	4,191,683	4,505,807
Total comprehensive income allocated to non-controlling interest	1,247,026	1,340,478
Other individually immaterial subsidiaries	399	537
Total	1,247,425	1,341,015
Dividends to non-controlling interest	(674,630)	(799,560)
Cash flows from operating activities	1,237,331	1,434,082
Cash flows from investing activities	(1,635,019)	(1,453,535)
Cash flows from financing activities	141,351	346,883
Others	118	126

12 Long-term investments in related parties

Consolidated and Separate financial statements						
	Type of business	Relationship	Ownership interest		Paid-up capital	
			2021	2020	2021	2020
			(%)		(in thousand Baht)	
Related parties						
Pornchai Enterprise Co., Ltd.	Real estate and service rental	Shareholder	0.65	0.65	4,599,920	45,653
Total					45,653	45,653

13 Investment properties

	Consolidated financial statements			Separate financial statements	
	Land	Buildings	Total	Land	Total
	<i>(in thousand Baht)</i>				
Cost					
At 1 January 2020	371,894	18,500	390,394	74,044	74,044
Additions	133,819	-	133,819	-	-
Disposals	-	(14,000)	(14,000)	-	-
At 31 December 2020 and 1 January 2021	505,713	4,500	510,213	74,044	74,044
Additions	79,771	-	79,771	56,472	56,472
At 31 December 2021	585,484	4,500	589,984	130,516	130,516
Depreciation and impairment losses					
At 1 January 2020	-	17,644	17,644	-	-
Depreciation charge for the year	-	300	300	-	-
Disposals	-	(14,000)	(14,000)	-	-
At 31 December 2020 and 1 January 2021	-	3,944	3,944	-	-
Depreciation charge for the year	-	300	300	-	-
At 31 December 2021	-	4,244	4,244	-	-
Net book value					
At 31 December 2020	<u>505,713</u>	<u>556</u>	<u>506,269</u>	<u>74,044</u>	<u>74,044</u>
At 31 December 2021	<u>585,484</u>	<u>256</u>	<u>585,740</u>	<u>130,516</u>	<u>130,516</u>

The fair value of investment properties of the Group and the Company as at 31 December 2021 of Baht 1,020 million and Baht 131 million, respectively (2020: Baht 964 million and Baht 75 million, respectively) was determined by independent professional valuers, at open market values on an existing use basis. The fair value of measurement for investment property has been categorised as a Level 3 fair value.

14 Property, plant and equipment

Consolidated financial statements										
	Land and land improvement	Buildings and structures	Machinery and equipment for production	Tools and factory equipment	Office furniture, fixture and equipment <i>(in thousand Baht)</i>	Vehicle	Major spare parts	Exploration assets	Assets under construction and installation	Total
<i>Cost</i>										
At 1 January 2020	9,198,250	18,115,974	82,089,524	8,827,449	694,693	2,432,159	451,301	1,364,442	4,988,944	128,162,736
Additions	4,005,750	6,433	293,881	359,471	28,599	3,173	84,462	237,378	6,216,394	11,235,541
Transfers - net	-	73,708	1,638,008	54,662	4,867	-	(2,688)	-	(1,768,557)	-
Disposals	(296)	(17,023)	(229,540)	(8,496)	(26,333)	(50,797)	-	-	-	(332,485)
At 31 December 2020 and 1 January 2021	13,203,704	18,179,092	83,791,873	9,233,086	701,826	2,384,535	533,075	1,601,820	9,436,781	139,065,792
Additions	1,486,369	7,857	182,752	226,600	23,573	509	23,354	-	4,429,781	6,380,795
Transfers - net	-	358,452	5,330,045	51,652	8,961	490	(185,234)	-	(5,564,366)	-
Disposals / write - off	(54,074)	(57,622)	(97,528)	(7,955)	(5,375)	(14,321)	-	(1,601,820)	-	(1,838,695)
At 31 December 2021	14,635,999	18,487,779	89,207,142	9,503,383	728,985	2,371,213	371,195	-	8,302,196	143,607,892
<i>Depreciation and impairment losses</i>										
At 1 January 2020	364	6,588,894	27,384,721	5,512,752	525,858	1,893,314	-	-	4,532	41,910,435
Depreciation charge for the year	224	532,829	1,864,385	437,060	40,681	63,498	-	-	-	2,938,677
Impairment loss	-	-	-	-	-	-	-	1,601,820	-	1,601,820
Disposals	-	(14,851)	(215,482)	(5,222)	(26,326)	(48,249)	-	-	-	(310,130)
At 31 December 2020 and 1 January 2021	588	7,106,872	29,033,624	5,944,590	540,213	1,908,563	-	1,601,820	4,532	46,140,802
Depreciation charge for the year	224	533,623	1,805,527	423,879	39,752	56,984	-	-	-	2,859,989
Disposals / write - off	-	(52,536)	(78,992)	(6,085)	(5,199)	(14,319)	-	(1,601,820)	-	(1,758,951)
At 31 December 2021	812	7,587,959	30,760,159	6,362,384	574,766	1,951,228	-	-	4,532	47,241,840
<i>Net book value</i>										
At 31 December 2020	13,203,116	11,072,220	54,758,249	3,288,496	161,613	475,972	533,075	-	9,432,249	92,924,990
At 31 December 2021	14,635,187	10,899,820	58,446,983	3,140,999	154,219	419,985	371,195	-	8,297,664	96,366,052

Separate financial statements									
	Land and land improvement	Buildings and structures	Machinery and equipment for production	Tools and factory equipment	Office furniture, fixture and equipment (in thousand Baht)	Vehicle	Major spare parts	Assets under construction and installation	Total
Cost									
At 1 January 2020	3,093,757	15,543,386	51,955,968	8,481,918	566,431	2,395,919	351,750	2,409,230	84,798,359
Additions	1,977	-	6,528	333,675	15,788	3,057	-	4,544,826	4,905,851
Transfers - net	-	28,628	1,377,509	47,034	1,673	-	(64,280)	(1,390,564)	-
Disposals	(296)	-	(23,591)	(8,205)	(21,105)	(50,796)	-	(2,907)	(106,900)
At 31 December 2020 and 1 January 2021	3,095,438	15,572,014	53,316,414	8,854,422	562,787	2,348,180	287,470	5,560,585	89,597,310
Additions	-	-	2,923	192,991	11,273	448	23,744	2,739,146	2,970,525
Transfers - net	-	287,173	2,260,703	28,165	6,541	-	(38,675)	(2,543,907)	-
Disposals	-	-	(31,681)	(2,308)	(2,992)	(14,298)	-	-	(51,279)
At 31 December 2021	3,095,438	15,859,187	55,548,359	9,073,270	577,609	2,334,330	272,539	5,755,824	92,516,556
Depreciation and impairment losses									
At 1 January 2020	-	5,889,589	20,908,789	5,321,913	432,550	1,854,987	-	-	34,407,828
Depreciation charge for the year	-	416,432	827,994	414,180	31,614	59,968	-	-	1,750,188
Disposals	-	-	(9,171)	(4,942)	(21,098)	(48,250)	-	-	(83,461)
At 31 December 2020 and 1 January 2021	-	6,306,021	21,727,612	5,731,151	443,066	1,866,705	-	-	36,074,555
Depreciation charge for the year	-	418,915	766,729	397,586	30,041	57,387	-	-	1,670,658
Disposals	-	-	(13,366)	(452)	(2,937)	(14,295)	-	-	(31,050)
At 31 December 2021	-	6,724,936	22,480,975	6,128,285	470,170	1,909,797	-	-	37,714,163
Net book value									
At 31 December 2020	3,095,438	9,265,993	31,588,802	3,123,271	119,721	481,475	287,470	5,560,585	53,522,755
At 31 December 2021	3,095,438	9,134,251	33,067,384	2,944,985	107,439	424,533	272,539	5,755,824	54,802,393

The gross amount of the Group and the Company's fully depreciated plant and equipment that was still in use as at 31 December 2021 amounted to Baht 13,894 million and Baht 9,779 million, respectively (2020: Baht 12,515 million and Baht 9,458 million, respectively).

Security

At 31 December 2021 the Company's land, buildings, machinery and equipment with a net book value of Baht 5,557 million. (2020: Baht 5,363 million) are mortgaged or pledged as collateral for the long-terms loan.

Capitalised borrowing costs relating to the acquisition of the construction of new factory of the Group and the Company as at 31 December 2021 are Baht 525 million and Baht 191 million, respectively (2020: Baht 311 million and Baht 196 million, respectively), with capitalisation in the consolidated and separate financial statements of 1.68% - 5.20% (2020: 1.19% - 5.20%).

Impairment assessment for property plant and equipment and loan to

Two subsidiaries of the Company; TPI Polene Bio Organics Co., Ltd. and TPI All Seasons Co., Ltd. has continuous loss in operation which indicated the impairment in property, plant and equipment in consolidated financial statement and loan to in separate financial statement. The Group and the Company have assessed the recoverable amount base on value in use; determined by discounting future cash flows to be generated from the continuing use of assets. The key assumptions used to determine recoverable amount included sale volume and selling price, long-term growth rate derived from expectations of future outcomes taking into account past experience, adjusted for anticipated revenue growth and discount rate referred to weighted average cost of capital (WACC) of TPI Polene Bio Organics Co., Ltd. and TPI All Seasons Co., Ltd. at 8.00% and 10.86%, respectively (2020: 8.33% and 10.05%, respectively). Base on impairment assessment, the recoverable amount was estimated to be higher than its carrying amount and no impairment was required to the Company's financial statements. Increasing in discount rate and decreasing in long-term growth rate could cause the carrying amount to exceed the recoverable amount.

Exploration assets

For the exploration assets which the net book value as at 31 December 2019 of Baht 1,388 million. In June 2020, a subsidiary has granted an extension of time until January 2021 for petroleum exploration. Base on the study of the consulting company and the assessment of a subsidiary, the area has high petroleum potential. If a subsidiary continues to explore and drill for the well, it is highly probable to find petroleum.

Subsequently, the subsidiary has assessed petroleum exploration drilling results, which found but insufficient reserves for commercial development, and therefore cancelled all petroleum exploration. The Group has recognised loss on impairment of the petroleum exploration assets in the amount of Baht 1,602 million as expense in the consolidated financial statement for the year ended 31 December 2020.

In 2021, the subsidiary had write-off a full amount of the petroleum exploration assets.

15 Lease

As a lessee

	Consolidated		Separate	
	financial statements		financial statements	
<i>Right-of-use assets</i>	2021	2020	2021	2020
<i>At 31 December</i>				
	<i>(in thousand Baht)</i>			
Land	237,614	257,183	42,033	45,654
Buildings	238,851	211,326	184,908	161,230
Equipment	14,871	7,243	14,871	7,243
Vehicles	161,617	143,484	117,671	110,863
Total	652,953	619,236	359,483	324,990

In 2021, additions to the right-of-use assets of the Group and the Company were Baht 232 million and Baht 171 million, respectively (2020: Baht 138 million and Baht 92 million, respectively).

The Group lease a number of land, buildings and vehicles for 2-30 years, with extension options at the end of lease term. The rental is payable monthly as specified in the contract.

Extension options

The Group has extension options on property leases exercisable up to one year before the end of the contract period. The Group assesses at lease commencement date whether it is reasonably certain to exercise the extension options and will regularly reassess.

	Consolidated		Separate	
	financial statements		financial statements	
<i>For the year ended 31 December</i>	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Amounts recognised in profit or loss</i>				
Depreciation of right-of-use assets:				
- Land	47,562	40,481	3,380	2,115
- Buildings	61,343	39,884	57,052	37,292
- Equipment	8,841	2,426	8,841	2,426
- Vehicles	80,515	62,741	67,122	50,762
Interest on lease liabilities	21,272	17,731	10,122	7,265
Expenses relating to short-term leases	58,787	99,633	40,565	65,630

In 2021, total cash outflow for leases of the Group and the Company were Baht 200.58 million and Baht 133.07 million, respectively (2020: Baht 252.81 million and Baht 158.83 million, respectively).

16 Intangible assets**Consolidated financial statements**

	Cost of raw material resources and cost of concessions	Software licenses	Development assets (in thousand Baht)	Others	Total
Cost					
At 1 January 2020	737,187	59,383	38,628	-	835,198
Additions	274,501	-	2,577	128,016	405,094
At 31 December 2020 and 1 January 2021	1,011,688	59,383	41,205	128,016	1,240,292
Additions	3,533	-	62,319	139,750	205,602
Disposals	-	-	-	(8,016)	(8,016)
At 31 December 2021	1,015,221	59,383	103,524	259,750	1,437,878
Amortisation					
At 1 January 2020	624,429	47,163	27,056	-	698,648
Amortisation for the year	30,371	1,750	7,858	-	39,979
At 31 December 2020 and 1 January 2021	654,800	48,913	34,914	-	738,627
Amortisation for the year	29,589	1,735	7,772	-	39,096
At 31 December 2021	684,389	50,648	42,686	-	777,723
Net book value					
At 31 December 2020	356,888	10,470	6,291	128,016	501,665
At 31 December 2021	330,832	8,735	60,838	259,750	660,155

Separate financial statements

	Cost of raw material resources and cost of concessions	Software licenses	Development assets (in thousand Baht)	Others	Total
Cost					
At 1 January 2020	737,187	59,383	38,628	-	835,198
Additions	274,501	-	2,577	120,000	397,078
At 31 December 2020 and 1 January 2021	1,011,688	59,383	41,205	120,000	1,232,276
Additions	3,533	-	61,436	139,750	204,719
Disposals	-	-	(1,776)	-	(1,776)
At 31 December 2021	1,015,221	59,383	100,865	259,750	1,435,219
Amortisation					
At 1 January 2020	624,429	47,163	27,056	-	698,648
Amortisation for the year	30,371	1,750	7,858	-	39,979
At 31 December 2020 and 1 January 2021	654,800	48,913	34,914	-	738,627
Amortisation for the year	29,589	1,735	7,556	-	38,880
At 31 December 2021	684,389	50,648	42,470	-	777,507
Net book value					
At 31 December 2020	356,888	10,470	6,291	120,000	493,649
At 31 December 2021	330,832	8,735	58,395	259,750	657,712

17 Interest-bearing liabilities

Consolidated financial statements						
	2021			2020		
	Secured	Unsecured	Total	Secured	Unsecured	Total
	(in thousand Baht)					
Current						
Short-term loans from financial institution	-	3,391,674	3,391,674	-	1,314,807	1,314,807
Current portion of long-term loans from financial institutions	-	1,000,000	1,000,000	179,343	1,428,571	1,607,914
Current portion of lease liabilities	-	157,073	157,073	-	132,369	132,369
Current portion of debentures	-	12,565,000	12,565,000	-	17,180,000	17,180,000
Non-current						
Long-term loans from financial institutions	-	-	-	380,711	1,000,000	1,380,711
Lease liabilities	-	350,856	350,856	-	323,626	323,626
Debentures	-	50,678,600	50,678,600	-	40,506,200	40,506,200
Total interest-bearing liabilities	-	68,143,203	68,143,203	560,054	61,885,573	62,445,627
Separate financial statements						
	2021			2020		
	Secured	Unsecured	Total	Secured	Unsecured	Total
	(in thousand Baht)					
Current						
Short-term loans from financial institution	-	3,391,674	3,391,674	-	1,075,182	1,075,182
Current portion of long-term loans from financial institutions	-	1,000,000	1,000,000	179,343	1,428,571	1,607,914
Current portion of lease liabilities	-	97,055	97,055	-	83,553	83,553
Current portion of debentures	-	8,567,000	8,567,000	-	13,180,000	13,180,000
Non-current						
Long-term loans from financial institutions	-	-	-	380,711	1,000,000	1,380,711
Lease liabilities	-	150,222	150,222	-	120,815	120,815
Debentures	-	39,964,200	39,964,200	-	32,744,200	32,744,200
Total interest-bearing liabilities	-	53,170,151	53,170,151	560,054	49,632,321	50,192,375

The periods to maturity of interest-bearing liabilities as at 31 December were as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	(in thousand Baht)			
Within 1 year	17,113,747	20,235,090	13,055,729	15,946,649
1-5 years	50,853,860	42,031,589	40,080,488	34,210,967
After 5 years	175,596	178,948	33,934	34,759
Total	68,143,203	62,445,627	53,170,151	50,192,375

Secured interest-bearing liabilities as at 31 December were secured on the following net book value assets:

<i>Assets pledged as security for liabilities as at 31 December</i>	<i>Note</i>	Consolidated and Separate financial statements	
		2021	2020
		<i>(in thousand Baht)</i>	
Land and buildings		1,294,944	1,278,911
Machinery and equipment		4,261,595	4,083,826
Total	14	5,556,539	5,362,737

As at 31 December 2021 the Group and the Company had unutilised credit facilities totalling Baht 153 million and Baht 108 million, respectively (2020: Baht 153 million and Baht 108 million, respectively).

Loan from financial institutions

On 22 November 2018, the Company entered into a loan agreement with a local financial institution for working capital and/or to repay the debt of the Company without collateral of Baht 3,000 million for a period of 3.5 years with equal repayment every 6 months from the first drawdown date. Interest rate is as specified in the contract. The loan agreement stipulates certain conditions that the Company must comply with, such as maintaining certain financial ratios, maintaining of percentage of shares held in a subsidiary and certain claims. As at 31 December 2021, loans from the said financial institution amounted of Baht 429 million (2020: Baht 1,285 million).

On 26 June 2019, the Company entered into a loan agreement with a local financial institution for working capital and/or to repay the debt of the Company without collateral of Baht 2,000 million for a period of 3.5 years with equal repayment every 6 months from the first drawdown date. Interest rate is as specified in the contract. The loan agreement stipulates certain conditions that the Company must comply with, such as maintaining certain financial ratios, maintaining of percentage of shares held in a subsidiary and certain claims. As at 31 December 2021, loans from the said financial institution amounted of Baht 571 million (2020: Baht 1,143 million).

Debentures

As at 31 December 2021, the Group and the Company had the unsecured, unsubordinated debentures in registered form with debentures holders' representative, payable quarterly totalling Baht 63,244 million and Baht 48,531 million, respectively (2020: Baht 57,686 million and Baht 45,924 million, respectively) as follows:

Issued Date	Consolidated financial statements					Interest rate (% p.a.)	Term
	The period to maturity over				Total		
	one year						
	2021	2020	2021	2020	2021	2020	
	(in thousand Baht)						
5 August 2015	-	3,580,000	-	-	-	3,580,000	6 years
5 August 2015	3,743,000	-	-	3,848,000	3,743,000	3,848,000	7 years
1 April 2016	-	1,600,000	-	-	-	1,600,000	5 years
1 April 2016	1,197,000	-	-	1,200,000	1,197,000	1,200,000	6 years
1 April 2016	-	-	2,640,500	2,640,500	2,640,500	2,640,500	7 years
26 April 2018	-	8,000,000	-	-	-	8,000,000	3 years
28 November 2018	-	4,000,000	-	-	-	4,000,000	3 years
11 January 2019	3,525,000	-	-	3,530,000	3,525,000	3,530,000	3 years
1 March 2019	100,000	-	-	100,000	100,000	100,000	2 years 10 months 30 days
11 July 2019	-	-	2,820,000	2,820,000	2,820,000	2,820,000	3 years 6 months
11 July 2019	-	-	2,888,000	2,988,000	2,888,000	2,988,000	5 years 6 months
9 August 2019	4,000,000	-	-	4,000,000	4,000,000	4,000,000	3 years 3 months
16 January 2020	-	-	4,382,700	4,382,700	4,382,700	4,382,700	3 years
2 July 2020	-	-	4,127,000	4,127,000	4,127,000	4,127,000	3 years 9 months
19 August 2020	-	-	3,789,600	3,944,000	3,789,600	3,944,000	3 years 11 months
5 November 2020	-	-	3,515,300	3,515,300	3,515,300	3,515,300	4 years
5 November 2020	-	-	3,410,700	3,410,700	3,410,700	3,410,700	5 years
4 March 2021	-	-	4,000,000	-	4,000,000	-	4 years 3 months
30 April 2021	-	-	4,000,000	-	4,000,000	-	2 years 9 months
10 June 2021	-	-	3,000,000	-	3,000,000	-	2 years 6 months
8 October 2021	-	-	3,581,200	-	3,581,200	-	4 years 6 months
8 October 2021	-	-	4,000,000	-	4,000,000	-	4 years 11 months
12 November 2021	-	-	4,523,600	-	4,523,600	-	4 years 3 months
Total	12,565,000	17,180,000	50,678,600	40,506,200	63,243,600	57,686,200	

Separate financial statements

Issued Date	The period to maturity within one year		The period to maturity over one year		Total		Interest rate (% p.a.)	Term
	2021	2020	2021	2020	2021	2020		
				(in thousand Baht)				
5 August 2015	-	3,580,000	-	-	-	3,580,000	4.90	6 years
5 August 2015	3,745,000	-	-	3,850,000	3,745,000	3,850,000	5.20	7 years
1 April 2016	-	1,600,000	-	-	-	1,600,000	4.35	5 years
1 April 2016	1,197,000	-	-	1,200,000	1,197,000	1,200,000	4.60	6 years
1 April 2016	-	-	2,640,500	2,640,500	2,640,500	2,640,500	4.80	7 years
26 April 2018	-	8,000,000	-	-	-	8,000,000	3.30	3 years
11 January 2019	3,525,000	-	-	3,530,000	3,525,000	3,530,000	4.10	3 years
1 March 2019	100,000	-	-	100,000	100,000	100,000	3.80	2 years 10 months
11 July 2019	-	-	3,000,000	3,000,000	3,000,000	3,000,000	3.90	30 days
11 July 2019	-	-	2,888,000	2,888,000	2,888,000	2,988,000	4.90	3 years 6 months
16 January 2020	-	-	4,382,700	4,382,700	4,382,700	4,382,700	3.50	5 years 6 months
2 July 2020	-	-	4,127,000	4,127,000	4,127,000	4,127,000	4.25	3 years
5 November 2020	-	-	3,515,300	3,515,300	3,515,300	3,515,300	4.25	3 years 9 months
5 November 2020	-	-	3,410,700	3,410,700	3,410,700	3,410,700	4.50	4 years
4 March 2021	-	-	4,000,000	-	4,000,000	-	4.15	5 years
30 April 2021	-	-	4,000,000	-	4,000,000	-	3.50	4 years 3 months
8 October 2021	-	-	4,000,000	-	4,000,000	-	3.55	2 years 9 months
8 October 2021	-	-	4,000,000	-	4,000,000	-	3.70	4 years 6 months
8 October 2021	-	-	4,000,000	-	4,000,000	-		4 years 11 months
Total	8,567,000	13,180,000	39,964,200	32,744,200	48,531,200	45,924,200		

18 Trade accounts payable

		Consolidated financial statements		Separate financial statements	
	Note	2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Related parties	5	312,029	351,390	373,773	385,053
Other parties		3,304,597	2,526,291	2,781,915	2,068,938
Total		3,616,626	2,877,681	3,155,688	2,453,991

19 Other payables

		Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Accrued expenses		1,124,550	667,814	892,395	468,942
Deposit from sales		595,442	389,186	505,491	320,800
Guarantee and deposits		311,660	306,415	306,290	297,060
Retention payable		172,023	467,330	48,592	53,606
Machine Payable		220,634	328,843	185,912	161,310
Others		536,866	721,242	374,011	447,238
Total		2,961,175	2,880,830	2,312,691	1,748,956

20 Non-current provisions for employee benefits

		Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Non-current provision for:					
Post-employment benefits					
Defined benefit plan		2,257,704	2,326,482	1,919,174	1,956,682

Defined benefit plan

The Group and the Company operate a defined benefit plan based on the requirement of Thai Labour Protection Act B.E. 2541 (1998) to provide retirement benefits to employees based on pensionable remuneration and length of service. The defined benefit plans expose the Group to actuarial risks, such as longevity risk, interest rate risk and market (investment) risk.

<i>Present value of the defined benefit obligations</i>	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		(in thousand Baht)		
At 1 January	2,326,482	2,337,557	1,956,682	1,970,539
<i>Recognised in profit or loss:</i>				
Current service cost and interest on obligation	2,792	32,751	-	23,466
<i>Recognised in other comprehensive income:</i>				
Actuarial losses	-	-	-	-
Other				
Benefit paid	(71,570)	(43,826)	(37,508)	(37,323)
At 31 December	2,257,704	2,326,482	1,919,174	1,956,682

<i>Principal actuarial assumptions</i>	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		(%)		
Discount rate	2.70 - 2.91	1.72 - 2.06	2.70 - 2.87	1.72 - 2.00
Future salary growth	2.35 - 6.11	2.28 - 4.61	4.29 - 6.11	3.12 - 4.61

Assumptions regarding future mortality have been based on published statistics and mortality tables.

At 31 December 2021, the weighted-average duration of the defined benefit obligation was 24 years (2020: 22 years).

Sensitivity analysis

Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding other assumptions constant, would have affected the defined benefit obligation by the amounts shown below.

<i>Effect to the defined benefit obligation</i>	Consolidated financial statements			
	1% increase in assumption		1% decrease in assumption	
	2021	2020	2021	2020
<i>At 31 December</i>				
		(in thousand Baht)		
Discount rate	(246,316)	(218,142)	281,140	257,199
Future salary growth	249,268	223,415	(222,128)	(193,070)
<i>Effect to the defined benefit obligation</i>	Separate financial statements			
	1% increase in assumption		1% decrease in assumption	
	2021	2020	2021	2020
<i>At 31 December</i>				
		(in thousand Baht)		
Discount rate	(176,131)	(186,153)	207,857	220,857
Future salary growth	179,151	190,741	(155,934)	(165,378)

21 Share capital

	Par value per share (in Baht)	Consolidated and Separate financial statements			
		2021		2020	
		Number	Amount (thousand shares / in thousand Baht)	Number	Amount
Authorised					
At 1 January	1	23,805,500	23,805,500	23,805,500	23,805,500
- ordinary shares					
Reduction of shares	1	(54,000)	(54,000)	-	-
At 31 December					
- ordinary shares	1	23,751,500	23,751,500	23,805,500	23,805,500
Issued and paid-up					
At 1 January	1	19,180,500	19,180,500	19,180,500	19,180,500
- ordinary shares					
Reduction of shares	1	(54,000)	(54,000)	-	-
At 31 December					
- ordinary shares	1	19,126,500	19,126,500	19,180,500	19,180,500

22 Treasury shares

During 2021, the Company has sold 165.61 million treasury shares totalling to Baht 281.27 million, consisting the cost of the repurchased treasury shares calculated by the weighted average method in the amount of Baht 195.79 million and surplus on sale of treasury shares (Surplus on treasury shares) in the amount of Baht 85.48 million, presented as a separate category within equity.

On 16 June 2021, the Company's treasury shares has remained 54.00 million shares. The Company registered to decrease capital totalling 54.00 million shares, at par value Baht 1 per share, by writing off the treasury shares totally 54.00 million shares that could not be sold through the Securities Exchange of Thailand on 11 June 2021 with the Ministry of Commerce and write-off all treasury shares and treasury shares reserve from equity.

At the Board of Directors meeting held on 23 December 2021, it approved the Company's share repurchase for financial management purposes scheme, the maximum amount for the share repurchase is not greater than Baht 450 million, number of shares repurchased 191.27 million shares, at par value Baht 1 per share, or representing 1% of the total paid-up capital. The repurchase period has started from 10 January 2022 to 10 April 2022.

On 21 January 2022, the Company has completely repurchased the shares under the program of 191.27 million shares at a total cost of Baht 365.55 million.

23 Reserves

Reserves comprise:

Appropriations of profit and retained earnings

Legal reserve

Section 116 of the Public Companies Act B.E. 2535 requires that a public company shall allocate not less than 5% of its annual net profit, less any accumulated losses brought forward, to a reserve account ("legal reserve"), until this account reaches an amount not less than 10% of the registered authorised capital. The legal reserve is not available for dividend distribution.

Treasury shares reserve

The treasury shares reserve represents the amount appropriated from retained earnings equal to the cost of the Company's own shares held by the Company. The treasury shares reserve is not available for dividend distribution.

24 Segment information and disaggregation of revenue

Management determined that the Group has four reportable segments which are the Group's strategic divisions for different products and services, and are managed separately because they require different technology and marketing strategies. The following summary describes the operations in each of the Group's reportable segments.

- Construction Materials
- Petrochemical & Chemicals
- Energy & Utilities
- Agriculture

Each segment's performance is measured based on segment profit before tax, as included in the internal management reports that are reviewed by the Group's CODM. Segment profit before tax is used to measure performance as management believes that such information is the most relevant in evaluating the results of certain segments relative to other entities that operate within these industries.

(a) Reportable segment results**Consolidated Financial Statements**

	Revenue from external customers		Inter-segment revenue		Total reportable segment revenue		Reportable segment profit (loss) before interest, tax, depreciation, and amortisation	
	2021	2020	2021	2020	2021	2020	2021	2020
	<i>(in thousand Baht)</i>							
Construction Materials	16,968,829	17,468,305	6,439,711	8,984,019	23,408,540	26,452,324	1,617,277	1,654,558
Petrochemical & Chemicals	12,550,440	7,616,357	10,093,393	5,926,992	22,643,833	13,543,349	5,220,679	1,988,978
Energy & Utilities	9,266,087	9,072,251	1,807,746	2,047,099	11,073,833	11,119,350	5,441,339	5,693,516
Agriculture	134,429	118,857	158,073	140,796	292,502	259,653	(13,784)	(22,506)
Total	38,919,785	34,275,770	18,498,923	17,098,906	57,418,708	51,374,676	12,265,511	9,314,546
Other gain (loss)					(15,201)		(15,201)	(160)
					12,250,310		12,250,310	9,314,386
Finance costs					(2,061,541)		(2,061,541)	(2,014,903)
Depreciation and amortisation					(3,097,646)		(3,097,646)	(3,124,488)
Impairment loss of assets					-		-	(1,601,820)
Others					390,708		390,708	192,348
Share of profit (loss) of associates accounted for using equity method					24,703		24,703	56,321
Elimination of inter-segment (profit) loss					(49,298)		(49,298)	(57,003)
Profit before income tax expense for the year					7,457,236		7,457,236	2,764,841

Timing of reportable segment revenue recognition of the Group is at a point in time.

<i>For the year ended 31 December</i>	Consolidated financial statements	
	Reportable segment	
	profit (loss) before tax	
	2021	2020
	<i>(in thousand Baht)</i>	
Construction Materials	(1,563,314)	(1,582,155)
Petrochemical & Chemicals	5,219,060	1,775,987
Energy & Utilities	4,301,464	4,628,005
Agriculture	(60,322)	(93,102)
Total	7,896,888	4,728,735
Impairment loss of assets	-	(1,601,820)
Other gains (losses)	(28,813)	24,221
Finance costs for investment	(397,456)	(387,876)
Elimination of inter-segment (profit) loss	(13,383)	1,581
Profit (loss) before income tax expense for the year	7,457,236	2,764,841

(b) Reportable segment financial position

	Consolidated financial statements	
	Segment assets	
	2021	2020
	<i>(in thousand Baht)</i>	
Construction Materials	76,935,278	73,126,203
Petrochemical & Chemicals	15,297,125	10,015,700
Energy & Utilities	43,031,698	40,299,386
Agriculture	2,117,248	2,161,415
Others	584,705	580,989
	137,966,054	126,183,693
Unallocated assets	9,059,366	6,182,250
Total	147,025,420	132,365,943
Elimination of inter-segment assets	(11,311,822)	(8,457,041)
Total assets	135,713,598	123,908,902

(c) Disaggregation of revenue

	Separate financial statement	
	Revenue from sale of goods	
	2021	2020
	<i>(in thousand Baht)</i>	
Construction Materials	17,047,621	16,519,666
Petrochemical & Chemicals	11,522,509	6,733,110
Total	28,570,130	23,252,776

Timing of revenue recognition of the Company is at a point in time.

Geographical segments

In presenting information on the basis of geographical segments, segment revenue is based on the geographical location of customers. Segment assets are based on the geographical location of the assets.

Geographical information	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		<i>(in thousand Baht)</i>		
Thailand	26,427,221	23,018,707	28,258,765	22,678,681
China	8,349,487	5,458,979	-	-
Bangladesh	399,104	370,839	-	-
Others	3,743,973	5,427,245	311,365	574,095
Total	38,919,785	34,275,770	28,570,130	23,252,776

The Group is managed and operates principally in Thailand.

(d) Disaggregation of finance cost

	Separate financial statements	
	Finance cost	
	2021	2020
	<i>(in thousand Baht)</i>	
Construction Materials	1,486,884	1,312,215
Petrochemical & Chemicals	3,387	50,490
Investing	397,456	387,876
Total	1,887,727	1,750,581

25 Other income

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		<i>(in thousand Baht)</i>		
Revenue from machine rental	183,155	141,363	-	-
Income from sale of scraps	59,339	48,909	59,339	48,909
Sale steam	52,709	50,515	13,313	10,288
Rental trucks income	14,741	15,065	21,221	21,228
Share services income	2,014	300	580,763	125,920
Other income - claim insurance	510	100,340	480	754
Income from sale of spare parts	-	2,617	17,486	18,114
Others	247,047	379,068	111,150	425,132
Total	559,515	738,177	803,752	650,345

26 Cost of distributions and transportations

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		<i>(in thousand Baht)</i>		
Delivery expenses	1,812,988	1,640,737	1,500,166	1,483,783
Personnel expenses	831,473	806,245	717,873	699,162
Depreciation and amortisation	208,223	208,507	198,150	198,780
Maintenance expenses	34,418	48,437	29,659	42,810
Others	459,589	460,189	438,254	377,134
Total	3,346,691	3,164,115	2,884,102	2,801,669

27 Administrative expenses

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Personnel expenses	942,839	924,988	713,276	710,737
Depreciation and amortisation	156,355	134,860	142,381	118,924
Maintenance expenses	21,966	7,521	20,671	3,716
Others	926,129	680,892	290,361	246,966
Total	<u>2,047,289</u>	<u>1,748,261</u>	<u>1,166,689</u>	<u>1,080,343</u>

28 Employee benefit expenses

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Management				
Wages and salaries	276,930	323,968	210,977	263,174
Defined benefit plan	4,501	4,474	-	1,745
Others	53,609	48,152	28,578	27,074
	<u>335,040</u>	<u>376,594</u>	<u>239,555</u>	<u>291,993</u>
Other employees				
Wages and salaries	5,681,627	5,370,341	4,401,836	4,140,157
Defined benefit plan	3,865	33,636	-	21,721
Others	325,513	331,831	232,290	230,402
	<u>6,011,005</u>	<u>5,735,808</u>	<u>4,634,126</u>	<u>4,392,280</u>
Total	<u>6,346,045</u>	<u>6,112,402</u>	<u>4,873,681</u>	<u>4,684,273</u>

Defined contribution plans

The defined contribution plans comprise provident funds established by some companies of the Group for its employees. Membership to the funds is on a voluntary basis. Contributions are made monthly by the employees at rates ranging from 3% to 10% of their basic salaries and by the Company at rates ranging from 3% to 10% of the employees' basic salaries. The provident funds are registered with the Ministry of Finance as juristic entities and are managed by a licensed Fund Manager.

29 Expenses by nature

The statements of comprehensive income include an analysis of expenses by function. Expenses by nature disclosed in accordance with the requirements of various TFRS were as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
<i>Included in cost of sales of goods:</i>				
Changes in inventories of finished goods and work in progress	(1,916,202)	2,495,864	(1,773,744)	2,641,046
Raw materials and consumables used	15,787,063	15,288,970	8,308,131	6,839,067
Reversal of loss on decline in value of inventories	(10,777)	(14,973)	(2,314)	(10,988)
Depreciation of plant and equipment	2,719,256	2,766,994	1,491,590	1,550,931
Amortisation of intangible assets	13,812	14,127	13,812	14,127
<i>Included in distribution costs:</i>				
Depreciation of plant and equipment	200,451	200,649	190,594	190,922
Amortisation of intangible assets	7,772	7,858	7,556	7,858
<i>Included in administrative expenses:</i>				
Depreciation of plant and equipment	138,843	116,866	124,869	100,930
Amortisation of intangible assets	17,512	17,994	17,512	17,994

30 Finance costs

		Consolidated financial statements		Separate financial statements	
	<i>Note</i>	2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Interest expense :					
Loans from related party		-	-	1,986	2,005
Loans from financial institutions		136,178	244,280	135,803	229,478
Debentures		2,423,780	2,055,224	1,931,282	1,708,295
Leases	15	21,272	17,731	10,122	7,265
Total interest expense		2,581,230	2,317,235	2,079,193	1,947,043
Others		5,401	8,412	-	-
		2,586,631	2,325,647	2,079,193	1,947,043
<i>Less: amounts included in the cost of qualifying assets:</i>					
- Construction contracts work in progress		(525,090)	(310,744)	(191,466)	(196,462)
Net		2,061,541	2,014,903	1,887,727	1,750,581

31 Income tax

		Consolidated financial statements		Separate financial statements	
		2021	2020	2021	2020
		<i>(in thousand Baht)</i>			
Income tax recognised in profit or loss					
Current tax expense					
Current year		170,992	170,357	-	-
Adjustment for prior years		6,913	5,838	455	-
		177,905	176,195	455	-
Deferred tax expense					
Movements in temporary differences		361,372	(250,520)	397,111	(181,688)
Total tax (income) expense		539,277	(74,325)	397,566	(181,688)

Consolidated financial statements

	Before tax	2021 Tax (expense) benefit	Net of tax (in thousand Baht)	Before tax	2020 Tax (expense) benefit	Net of tax
Income tax						
Recognised in other comprehensive income						
Foreign currency translation differences for foreign operations	353	-	353	(18)	-	(18)
Financial assets at FVOCI	9	(2)	7	9	(1)	8
Share of other comprehensive income (expense) of associates	12,735	-	12,735	(3,778)	-	(3,778)
Total	13,097	(2)	13,095	(3,787)	(1)	(3,788)

Separate financial statements

	Before tax	2021 Tax (expense) benefit	Net of tax (in thousand Baht)	Before tax	2020 Tax (expense) benefit	Net of tax
Income tax						
Recognised in other comprehensive income						
Financial assets at FVOCI	7	(2)	5	3	(1)	2
Share of other comprehensive income (expense) of subsidiaries accounted for using equity method	355	-	355	(13)	-	(13)
Share of other comprehensive income (expense) of associates accounted for using equity method	12,735	-	12,735	(3,778)	-	(3,778)
Total	13,097	(2)	13,095	(3,788)	(1)	(3,789)

Reconciliation of effective tax rate

	Rate (%)	Consolidated financial statements	
		2021 (in thousand Baht)	2020 (in thousand Baht)
Profit before income tax expense		7,457,236	2,764,841
Income tax using the Thai corporation tax rate	20	1,491,447	552,968
Income not subject to tax		(321,153)	(90,005)
Profit was derived from promoted activities		(746,457)	(827,771)
Expenses not deductible for tax purposes		104,720	330,148
Deferred tax asset from tax loss expired		55,290	38,313
Prior year losses recognised as deferred tax asset in current year		-	(101,969)
Recognition of previously unrecognised tax losses		(71,305)	(2,308)
Current year losses for which no deferred tax asset was recognised		19,822	20,461
Under provided in prior years		6,913	5,838
Total	7	539,277	(74,325)

Reconciliation of effective tax rate

	Rate (%)	Separate financial statements	
		2021 (in thousand Baht)	2020 (in thousand Baht)
Profit before income tax expense		6,068,100	1,316,464
Income tax using the Thai corporation tax rate	20	1,213,620	263,292
Income not subject to tax		(948,402)	(703,684)
Profit was derived from promoted activities		(2,331)	(6,201)
Expenses not deductible for tax purposes		95,800	226,592
Deferred tax asset from tax loss expired		38,424	38,313
Under provided in prior years		455	-
Total	7	397,566	(181,688)

Deferred tax At 31 December	Consolidated financial statements			
	Assets		Liabilities	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Total	1,261,781	1,582,905	(760,361)	(720,111)
Set off of tax	(716,667)	(669,117)	716,667	669,117
Net deferred tax assets (liabilities)	545,114	913,788	(43,694)	(50,994)

Deferred tax At 31 December	Separate financial statements			
	Assets		Liabilities	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Total	1,008,617	1,349,060	(717,422)	(660,752)
Set off of tax	(717,422)	(660,752)	717,422	660,752
Net deferred tax assets (liabilities)	291,195	688,308	-	-

Movements in total deferred tax assets and liabilities during the year were as follows:

	Consolidated financial statements		
	(Charged) / Credited to		
	At 1 January 2021	Profit or loss	Other comprehensive income
		<i>(in thousand Baht)</i>	
Deferred tax assets			
Allowance for expected credit loss	18,460	(3,062)	-
Allowance for decline in value of inventories	4,604	(1,693)	-
Allowance for impairment of assets	1,806	-	-
Provision for sales discount and sales promotional	14,398	(1,149)	-
Provision for employee benefit	456,609	(13,756)	-
Loss carry forward	1,081,549	(309,242)	-
Provision for decommissioning costs	5,387	7,738	-
Others	92	42	(2)
Total	1,582,905	(321,122)	(2)
Deferred tax liabilities			
Amortisation gap of concessions	(3,666)	391	-
Lease liabilities	(152,244)	(14,389)	-
Depreciation gap of assets	(499,602)	(34,922)	-
Property, plant and equipment	(64,599)	8,670	-
Total	(720,111)	(40,250)	-
Net	862,794	(361,372)	(2)

	Consolidated financial statements		
	(Charged) / Credited to		
	At 1 January 2020	Profit or loss Other comprehensive income (in thousand Baht)	At 31 December 2020
<i>Deferred tax assets</i>			
Allowance for expected credit loss	21,195	(2,735)	18,460
Allowance for decline in value of inventories	5,401	(797)	4,604
Allowance for impairment of assets	1,806	-	1,806
Provision for sales discount and sales promotional	13,371	1,027	14,398
Provision for employee benefit	458,793	(2,184)	456,609
Loss carry forward	788,524	293,025	1,081,549
Provision for decommissioning costs	2,559	2,828	5,387
Others	(1,225)	1,318	92
Total	1,290,424	292,482	1,582,905
<i>Deferred tax liabilities</i>			
Amortisation gap of concessions	(4,123)	457	(3,666)
Lease liabilities	(141,938)	(10,306)	(152,244)
Depreciation gap of assets	(458,818)	(40,784)	(499,602)
Property, plant and equipment	(73,270)	8,671	(64,599)
Total	(678,149)	(41,962)	(720,111)
Net	612,275	250,520	862,794
Separate financial statements			
(Charged) / Credited to			
	At 1 January 2021	Profit or loss Other comprehensive income (in thousand Baht)	At 31 December 2021
<i>Deferred tax assets</i>			
Allowance for expected credit loss	13,069	(947)	12,122
Allowance for impairment of assets	900	-	900
Provision for sales discount and sales promotional	13,492	(1,055)	12,437
Provision for employee benefit	391,336	(7,501)	383,835
Loss carry forward	930,111	(330,938)	599,173
Others	152	-	150
Total	1,349,060	(340,441)	1,008,617
<i>Deferred tax liabilities</i>			
Amortisation gap of concessions	(3,666)	391	(3,275)
Lease liabilities	(103,525)	(22,911)	(126,436)
Depreciation gap of assets	(553,561)	(34,150)	(587,711)
Total	(660,752)	(56,670)	(717,422)
Net	688,308	(397,111)	291,195

	At 1 January 2020	Separate financial statements (Charged) / Credited to		At 31 December 2020
		Profit or loss (in thousand Baht)	Other comprehensive income	
Deferred tax assets				
Allowance for expected credit loss	14,120	(1,051)	-	13,069
Allowance for impairment of assets	900	-	-	900
Provision for sales discount and sales promotional	12,416	1,076	-	13,492
Provision for employee benefit	394,106	(2,770)	-	391,336
Loss carry forward	707,432	222,679	-	930,111
Others	153	-	(1)	152
Total	1,129,127	219,934	(1)	1,349,060
Deferred tax liabilities				
Amortisation gap of concessions	(4,123)	457	-	(3,666)
Lease liabilities	(86,345)	(17,180)	-	(103,525)
Depreciation gap of assets	(532,038)	(21,523)	-	(553,561)
Total	(622,506)	(38,246)	-	(660,752)
Net	506,621	181,688	(1)	688,308

Deferred tax asset arising from loss carry forward has not been recognised in the consolidated and separate financial statements as at 31 December 2021 amounting to Baht 1,183.1 million and Baht 943.9 million, respectively (2020: Baht 1,178.6 million and Baht 953.1 million, respectively).

The tax losses expire in 2022 to 2026. The deductible temporary differences do not expire under current tax legislation. The Group has not recognised these items as deferred tax assets because it is not probable that the Group will have sufficient future taxable profit to utilise the benefits therefrom.

Recognition of deferred tax asset from tax loss

In 2021 and 2020, the Group has entered into several agreements for many projects. As a result, management estimates future taxable profits and, as at 31 December 2021, the Group recognised deferred tax assets from tax losses in the consolidated and separate financial statements amounting to Baht 772 million and Baht 599 million, respectively (2020: Baht 1,082 million and Baht 930 million, respectively) because management considered it probable that future taxable profits would be available against which such losses can be used.

Deferred tax asset from loss carry forward in the consolidated and separate financial statements will expire as detail shown below.

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
Deferred tax assets from loss carry forward expiring in year				
- 2021	-	348,236	-	330,938
- 2022	383,888	383,456	338,180	338,180
- 2023	57,673	57,673	-	-
- 2024	21,161	31,040	-	-
- 2025	260,993	261,144	260,993	260,993
- 2026	48,592	-	-	-
Total	772,307	1,081,549	599,173	930,111

32 Promotional privileges

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Group has been granted privileges by the Board of Investment relating to petrochemical products, plastic film products, masterbatch, compound plastic, compound rubber, organic fertilizer, natural gas stations, power plants and fuel production from garbage and waste. The privileges granted include:

- exemption from payment of import duty on machinery and equipment approved by the Board;
- exemption from payment of corporate income tax for certain operations for a period of 3 - 8 years from the dates on which the income is first derived from such operations;
- a 50% reduction in the normal income tax rate on the net profit derived from certain operations for a period of 5 years, commencing from the expiry date in (b) above;
- a deduction of twice the actual transportation, electrical and water supply expenses for a period of 10 years from the respective revenues and a 25% reduction of the capital expenditure for the installation or the construction of the facilities in addition to the normal depreciation; and
- losses occur during the period could be carried forward 5 years commencing from the expiry date of the privileges to deducted from the profit that occur after the period of exemption of cooperate income tax.

As a promoted company, the Group must comply with certain terms and conditions prescribed in the promotional certificates.

Summary of revenue from promoted and non-promoted businesses:

	Consolidated financial statements					
	2021			2020		
	Promoted businesses	Non-promoted businesses	Total	Promoted businesses	Non-promoted businesses	Total
	<i>(in thousand Baht)</i>					
Export sales	-	12,520,668	12,520,668	-	11,251,501	11,251,501
Local sales	9,578,463	35,236,685	44,815,148	9,761,146	30,326,029	40,087,175
Eliminations	(1,724,739)	(16,691,292)	(18,416,031)	(2,037,534)	(15,025,372)	(17,062,906)
Total	7,853,724	31,066,061	38,919,785	7,723,612	26,552,158	34,275,770

	Separate financial statements					
	2021			2020		
	Promoted businesses	Non-promoted businesses	Total	Promoted businesses	Non-promoted businesses	Total
	<i>(in thousand Baht)</i>					
Export sales	-	411,216	411,216	-	584,899	584,899
Local sales	139,385	28,019,529	28,158,914	103,616	22,564,261	22,667,877
Total	139,385	28,430,745	28,570,130	103,616	23,149,160	23,252,776

33 Basic earnings per share

The calculations of basic earnings per share for the years ended 31 December 2021 and 2020 were based on the profit for the years attributable to ordinary shareholders of the Company and the number of ordinary shares outstanding during the years, after adjusting the own shares held by subsidiaries. The calculations are as follows:

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht / thousand shares)</i>			
Profit attributable to ordinary shareholders of the Company (basic)	5,670,534	1,498,152	5,670,534	1,498,152
Number of ordinary shares outstanding at 1 January	19,180,500	19,180,500	19,180,500	19,180,500
Effect of treasury shares	(78,642)	(277,541)	(78,642)	(277,541)
Weighted average number of ordinary shares outstanding (basic)	19,101,858	18,902,959	19,101,858	18,902,959
Earnings per share (basic) (in Baht)	0.297	0.079	0.297	0.079

34 Dividends

At the annual general meeting of the shareholders of the Company held on 4 August 2020, the shareholders acknowledged the interim dividend payment of 2019 annual dividend at Baht 0.06 per share, amounting to Baht 1,149.20 million. After a deduction of the interim dividends of Baht 0.03 per share which paid to the Company's shareholders in 2019, the remaining dividends of Baht 0.03 per share, totalling Baht 573.78 million. The dividend was paid to the shareholders on May 2020 and no further dividend payment shall be made from the fiscal year 2019.

At the Board of Directors' meeting of the Company held on 27 August 2020, the Board of Directors' meeting approved the appropriation of interim dividend from the Company's retained earnings of Baht 0.03 per share, amounting to Baht 563.91 million. The dividend was paid to the shareholders in September 2020.

At the annual general meeting of the shareholders of the Company held on 22 April 2021, the shareholders approved the appropriation of dividend from the Company's retained earnings of Baht 0.06 per share, amounting to Baht 1,150.83 million. After a deduction of the interim dividends of Baht 0.03 per share which paid to the Company's shareholders in 2020, the remaining dividends of Baht 0.03 per share, totalling Baht 573.79 million. The dividend was paid to the shareholders in May 2021.

At the Board of Directors' meeting of the Company held on 30 September 2021, the Board of Directors approved the appropriation of interim dividend from the Company's retained earnings of Baht 0.03 per share, amounting to Baht 573.80 million. The dividend was paid to the shareholders in October 2021.

35 Financial instruments

(a) *Carrying amounts and fair values*

The following table shows the carrying amounts and fair values of financial assets and financial liabilities, including their levels in the fair value hierarchy. It does not include fair value information for financial assets and financial liabilities measured at amortised cost if the carrying amount is a reasonable approximation of fair value.

	Note	Consolidated financial statements								
		Carrying amount			Fair value					
		Financial instruments measured at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortised cost	Total (in thousand Baht)	Level 1	Level 2	Level 3	Total	
At 31 December 2021										
Financial assets										
Other financial assets										
Investment in equity instruments		-	233	-	233	233	-	-	-	233
Investment in debt instruments	9	4,335,129	1,207	27,113	4,363,449	3,806,496	541,970	-	-	4,348,466
Promissary Note		-	-	2,145,658	2,145,658	-	2,145,658	-	-	2,145,658
Total financial assets		4,335,129	1,440	2,172,771	6,509,340					
Financial liabilities										
Promissary Note	17	-	-	3,391,674	3,391,674	-	3,392,337	-	-	3,392,337
Debentures	17	-	-	63,243,600	63,243,600	-	63,905,528	-	-	63,905,528
Total financial liabilities		-	-	66,635,274	66,635,274					

Consolidated financial statements									
Carrying amount					Fair value				
	Financial instruments measured at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortised cost	Total	Level 1	Level 2	Level 3	Total	
				(in thousand Baht)					
At 31 December 2020									
Financial assets									
Other financial assets									
Investment in equity instruments					226			226	
Investment in debt instruments	9	-	2,699,273		1,205	327,514		3,027,992	-
Promissary Note			-		-	499,241		499,241	374,777
Total financial assets			2,699,273		1,431	826,755		3,527,459	499,280
									226
									3,030,276
									499,280
Financial liabilities									
Promissary Note	17	-				1,314,807		1,314,807	-
Debentures	17	-				57,686,200		57,686,200	-
Total financial liabilities			-		-	59,001,007		59,001,007	1,315,543
									58,246,890

		Separate financial statements				Fair value		
		Carrying amount		Total (in thousand Baht)	Level 1	Level 2	Level 3	Total
	Note	Financial instruments measured at FVTPL	Financial instruments measured at FVOCI					
At 31 December 2021								
Financial assets								
Other financial assets								
Investment in equity instruments		-	233	233	233	-	-	233
Investment in debt instruments	9	1,803,991	-	11,789	1,815,780	12,486	-	1,816,477
Promissary Note		-	-	698,218	698,218	698,218	-	698,218
Total financial assets		1,803,991	233	710,007	2,514,231			
Financial liabilities								
Promissary Note	17	-	-	3,391,674	3,391,674	3,392,337	-	3,392,337
Debentures	17	-	-	48,531,200	48,531,200	49,120,253	-	49,120,253
Total financial liabilities		-	-	51,922,874	51,922,874			

	At 31 December 2020	Note	Separate financial statements			Fair value		
			Carrying amount		Total (in thousand Baht)	Level 1	Level 2	Level 3
			Financial instruments measured at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortised cost			
Financial assets								
Other financial assets								
Investment in equity instruments			-	226	226	226	-	226
Investment in debt instruments	9		1,302,891	-	1,514,640	1,302,891	213,007	1,515,898
Promissory Note			-	-	199,385	-	199,385	199,385
Total financial assets			1,302,891	226	1,714,251			
Financial liabilities								
Promissory Note	17		-	-	1,075,182	-	1,075,858	1,075,858
Debentures	17		-	-	45,924,200	-	46,415,493	46,415,493
Total financial liabilities			-	-	46,999,382			

The following tables present valuation technique of financial instruments measured at fair value in the statements of financial position:

Type	Valuation technique
Investments in government bonds guaranteed by the government, classified as financial assets measured at amortised cost	Thai Bond Market Association Government Bond Yield Curve as of the reporting date.
Corporate debt securities (Private funds)	<i>Market comparison/discounted cash flow:</i> The fair value is estimated considering (i) current or recent quoted prices for identical securities in markets that are not active and (ii) a net present value calculated using discount rates derived from quoted prices of securities with similar maturity and credit rating that are traded in active markets, adjusted by an illiquidity factor.
Investments in marketable unit trusts classified as financial assets measured at FVTPL or FVOCI	The net asset value as of the reporting date.
Debentures	A valuation technique incorporating observable market data which is adjusted with counterparty credit risk (excluding own credit risk) and other risks to reflect true economic value.

(b) Financial risk management policies

Risk management framework

The Group's board of directors has overall responsibility for the establishment and oversight of the Group's risk management framework. The board of directors has established the risk management committee, which is responsible for developing and monitoring the Group's risk management policies. The committee reports regularly to the board of directors on its activities.

The Group's risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to maintain a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Group audit committee oversees how management monitors compliance with the Group's risk management policies and procedures, and reviews the adequacy of the risk management framework in relation to the risks faced by the Group. The Group audit committee is assisted in its oversight role by internal audit. Internal audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the audit committee.

(b.1) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Group's receivables from customers and investments in debt securities.

(b.1.1) Trade accounts receivables

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate. Detail of concentration of revenue are included in note 24(c).

The risk management committee has established a credit policy under which each new customer is analysed individually for creditworthiness before the Group's commercial terms and conditions are offered. The Group's review financial statements, industry information and in some cases bank references. Sale limits are established for each customer and reviewed regularly. Any sales exceeding those limits require approval from the risk management committee.

The Group limits its exposure to credit risk from trade accounts receivables by establishing a maximum payment period of 360 days. Outstanding trade receivables are regularly monitored by the Group. An impairment analysis is performed by the Group at each reporting date. The provision rates of expected credit loss are based on days past due for groupings of various customer segments with similar credit risks to reflect differences between economic conditions in the past, current conditions and the Group's view of economic conditions over the expected lives of the receivables.

Information relevant to trade accounts receivables and contract assets are disclosed in note 7 and 24, respectively.

(b.1.2) Investment in debt securities

The Group considers that all debt investments measured at amortised cost and FVOCI have low credit risk. Then the credit loss allowance assessed during the year was therefore limited to 12 months expected losses or 'low credit risk'. Marketable bonds are considered to be an investment grade credit rating published by external credit rating agencies. The credit risk of other instruments are considered to be low when the risk of default is low and the issuer has a strong capacity to meet its contractual cash flow obligations.

(b.1.3) Cash and cash equivalent and derivatives

The Group's exposure to credit risk arising from cash and cash equivalents is limited because the counterparties are banks and financial institutions which the Group considers to have low credit risk.

(b.2) Liquidity risk

The Group monitors its liquidity risk and maintains a level of cash and cash equivalents deemed adequate by management to finance the Group's operations and to mitigate the effects of fluctuations in cash flows.

The following table are the remaining contractual maturities of financial liabilities at the reporting date.

Consolidated financial statements					
		Contractual cash flows			
	Carrying	1 year	After 1 year	More than 5	
	amount	or less	but within 5	years	Total
			years		
		(in thousand Baht)			
<i>At 31 December 2021</i>					
<i>Non-derivative financial liabilities</i>					
Short-term loans from financial institutions	3,391,674	3,391,674	-	-	3,391,674
Trade payables	3,616,626	3,438,856	169,755	8,015	3,616,626
Loans from financial institutions	1,000,000	1,000,000	-	-	1,000,000
Lease liabilities	507,929	136,258	208,569	224,777	569,604
Debentures	63,243,600	12,565,000	50,678,600	-	63,243,600
Total	71,759,829	20,531,788	51,056,924	232,792	71,821,504
<i>At 31 December 2020</i>					
<i>Non-derivative financial liabilities</i>					
Short-term loans from financial institutions	1,314,807	1,314,807	-	-	1,314,807
Trade payables	2,877,681	2,870,886	6,795	-	2,877,681
Loans from financial institutions	2,988,625	1,607,914	1,380,711	-	2,988,625
Lease liabilities	455,995	129,801	189,775	240,729	560,305
Debentures	57,686,200	17,180,000	40,506,200	-	57,686,200
Total	65,323,308	23,103,408	42,083,481	240,729	65,427,618

Separate financial statements					
Contractual cash flows					
	Carrying amount	1 year or less	After 1 year but within 5 years <i>(in thousand Baht)</i>	More than 5 years	Total
<i>At 31 December 2021</i>					
<i>Non-derivative financial liabilities</i>					
Short-term loans from financial institutions	3,391,674	3,391,674	-	-	3,391,674
Trade payables	3,155,688	3,140,065	8,230	7,393	3,155,688
Loans from financial institutions	1,000,000	1,000,000	-	-	1,000,000
Lease liabilities	247,277	104,761	125,906	45,287	275,954
Debentures	48,531,200	8,567,000	39,964,200	-	48,531,200
Total	56,325,839	16,203,500	40,098,336	52,680	56,354,516
<i>At 31 December 2020</i>					
<i>Non-derivative financial liabilities</i>					
Short-term loans from financial institutions	1,075,182	1,075,182	-	-	1,075,182
Trade payables	2,453,991	2,450,714	3,277	-	2,453,991
Loans from financial institutions	2,988,625	1,607,914	1,380,711	-	2,988,625
Lease liabilities	204,368	89,945	94,551	47,981	232,477
Debentures	45,924,200	13,180,000	32,744,200	-	45,924,200
Total	52,646,366	18,403,755	34,222,739	47,981	52,674,475

(b.3) Market risk

The Group is exposed to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk is as follows:

(b.3.1) Foreign currency risk

The Group is exposed to foreign currency risk relating to purchases and sales of goods, purchases of machine and equipment and loans which are denominated in foreign currencies.

<i>Exposure to foreign currency at 31 December</i>	Consolidated		Separate	
	financial statements		financial statements	
	2021	2020	2021	2020
	<i>(in thousand Baht)</i>			
United States Dollars				
Cash and cash equivalents	3,228,154	2,338,300	8,849	9,165
Trade accounts receivable	2,364,823	1,406,539	29,578	7,723
Trade accounts payable	(184,644)	(317,304)	(184,248)	(316,891)
Other payables - machines	(42,393)	(474,528)	(993)	(1,006)
	<u>5,365,940</u>	<u>2,953,007</u>	<u>(146,814)</u>	<u>(301,009)</u>
EURO				
Cash and cash equivalents	3,375	7,960	9	359
Trade accounts receivable	21,737	9,977	-	-
Interest-bearing liabilities	-	(50,734)	-	(50,734)
Trade accounts payable	(20,786)	(16,858)	(20,786)	(16,858)
Other payables - machines	(193,550)	(157,717)	(184,919)	(149,298)
	<u>(189,224)</u>	<u>(207,372)</u>	<u>(205,696)</u>	<u>(216,531)</u>

<i>Exposure to foreign currency at 31 December</i>	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		<i>(in thousand Baht)</i>		
Others				
Cash and cash equivalents	1,066	974	626	579
Trade accounts receivable	84,782	-	-	-
Trade accounts payable	(20,848)	(41,859)	(20,848)	(41,476)
Other payables - machines	-	(11,005)	-	(11,005)
	65,000	(51,890)	(20,222)	(51,902)
Net exposure	5,241,716	2,693,745	(372,732)	(569,442)

(b.3.2) Interest rate risk

Interest rate risk is the risk that future movements in market interest rates will affect the results of the Group's operations and its cash flows because debt securities and loan interest rates are mainly fixed. The Group is primarily exposed to interest rate risk from its borrowings (see note 17). The Group mitigates this risk by ensuring that the majority of its debt securities and borrowings are at fixed interest rates.

36 Capital management

The Board of Directors' policy is to maintain a strong capital base so as to maintain investor, creditor and market confidence and to sustain future development of the business. The Board regularly monitors the return on capital, by evaluating result from operating activities divided by total shareholders' equity, excluding non-controlling interests and also monitors the level of dividends to ordinary shareholders.

37 Commitments with non-related parties

	Consolidated financial statements		Separate financial statements	
	2021	2020	2021	2020
		<i>(in thousand Baht)</i>		
Capital commitments				
Agreements for construction, machine and equipment	4,281,222	1,261,371	1,072,564	632,937
Other commitments				
Short-term lease and services commitments	1,287	2,837	-	241
Unused letters of credit	924,895	603,636	867,766	475,728
Purchase agreement for raw material	349,148	471,332	349,148	471,332
Bank guarantees	314,543	322,410	183,294	170,901
Total	1,589,873	1,400,215	1,400,208	1,118,202

38 Contingent liabilities

As at 31 December 2021, the Company had the major lawsuits as follows:

- 1) Due to on 20 February 2017, Tham Phra Phothisat Temple (the “Plaintiff”) filed a complaint with the Central Administrative Court (the “Court”) being the Black Case No. Sor. 3/2560, and claimed that Plaintiff is authorized by the Fine Arts Department to be the caretaker of the Phothisat cave (Tham Phra Phothisat), but did not have a written power of attorney, and alleged that the Company’s mining activity caused damage to the engraved images in Phothisat cave. Later, on 2 June 2017, the Court called the Company to be a party (as an interpleader) in the case where the Plaintiff filed a lawsuit against the Minister of the Ministry of Industry, 1st Defendant, the Director-General of Department of Primary Industries and Mines, 2nd Defendant, Department of Mineral Resources, 3rd Defendant and Saraburi Provincial Industry Office, 4th Defendant (collectively “Defendants”); claiming that the Defendants’ issuance of Prathanabat to the Company is done in contradiction to regulation of Ministry of Interior on the Conditions and Means of Prathanabat Issuance, under Section 9 of the Land Code B.E. 2497, which such regulation of Ministry of Interior was issued in B.E. 2535; thus, the Plaintiff requested that such Prathanabat issued by the Defendants to “Petrochemical Industry Company Limited” which such Prathanabat was later assigned to the Company, be revoked. Further, the Plaintiff filed a request for an emergency interim measure demanding that the Court orders the Company to stop the blasting of rocks for mining activity, until the decision of this case is reached.

On 3 August 2017, the Court, together with the parties of this case went to examine the location at Phothisat cave and found the Bas-relief art images of Buddha, Shiva god, Narai god, Hermit, etc. located at the front area of the cave; and during the examination at the location, the officer of Fine Arts Department informed that according to the evidences which are the photographed pictures of the art images which were taken in B.E. 2507, B.E. 2508, B.E. 2534, B.E. 2535, B.E. 2559 and B.E. 2560, there is no traces of any changes to the art images based on comparison with those pictures. Further, the Court, together with the parties of this case, examined the area of the Company (interpleader) which was granted with Prathanabat by witnessing the rock blasting activity of the interpleader around 15.30 o’clock, standing approximately 300-400 metres from the area of blasting activity; which at the time of blasting, it made a slightly loud sound, but no vibration was detected. Later, on 8 September 2017, Court denied the Plaintiff’s request for an emergency interim measure for the Company to comply with the order of the 4th Defendant.

The 1st Defendant submitted a written statement dated 8 May 2017 to the Court, which stated that the 1st Defendant is authorized with the power to issue Prathanabat to each applicant in accordance with the Minerals Act, B.E. 2510. The 2nd Defendant submitted a written statement dated 4 May 2017 to the Court, which stated that the 2nd Defendant was assigned with the administration power from Department of Mineral Resources according to the Reorganization of Ministry, Sub-Ministry, and Department Act, B.E. 2545 and is authorized with the duty to consider the application for Prathanabat which have been submitted to the officials at the local Industry Office, and the 2nd Defendant is authorized with the power to grant Prathanabat in accordance with Section 54 of the Minerals Act, B.E. 2510; and after Prathanabat is granted, the 2nd Defendant has the duty to control, monitor and inspect that the person whom has been granted with Prathanabat, shall comply with the Minerals Act, B.E. 2510 and the conditions set forth in the annex of Prathanabat. The 3rd Defendant submitted a written statement dated 28 March 2017 to the Court, which stated that the presently, the 3rd Defendant is not authorized by the laws related to the issuance of Prathanabat, which is due to the Royal Decree on transfer of administration duty and power of the administrative agencies issued according to the Reorganization of Ministry, Sub-Ministry, and Department Act, B.E. 2545, Section 151 which transferred the said duty, power and asset to Department of Primary Industries and Mines (2nd Defendant). The Fine Arts Department also submitted a written statement dated 5 April 2017 to the Court, which stated that the Phothisat cave is deemed as ancient monument under

Section 4 of Act on ancient monuments, antiques, objects of art and national museum, B.E. 2504 and the Fine Arts Department had already announced the registration of Phothisat cave as ancient monuments in the government gazette since 6 April 1965; and the Fine Arts Department authorized the director of Regional Office of the Arts Department, No.3, Ayutthaya, with the authority to file any complaint to the inquiry officer who has authority in the area, against any wrongdoer. The statement further clarified that on 14 December 2016, the Fine Arts Department had inspected the Phothisat cave and there appeared to be no traces of any damage, nor any damage to the Bas-relief art images from Dvaravati era, e.g. images of Buddha, Narai god, Shiva god or other persons; which are in good order and it was found that the conditions of the other areas within the cave are normal without traces of any damage being caused by the mining activity of the Company.

The fact-finding procedure of the case had ended and the Court had set the first trial date to be 9 September 2020 together with submission of summary of facts from the Judge who presided over this case dated 11 August 2020 and scheduled the date of rendering the Court's decision to be on 30 September 2020.

The Court ruled that the Defendants lawfully issued Prathanabat to "Petrochemical Industry Company Limited" and in accordance with the Land Code and Minerals Act, B.E. 2510, which such Prathanabat was later transferred to the Company, which were done lawfully and legitimately; the mining activity of the Company which is the blasting of rocks according to Prathanabat and using the explosives not exceeding the rate of 130 kilograms, further, the result of vibration or compression level inspection are according to the safety standard, when compared with the standard set forth by the Ministry of Natural Resources and Environment. Additional, the Fine Arts Department also stated that according to the inspection result, there is no additional damage, the Bas-relief art images are in good condition and there is no damage to the area within the cave; thus, the Court has no reason nor cause to issue the order according to the Plaintiff's request and the Court has ruled that the case is dismissed and the Court's order relating to the emergency interim measure dated 8 September 2017 shall be revoked starting from the first day of which the appeal submission period has expired (in case there is no appeal submission) or starting from the date on which the Court has ordered its decision to accept or not accept the appeal (in case there is submission of an appeal), as the case maybe.

The Plaintiff submitted the appeal to the Court on 27 October 2020 and the Court accepted the appeal of the Plaintiff. Therefore, the Court's order dated 8 September 2017 relating to the emergency interim measure ceased to be in effect. The Court allowed the date to submit the answer to the appeal to be within 21 February 2021. The interpleader submitted the answer to the appeal on 5 February 2021. The case is pending the considering of the Supreme Court.

- 2) This case is due to the Company received permit to dig the water-well, from Mittraphap Subdistrict Administration Organization and the Company dig the water-well in the Company's own land, in order to preserve the environment and to be used for prevention of fire (the Black Case No. SorWor.2/2561). Later, on 21 June 2018, the Department of Primary Industry and Mines, Ministry of Industry, by representation of the district attorney, the Office of Attorney General (the "Plaintiff"), filed a lawsuit against the Company (the "Defendant") at the Civil Court (the "Court"), claiming the violation in mining activity with the principal amount of claim of Baht 71,566,889.42. The Plaintiff claimed that the Company conducted its shale mining unlawfully in the area in which Prathanabat for such area has not been granted, totaling 2 locations; thus, requesting that the Court to order the Company to return the shale totaling of 249,159.96 metric tons back to the original area and restore the area into its previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount of Baht 66,650,289.31 together with interest.

The Company plead in its defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence, the Plaintiff claimed that the Company conducted unlawful mining activity, however, the claim is fault, the Company did not commit any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim. The hearing was finished and the Court ordered the date to render the Court's decision to be on 24 March 2020.

On 24 March 2020, the Court ordered the Company to return the shale totaling 249,159.96 metric tons back to the original area and restore the area to its previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount of Baht 66,650,289.31 together with interest at the rate of 7.5 percent per annum on the said amount, starting from the date of the violation (28 June 2017) until the date of the complaint filing (359 days) making the interest to be Baht 4,916,600.11. Total amount of combined principal and interest is Baht 71,566,289.31. The Court also ordered that the interest on the principal amount of Baht 66,650,289.31, in the rate of 7.5 percent per annum would be paid calculating from the next day after the date of filing of the complaint until the payment is received in full together with the court fees in behalf of the Plaintiff and attorney fee of Baht 80,000.

The Company filed the appeal together with the request for delay of judgement execution on 19 August 2020.

On 20 October 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern.

The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 18 February 2022. The case is pending consideration of the Supreme Court.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 3) On 20 June 2019, Tham Phra Phothisat Temple (the "Plaintiff") filed a lawsuit against the Ministry of Industry, as 1st defendant and other related persons as co-defendants, totaling 31 persons, in a Black Case No. Sor. 17/2562, which the Company is the 30th Defendant in the lawsuit and the Plaintiff also filed request for the Court to order an emergency interim measure, until the decision of this case is reached. Later on, the Court also ordered the Committee of Professional on Environmental Impact Assessment Report (the "Committee"), as the 32nd Defendant. The Court has considered and issued the order dated 17 September 2019, to accept the complaint against some of the respondents and denied to accept the complaint against some respondents and some claims (the Court only accept the followings as defendants: Ministry of Industry, as 1st Defendant,

Minister of Ministry of Industry, as 2nd Defendant, Department of Primary Industry and Mines, as 3rd Defendant, Director-General of Department of Primary Industry and Mines, as 4th Defendant, the Company, as the 30th Defendant and the Committee, as the 32nd Defendant, respectively). The Court also issued order dated 17 September 2019 which denied the Plaintiff's request for an emergency interim measure. The Plaintiff claimed to be the authorized person from the Fine Arts Department as caretaker of the Phothisat Cave, but did not have a written power of attorney, but requested to the Court to order that the application for Prathanabat of the Company is unlawful, the Plaintiff also claimed that the resolution of the 32nd Defendant which approved the Company's Environmental Impact Assessment Report for the Company's mining activity, concealed the facts, thus, unlawful. The Plaintiff requested the Court to order the revocation of the Company's application for Prathanabat of limestone mining, in which the Company has submitted for approval.

The Defendant submitted written statement of defense which informed the Court that the Plaintiff has no authority to file the complaint and this complaint repeated the complaint filed in Black Case No. Sor.3/2560, and the Company's application for Prathanabat of limestone mining is lawful and in accordance with the rules, procedures and methods as prescribed by the laws, further, the applied area for Prathanabat is not the restricted area under the laws in respect of Mineral and Forest; and there is an Environmental Impact Assessment Report which have been prepared correctly and completely in accordance with the law in relation to Enhancement and Conservation of National Environmental Quality and law related to Mineral, for application for Prathanabat which have been submitted for approval from the authority. The application for Prathanabat is pending the consideration for approval of the authority and the Company's application for Prathanabat did not cause any damage or grievance to the Plaintiff, thus, the Defendant requested the Court to dismiss the complaint.

The Company have made and submitted the additional statement of defense to the Court on 14 January 2021, the case is under the process of the Court's fact finding procedure.

- 4) On 8 July 2015, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.4/2559) against the Company (the "Defendant") with the principle amount of claim in total of Baht 4,066,535,823. The Plaintiff later amended the complaint to increase the amount of claim to be the total of Baht 4,338,558,231.54; claiming that the Company engaged its limestone mining activity in the area outside the designated area under the Prathanabat and requested that the Company returned the limestone ore in total of 31,522,374.64 metric tons and restore the area to be in its previous condition or pay the compensation together with the 7.5 per annum interest.

The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

The case was requested to be transferred to the Environmental Law Division of the Civil Court to be jointly considered with other related cases and the Court granted the said request.

On 13 December 2019, the Civil Court ordered the Company to return the limestone ore in total of 31,522,374.26 metric tons back to the area where the mining activity was done and to restore such area to the previous condition or pay the compensation of Baht 4,047,472,854.98 together with the 7.5 percent per annum interest on the said principle amount, calculating from the discovery date of the unlawful mining activity (24 July 2014) until the date of the filing of complaint (350 days) totaling Baht 291,085,376.56 making it Baht 4,338,558,231.54 in total. The Court also ordered the Defendant to pay 7.5 percent per annum interest on the principal of Baht 4,047,472,854.98 counting from the day after the complaint filing date until the payment is made in full.

The Company filed an appeal with the request for a delay of judgement execution on 8 May 2020.

On 17 November 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company would further seek a permission for an appeal to the Supreme Court in order to object the judgement of the Court of Appeal until 17 March 2022.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines's filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 5) On 24 March 2016, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.6/2559) against the Company (the "Defendant") claiming that the Company engaged its limestone mining activity in the area outside the designated area under the Prathanabat. The complaint requested the Company to return the limestone ore of 2,447,906.76 metric tons and restore the area into the previous condition or pay the compensation of Baht 327,680,219.25 together with 7.5 percent per annum interest.

The Company plead in its defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

The case was requested to be jointly considered with other related cases and the Court granted the said request.

On 13 December 2019, the Civil Court ordered the Company to return the limestone ore for cement industry, in total of 2,477,906.76 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation of Baht 314,311,227.98 together with the 7.5 percent per annum interest, calculating from the discovery date of the unlawful mining activity (31 August 2015) until the date of the filing of complaint (207 days) totaling Baht 13,368,991.27 making it Baht 327,680,219.25 in total. The Court also ordered the Defendant to pay 7.5 percent per annum interest on the principal of Baht 314,311,227.98 counting from the day after the complaint filing date until the payment is made in full and ordered that the Defendant pay the court fees on the Plaintiff's behalf (court fee shall be calculated from the amount of claim ordered in favour of the Plaintiff) and to pay the attorney fee of Baht 100,000.

The Company filed an appeal with the request for a delay of judgement execution on 8 May 2020.

On 17 November 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company would further seek a permission for an appeal to the Supreme Court in order to object the judgement of the Court of Appeal until 17 March 2022.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

- 6) On 24 March 2016, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the Saraburi Office of District Attorney (the "Plaintiff") filed a civil lawsuit (the Black Case No. SorWor.5/2559) against the Company (the "Defendant") in the civil case claiming for compensation totaling Baht 1,671,128,829.14 stating that the Company engaged its limestone mining activity unlawfully (engaged in the mining restricted area) demanding that the ore totaling 12,484,023.50 metric tons be returned and the area be restored into its previous condition or pay the compensation together with the 7.5 percent per annum interest.

The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

On 2 August 2019, the Court ordered the Company to return the limestone for cement industry totaling 12,484,023.50 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation of Baht 1,602,948,617.40 together with the interest of 7.5 percent per annum of such amount calculating from the date of being notified of the land survey result (31 August 2015) until the date of the filing of complaint (207 days) making the interest to be Baht 68,180,211.74, making it Baht 1,671,128,829.14 in total, together with payment of 7.5 percent per annum interest on the principle amount of Baht 1,602,948,617.40 counting from the day after the complaint filing date until the payment is made in full and ordered that the Defendant pay the court fees on the Plaintiff's behalf (court fee shall be calculated from the amount of claim ordered in favour of the Plaintiff) and to pay the attorney fee of Baht 200,000.

The Company does not agree with the decision of the Court of the First Instance and filed the appeal together with the request for a delay of judgement execution on 3 December 2019. The case is pending the consideration of the Court of Appeal and the date of hearing the Court of Appeal's judgement or order was set to be on 22 September 2020, however, the said date of hearing of judgement had been postponed, due to the case is under mediation during the appeal.

- 7) On 2 March 2017, the Department of Primary Industries and Mines, Ministry of Industry by the representation of the district attorney of the Office of the Attorney General (the "Plaintiff"), filed a complaint against the Company (the "Defendant") at the Civil Court, Environmental Law Department (the Black Case No. SorWor.1/2560) with the lawsuit amount of Baht 344,882,135.15 claiming that the Company partially engaged its mining activity in the area designated in the Prathanabat unlawfully requesting that the shale totaling 1,220,559.82 metric tons be returned to the area and the area be restored into its previous condition or to pay compensation together with the 7.5 percent per annum interest.

The Company plead in its statement of defense that the Plaintiff does not have any authority to file such lawsuit according to the Enhancement and Conservation of National Environmental Quality Act B.E. 2535, the lawsuit is vague, delusive without any evidence and is already time-barred by prescription period; further, the lawsuit is a civil claim in connection with criminal offence relating to unlawful mining activity, however, the Company has not committed any criminal offence and did not infringe any rights of the Plaintiff, thus, the civil claim does not exist due to non-existence of infringement, the Company has not committed any wrongdoing according to the complaint and is not liable to any claim, therefore, the Company denied all claims under the complaint. Additionally, the Company also has, in reserve pursuant to the Prathanabat, several hundred million tons of limestone and the said reserves, if not used before the expiration of the Prathanabat, would not be usable after the expiration date, therefore, the Defendant does not have any cause or necessity to the engage in mining activity outside the designated area.

On 13 December 2019, the Civil Court ordered the Company to return the shale for cement production industry totaling 1,220,559.82 metric tons back to the area where the mining activity was done and restore such area to the previous condition or pay the compensation consisting of the value of the shale and royalty fee to the government in the amount totaling Baht 326,499,751.86 together with 7.5 percent per annum interest calculating from the date of the violation (2 June 2016) until the date of the complaint filing (274 days) making the interest to be Baht 18,382,383.29. The total amount from combining the principal and interest, is the amount of Baht 344,882,135.15. The Court also ordered that the interest on the principal amount of Baht 326,499,751.86 in the rate of 7.5 percent per annum be paid counting from the day after the complaint filing date until the payment is made in full together with the court fees in behalf of the Plaintiff and attorney fee of Baht 200,000.

The Company filed the appeal with the request for delay of judgement execution to Court on 5 June 2020. On 24 June 2021, the Civil Court pronounced the judgment of the Court of Appeal in which the Court of Appeal modified the judgment by charging interest at a rate of 5 percent per

year pursuant to the judgment of the Court of First Instance from 11 April 2021 onwards until payment to the Plaintiff in full or by making an adjustment to decrease or increase the interest in accordance with the Royal Decree enacted under newly amended Section 7 of the Civil Procedure Code plus an increasing rate of 2 percent per year but not exceeding the rate of 7.5 percent per year as requested by the Plaintiff. Other than the amendment, the judgment of Court of Appeal shall govern. There is no court cost at the appellate level.

The Company has applied for permission to lodge an appeal to the Supreme Court challenging the judgment of the Court of Appeal together with a stay of execution pending the appeal to the Supreme Court on 9 November 2021. The case is pending consideration of the Supreme Court.

The complaint of this case described that the lawsuit is a civil claim in connection with the criminal offence for the part concerning the Department of Primary Industry and Mines' filling of report to the inquiry official requesting the inquiry official to commence the criminal proceeding against the Company for unlawful mining activity without permit; and the inquiry official issued the opinion that this case shall not be prosecuted and later on, the District Attorney also concurred and issued the final order that the criminal case will not be prosecuted against the Company, thus, the criminal case is final.

Incidentally, the information regarding cases 1) - 7) above are under the consideration of the court, the above cases are not final. The Company and the legal advisors hereby opines that based on the evidence and information the Company possesses, the Company did not commit any wrongful acts against the plaintiff as detailed in the complaints; the plaintiff claimed that the defendant committed wrongful action against the plaintiff, therefore, the plaintiff has the burden of proof to prove that the defendant had committed such act as the plaintiff claimed and since the plaintiff had not presented the evidences which show that in fact, the defendant had committed wrongful act against the plaintiff, the, the court could consider to dismiss the case. However, the judgment depends on the consideration and discretion of the court. As at 31 December 2021, the outcome of lawsuit is not yet final, the Company has not recorded a provision for liability of lawsuit in the financial statements.

- 8) On 16 December 2019, individuals in total of 222 people sued Energy Regulatory Commission (ERC) et al to the Central Administrative Court which a subsidiary was listed as the 5th Defendant. The Plaintiffs requested that the approval of Environmental and Health Impact Assessment (EHIA) report for the project of 150 megawatts thermal power plant, the license to operate electricity generating business and the construction approval of the subsidiary be revoked. The Plaintiffs also requested that the Court take evidence out of Court and issued an interim measure and ordering that the electricity generating system be temporarily stopped until the final decision is reached.

On 25 December 2019, the Court inquired both Parties in considering the request for interim measure and rendered its decision on 28 January 2020 denied the request for interim measure due to the lack of reason to believe that the license to operate electricity generating business of the subsidiary is unlawful.

On 31 January 2020, the Court issued an order accepting the compliant and requesting the subsidiary to file the answer. The lawyer submitted the answer to Court on 1 July 2020. The case is under the Court consideration.

On 7 December 2020, the Court sent the objection to the answer of the 5th Defendant and requested the subsidiary to submit additional answer to the Court within the prescribed period. The subsidiary submitted the additional answer to the Court on 12 March 2021, the case is under process of preparation of the additional answer.

The subsidiary's legal consultant considered the complaint and its appendixes and hereby opines that the subsidiary lawfully and transparently received the license to operate the electricity generating business and the construction approval from the competent authorities, in accordance with the applicable laws and that the relevant public official have lawfully and honestly performed their duties without any conflict of interest in issuing the said license. The complaint of the Plaintiffs is untrue. As the case is in the preparation for answer, the subsidiary has causes to relieve itself of any liability generated from the complaint depending on the Central Administrative Court Decision. Moreover, the subsidiary has pressed charges against the 222 Plaintiffs to the Muak Lek police station, Saraburi, for taking the false information to charge the person in the Court. The case is under the investigation of the police.

For all above lawsuit, the Group's legal consultant opines that, based on the Company's evidences and information, the Company has a chance to defend itself in the court trial depending on the consideration of each courts.

39 Other

The subsidiary is a power company that produces electricity by turning community municipal solid waste to energy, which is clean and green energy. The subsidiary has participated in the Thailand Voluntary Emission Reduction Program, according to Thai standards, which is a waste management project ("T-VER"), with the Thailand Greenhouse Gas Management Organization ("TGO").

At the end of year 2021, the subsidiary registered with the TGO to apply for the reduction of greenhouse gases, which subsequently TGO has certified the reduction of greenhouse gases (carbon credit) for the subsidiary's project of 82,056 tons of carbon dioxide equivalent, and after sale of 22,530 tons of carbon dioxide equivalent, the subsidiary has the balance of 59,526 tons of carbon dioxide equivalent. The subsidiary has been registering with the Administrative Organization to further certify the reduction of greenhouse gases (carbon credit) of 709,752 tons of carbon dioxide equivalent, for the period from 1 May 2017 to 31 December 2020.

In 2021, the subsidiary used approximately 2.19 million tons of all types of waste as fuel in the subsidiary's power plants and Cement Plants of TPI Polene Public Company Limited, which can reduce greenhouse gas emissions or carbon reductions by approximately 5.08 million tons of carbon dioxide equivalent. The subsidiary is currently applying to TGO for approval for the reduction of greenhouse gases (carbon credit) for these new projects.

Attachment 1

Board of Directors and Corporate Secretary as at 31 December 2021

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE	NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING
Mr. Khantachai Vichakkhana 73 years of age -no relationship	<p>Master of Political Science, (Public Administration), Thammasat University</p> <p>Bachelor of Law, Thammasat University</p> <p>Directors Accreditation Program (DAP No.112/2014) Thai Institute of Directors (IOD)</p> <p>Role of Compensation Committee (RCC No.19/2014) Thai Institute of Directors (IOD)</p> <p>Directors Certification Program (DCP No.119/2015) Thai Institute of Directors (IOD)</p> <p>Guest Speaker Training Program Land Class 2: Department of Land (1979)</p> <p>Internal Security Operations Command Program (ISOC) : Royal Thai Army (1979)</p> <p>Advance Land Management School Program Class 3: Department of Lands (1984)</p> <p>Advance administration Program: Class 30, Institute of Administration Development, Department of Provincial Administration (1993)</p> <p>High Level Information Technology Executives (CIO) Seminar (2003)</p> <p>Political Development in Democratic Governance for Executives Program Class 8, King Prajadhipok's Institute (2004)</p>	0.00	<p>Jun 25, 2018-Present</p> <p>Jan 2016-Present</p> <p>Aug 8, 2014-Present</p> <p>2002-2008</p> <p>2000-2002</p> <p>2000</p> <p>1999-2000</p> <p>1998-1999</p> <p>1995-1998</p> <p>1992-1995</p> <p>1990-1992</p> <p>1989-1990</p> <p>1988-1989</p> <p>1986-1988</p> <p>1986</p> <p>Extracurricular</p>	<p>Chairman and Independent Director</p> <p>Independent Director</p> <p>Independent Director, Director, Audit Committee, the Nomination, Remuneration and Corporate Governance committee</p> <p>Independent Director</p> <p>Deputy Director-General</p> <p>Directors : Land Registry Standard Bureau Staff Plan & Policy Analysis (Land)</p> <p>Inspector-General</p> <p>Director of Bureau Authority Land</p> <p>Land Management Division</p> <p>Department of Important Book</p> <p>Land Officer- Chonburi</p> <p>Land Officer- Phuket</p> <p>Land Officer- Nonthaburi and Bangyai District</p> <p>Land Officer- Nakhornnayok</p> <p>Land Officer- Uttaradit</p> <p>Council Member</p> <p>Assets Management Committee</p> <p>Inquiry Committee</p> <p>Advisor</p> <p>Committee</p> <p>Committee</p> <p>Committee</p> <p>Committee</p> <p>Committee</p> <p>Committee</p> <p>Assets Management</p> <p>Committee</p>	<p>TPI Polene Plc.</p> <p>TPI Polene Power Plc.</p> <p>L.P.N. Development Plc.</p> <p>Tong Hua Holding Plc.</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Department of Lands</p> <p>Rajamangala University of Technology Bangkok</p> <p>Thai Red Cross Council</p> <p>Election Commission of Thailand</p> <p>Islamic Bank of Thailand</p> <p>Executive Public Administration Foundation (EPAF) Triamudomsuksa Alumni Foundation</p> <p>Retired Government Officials' Pension</p> <p>Association of Interior Foundation</p> <p>EPA Thammasat University</p> <p>Anan Anantakul Foundation</p> <p>Dr. Suk Pookayaporn</p> <p>Foundation Hospital & Phrapiya School Foundation</p> <p>Srisavarindhira Thai Red Cross Institute of Nursing</p>

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Mr. Prachai Leophairatana 77 years of age Younger brother of Miss Malinee Leophairatana, elder brother of Mr. Prateep Leopairut, Dr. Pramuan Leophairatana, and Mr. Prayad Liewphairatana	Honorary Doctorate Degree in Industrial Engineering , Rajamangala University of Technology Krungthep M.S. (EE) University of California (Berkeley) U.S.A. B.E. (EE) (1 st Class Hons.) University of Canterbury, New Zealand Directors Accreditation Program (DAP No.35/2005) Thai Institute of Directors (IOD)	0.00	2001-Present	Chief Executive Officer	TPI Polene Plc.
			1991-Present	Chairman	TPI Polene Power Plc.
			Jan 2016- Present	Chairman of the Management Committee	TPI Polene Power Plc.
			April 2012- Present	Director	Bangkok Union Insurance Plc.
			Oct 2019- Present	Executive Director	TPI Deep Sea Port Co., Ltd.
			Oct 2019- Present	Executive Director	TPI Polene Power (Songkhla)
			Oct 2019- Present	Executive Director	TPI Wind Power Co., Ltd.
			Oct 2019- Present	Executive Director	TPI Solar Power Co., Ltd.
			2000-2006	Chairman Executive Director	Bangkok Union Insurance Plc.
			1978-2006	Chief Executive Officer	Thai Petrochemical Industry Plc. and TPI Polene Group of Companies.
Dr. Pramuan Leophairatana 72 years of age Younger brother of Miss Malinee Leophairatana, Mr. Prachai Leophairatana and Mr. Prateep Leopairut, elder brother of Mr. Prayad Liewphairatana	M.S., SC.D. Massachusetts Institute of Technology (MIT), U.S.A. B.S. (Honors) University of California (Berkeley), U.S.A. Directors Accreditation Program (DAP- No.39/2005) Thai Institute of Directors (IOD) National Defense College No.41 and National Defense College in cooperation with the private sector No.11, King Prajadhipok's Institute	2.849	1992-2000	Senator	Parliamentary Commission
			1969-1997	Chairman	Cathay Finance & Securities Plc.
			2001-Present	President	TPI Polene Plc.
			1973-Present	Director	Leophairatana Enterprises Co., Ltd.
			1988-Present	Director	Thai Plastic Product Co., Ltd.
			1989-Present	Director	Thai Plastic Film Co., Ltd.
			1989-Present	Director	United Grain Industry Co., Ltd.
			1991-Present	Vice Chairman	TPI Polene Power Plc.
			1991-Present	Executive Director	TPI Concrete Co., Ltd.
			1997-Present	Executive Director	Bangkok Union Life Insurance Plc.
			2002-Present	Chairman	Polene Plastic Co., Ltd.
			2010-Present	Executive Director	TPI Polene Bio Organics Co., Ltd.
			Jul 2014- Present	Executive Director	Mondo Thai Co., Ltd.
			Aug 2016- Present	Executive Director	Thai Nitrate Co., Ltd.
			Oct 2019- Present	Executive Director	TPI Polene Power (Songkhla)
			Oct 2019- Present	Executive Director	TPI Solar Power Co., Ltd.
			Oct 2019- Present	Executive Director	TPI Wind Power Co., Ltd.
			Oct 2019- Present	Executive Director	TPI Deep Sea Port Co., Ltd.
			Oct 2013-Jan 2015	Executive Director	Thai Nitrate Co., Ltd.
			1996-Jul 2014	Executive Director	Mondo Thai Co., Ltd.
			1990- Aug 2013	Executive Director	Thai Nitrate Co., Ltd.
			1978-2006	Director	Thai Petrochemical Industry Plc.

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Miss Malinee Leophairatana 79 years of age Elder sister of Mr. Prachai Leophairatana, Mr. Prateep Leopairut, Dr. Pramuan Leophairatana and Mr. Prayad Liewphairatana	Master's degree in actuarial science Georgia State University, U.S.A. Bachelor of Commerce and Accounting Major in Statistics (Second Honor), Chulalongkorn University Directors Certification Program (DCP) No.22/2002 Thai Institute of Directors (IOD) Certified as Actuary under Section 78/2 of The Non-Life Insurance Act B.E.2535 as Amended by Non-Life Insurance Act(No.2), B.E.2551	0.046	April 2016- Present	Director	TPI Polene Plc.
			Jan 2016- Present	Director	TPI Polene Power Plc.
			Present	Director	Leophairatana Enterprises Co., Ltd.
			2011-Present	Chairman Executive Director	Bangkok Union Insurance Plc.
			1997-Present	Director	Bangkok Union Life Insurance Plc.
Mr. Prayad Liewphairatana 70 years of age Younger brother of Miss Malinee Leophairatana, Mr. Prachai Leophairatana, Mr. Prateep Leopairut, and Dr. Pramuan Leophairatana	M.S.C.E. University of Michigan (ANN ARBOR) U.S.A. Directors Accreditation Program (DAP- No.29/2004) Thai Institute of Directors (IOD)	3.153	1987-Present	President	TPI Polene Plc.
			1973-Present	Director	Leophairatana Enterprises Co., Ltd.
			1988-Present	President	Thai Plastic Product Co., Ltd.
			1988-Present	President	United Grain Industry Co., Ltd.
			1989-Present	President	Thai Plastic film Co., Ltd.
			1991-Present	Executive Director	TPI Polene Power Plc.
			1991-Present	Executive Director	TPI Concrete Co., Ltd.
			1996-Present	Executive Director	Mondo Thai Co., Ltd.
			1997- Present	Executive Director	Bangkok Union Life Insurance Plc.
			2002-Present	Executive Director	Polene Plastic Co., Ltd.
			Aug 2, 2016- Present	Executive Director	Thai Nitrate Co., Ltd.
			2010-Present	Executive Director	TPI Polene Bio Organics Co., Ltd.
			1981-2006	Director	International Plastic Trading Co., Ltd.

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE	NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING
Mrs. Orapin Leophairatana 74 years of age Mr. Prachai Leophairatana's wife	Political Science (2 nd Class Honors) Chulalongkorn University Directors Accreditation Program (DAP- No.35/2005) Thai Institute of Directors (IOD)	3.219	1998-2003, 2005-Present 1998-Present 2002-Present 2007-Present 2009-Present 2010-Present 2010-Present 2010-Present Jul 2014- Present Oct 2019- Present Oct 2019- Present Oct 2019- Present Oct 2019- Present Oct 2013-Jan 2015 2009- Aug 2013 2001-2011 April-Dec 1997 1986-1997 1995-1997 1995-1997 1977- 1982	Director/ Senior Executive Vice President Executive Director Executive Director Vice Chairman Executive Director Executive Director Executive Director Executive Director Executive Director Executive Director Executive Director Executive Director Executive Director Director Director Director Chairman Managing Director Third Secretary	TPI Polene Plc. TPI Concrete Co., Ltd. Polene Plastic Co., Ltd. TPI Polene Power Plc. TPI All Seasons Co., Ltd. United Grain Industry Co., Ltd. Thai Petrochemical Industry Co., Ltd. TPI Polene Bio Organics Co., Ltd. Mondo Thai Co., Ltd. TPI Polene Power (Songkhla) TPI Solar Power Co., Ltd. TPI Wind Power Co., Ltd. TPI Deep Sea Port Co., Ltd. Thai Nitrate Co., Ltd. Thai Nitrate Co., Ltd. Thai Listed Company Association Association of Finance Companies Bangkok Stock Trading Center Association of the Securities Brokerage Cathay Finance & Securities Plc. Ministry of Foreign Affairs
Mr. Supoj Singsaneai 72 years of age -no relationship	M.B.A. Finance, Michigan State University, U.S.A. Bachelor of Accounting (Honor), Thammasat University Directors Certification Program (DCP- No.90/2007) Thai Institute of Directors (IOD) The Role of Chairman Program (RCP) No.18/2008 Thai Institute of Directors (IOD) Successful Formulation & Execution of Strategy (SFE) No.4/2009 Thai Institute of Directors (IOD)	-	Jun 25, 2018- Present Apr 25, 2018- Jun 2018 Sep 15,2021- Present 2016- Present 1988- Present 2018-Present 2018-Present 1995-2015	Chairman of the Audit Committee and Independent Director Independent Director and Audit Committee Chairman Director Director Chairman and Chairman of the Audit Committee Chairman and Chairman of the Audit Committee Audit Partner and Senior Consultant	TPI Polene Plc. TPI Polene Plc. The Star Co., Ltd. Marui Real Estate Co., Ltd. Pisant Co., Ltd. Saksiam Leasing Plc. Samart Aviation Solutions Plc. KPMG Phoomchai Audit Co., Ltd.

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE	NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING
Mr. Pises Iamsakulrat 57 years of age -no relationship	Master of International Trade, Golden Gate University, U.S.A. Bachelor's degree, Business Administration, Menlo College, California, U.S.A Directors Accreditation Program (DAP- No. 140/2017) Thai Institute of Directors (IOD)	0.042	Mar 1,2018- Present 2008-Present 1987- Present 1990- Present 1995- Present 1997- Present 1997- Present 2004- Present	Independent Director and Audit Committee Director Managing Director Managing Director Vice President Director Director Managing Director	TPI Polene Plc. TPI Polene Plc. Iamsakulrat Co., Ltd. Lampang Food Products Co., Ltd. Laos Industrial-Agriculture Co., Ltd. K. Cotton & Gloss Co., Ltd. TPI Holding Co., Ltd. Maekong Inter Trade Co., Ltd.
Mr. Thavich Taychanavakul 72 years of age -no relationship	Bachelor's degree, Business Administration Kinki University, Japan National Defense College No. 366 Directors Accreditation Program (DAP- No. 6/2003) Thai Institute of Directors (IOD) Finance for Non- finance Director (FND) No.30/2006 Thai Institute of Directors (IOD)	0.001	Mar 1,2018- Present 2008- Present 2013-Present 2012-Present 2012-Present 1999- Present 1990-Present May 15,2014- Present Mar 18,2019- Present	Audit Committee Independent Director Chairman Executive Director Advisor Chairman Executive Director Chairman Executive Director Chairman Executive Director Audit Committee / Independent Director Chairman Executive Director	TPI Polene Plc. TPI Polene Plc. Mae Fah Luang University Council Thai Industrial Estate Association Hi-Tech Kabin Logistics Co., Ltd. Ayutthaya Technology Hi- Tech Center Co., Ltd. Thai Industrial Estate Co., Ltd. Bangkok Union Insurance Plc. Inter Far East Energy Corporation Plc.
Mr. Tayuth Sriyuksiri 67 years of age -no relationship	Master of Business Administration, Boston University, U.S.A. Bachelor's Degree, Engineering, Mechanic, Worcester University, U.S.A. Director Accreditation Program (DAP- No.29/2004) Thai Institute of Directors (IOD)	0.494	2008-Present 1982- Present 1994- Present 1999- Present 2005- Present	Executive Director Managing Director Director Director Director	TPI Polene Plc. K. Cotton & Gloss Co., Ltd. TPI Holding Co., Ltd. Micro Fiber Industry Co., Ltd. Hua Thai Manufacturing Plc.
Miss Tanyaratt Iamsopana 44 years of age -no relationship	Master of Science, Technical University Berlin, Germany. Bachelor's Degree, Engineering, Thammasat University Director Accreditation Program (DAP- No.58/2006) Thai Institute of Directors (IOD) The Executive Program for Young Professionals (EYP) 2/2016 Ministry of Finance	-	Present Present Present 2009-2011	Executive Director Managing Director Director Director, Property Insurance committee	TPI Polene Plc. Bangkok Union Insurance Plc. Bangkok Union Life Insurance Plc. Thai General Insurance Association

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Mr. Pakorn Leopairut 41 years of age -no relationship	Master of Public and Private Management NIDA CEDI-BABSON ENTREPRENEURIAL LEADERSHIP PROGRAM No. 1/2556 Young F.T.I Eite No. 1 The Federation Of Thai Industries Executive Development Program No.10 Ministry of Finance FPO : Forum Economic Guru Seminar No.3 Ministry of Finance Energy Executive Program No. 1 The Federation Of Thai Industries Directors Accreditation Program (DAP- No.132/2016) Thai Institute of Directors (IOD) Tisco Wealth Enhancement Program (WEP 4) No.4 (2016) The Young Executive Program in Energy Literacy for a Sustainable Future (YTEA) No.7 (2019)	4.50	2007-Present	Executive Director	TPI Polene Power Plc.
			Jan 2016- Present	Member of the Management Committee	TPI Polene Power Plc.
			Feb 2016- Present	President	TPI Polene Power Plc.
			2019- Present	Executive Director	TPI Polene Plc.
			2008- Present	Assistant Vice President	TPI Polene Plc.
			2009- Present	Executive Director	TPI All Seasons Co., ltd.
			2010- Present	Executive Director	TPI Polene Bio Organics Co., Ltd.
			2010- Present	Executive Director	TPI Service Co., ltd.
			2010- Present	Executive Director	TPI Polene Power (International) Co., Ltd.
			2014- Present	Executive Director	TPI Commercial Co., ltd.
			Jul 2015- Present	Executive Director	TPI Healthcare Co., ltd.
			Jul 2015- Present	Executive Director	TPI Refinery (1997) Co., ltd.
			2006- Present	Executive Director	Thai Petrochemical Industry Co., Ltd.
			2007- Present	Executive Director	Thai Nitrate Co., ltd.
			Oct 2019- Present	President	TPI Polene Power (Songkhla)
			Oct 2019- Present	Executive Director	TPI Solar Power Co., ltd.
			Oct 2019- Present	Executive Director	TPI Wind Power Co., ltd.
			2007-2008	Executive Director	TPI Deep Sea Port Co., ltd.
			2002-2007	Executive Director	MFC Asset Management Plc.
				Investment Analyst Supervisor	Thai Petrochemical Industry Plc.

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Mr. Pornpol Suwanamas 42 years of age -no relationship	Bachelor of Humanities, Srinakharinwirot University Master of Technology and printing / Mind and Brain Learning of Oxford Brookers University PhD. Of Buddhist theology at Wat Bowoniwet School in Bangkok Certification of No.29 Meditation instructor Course from Willpower Institute , Wat Tham Mongkol. Certification of No.13 teacher training from Willpower Institute , Wat Tham Mongkol. Intermediate Certificate Course of Political Leadership in the new era , King Prajadhipok's Institute Advanced Certificate Course in Promotion of a Peaceful Society. King Prajadhipok's Institute		2019-Present	Director	TPI Polene Plc.
			2008-Present	Director and Secretary	Mind Management Promotion Foundation under patriarchal patronage
			2008-Present	Director and Secretary	Paendin Dham Foundation under patriarchal patronage
			2010-Present		Novice promotion foundation under patriarchal patronage
			2013-Present	Director and Secretary	Rojana Dhamma Foundation
			2017-Present	Vice Chairman	The National council on social welfare of Thailand
			2018-May, 2019	Director	Ministry of Labor
			1982-Dec 20, 2019	Working Group	
			2013-Dec 20, 2019	Assistant secretary to the abbot of the Rama IX Kanchanaphisek Temple.	
			2019	Assistant Secretary to Chiang Rai Lord Abbot of Buddhist monastery	
			2018-May, 2019	-Junior of Budget Commission -Consultant of Junior of Religion Commission	Rojana Industrial Park PCL.
				-Consultant of Junior of labor commission senator	Pathumwan Demonstration School Srinakarinwirot University (primary school)
			2019	Advisor of chairman	Pathumwan Demonstration School Srinakarinwirot University (Secondary school)
				Director	Navaminthrachinuthit Bodidecha School.
				Director	Rama IX Kanchanaphisek School
					Udomsuksa School
				Monk teacher- morality course	
				Monk teacher- morality course	Kasetsart University laboratory school
				Monk teacher- morality course	Fa Sai Wittaya School
				Monk teacher- morality course	
				Special Lecturer	

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE	NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING
Dr. Virat Chatdarong 43 years of age	<ul style="list-style-type: none"> - Ph.D.Massachusetts Institute of Technology (MIT), Engineering Department of Civil and Environment - Master's degree <ol style="list-style-type: none"> 1. M.B.A Sasin, Chulalongkorn University 2. Massachusetts Institute of Technology (MIT), Engineering Department of Civil and Environment - Bachelor's degree Engineering Department Civil and Environment, Chulalongkorn University (1st Honors Gold Medal) - Business Reform and Networking Courses (BRAIN 4) The Federation of Thai Industries - The Political "Leadership new era" program, 6th generation, King Prajadhaipok's Institute - Royal Recipients Ananthamahidol Foundation Engineering - Director Accreditation Program DAP 189/2022 	0.042	2021 – Present 2009 – 2021 2009 – Present 2008 – Present 2018 – Present 2020– Present 2018 – 2020 2018 – 2020 2016 – 2018	Vice President Asst. Vice President Asst. Vice President Manager Directors and Directors Deputy Secretary- General Secretary Secretary Vice President Secretary	TPI Polene Plc. TPI Polene Plc. TPI All Seasons Co., Ltd. Rayong Forest Co., Ltd. The Federation of Thai Industries Thai Industrial Standares Industries (TISI) The International Electrotechnical Commission : IEC (The Federation of Thai Industries) Rayong Industrial Council Rayong Industrial Council
Mr. Nitisit Jongpitakrat 51 years of age -no relationship	Master of Law, Thammasat University	-	2006-Present 2011-Present 2006-2011	Secretary Asst. Vice President Department Manager	TPI Polene Plc. TPI Polene Plc. TPI Polene Plc.

Other Executives

NAME /AGE / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Mr. Prasert Ittimakin 61 years of age -no relationship	M.B.A. Finance University of St. Thomas, U.S.A. Bachelor of Accounting, Chulalongkorn University	0.00	2001-Present	Senior Vice President Accounting and Finance Division	TPI Polene Plc.
			1998-2001	Vice President Accounting and Finance Division	TPI Polene Plc.
			1990-1998	Vice President Corporate Finance Department	Asia Credit & Securities Plc.
Mr. Karan Pipitsombat 61 years of age -no relationship	Master of Public Administration (MPPM) NIDA Bachelor of Engineering, Mechanical, Chiang Mai University	0.00	2006-Present	Senior Vice President (Plant Manager)	TPI Polene Plc.
			2001-2006	Vice President (Asst. Plant Manager)	TPI Polene Plc.
Mr. Somkeart Srisuwan 62 years of age -no relationship	M.B.A. of Kasetsart Bachelor of Accounting, Chulalongkorn University	0.00	2012-Present	Senior Vice President Information Technology Division	TPI Polene Plc.
			1999-2012	Senior Manager (SVP) Office of Procurement and Administration Division	CIMB THAI Bank
			1993-1999	Senior Manager (SVP) System Development Department Division	Krung Thai Thanakit Finance Co.,Ltd.
Miss Chularat Danwattanachai 59 years of age -no relationship	M.B.A. Thammasat University	-	2001-Present	Vice President Accounting and Finance Division	TPI Polene Plc.
			1999-2001	Asst. Vice President Accounting and Finance Division	TPI Polene Plc.
			1989-1998	Asst. Vice President Corporate Finance Department	Asia Credit & Securities Plc.
Mr. Pongsak Yiengsakun 66 years of age -no relationship	Bachelor of Business Administration, Banking and Finance, Chulalongkorn University	-	2012-Present	Vice President Financial Operations Department	TPI Polene Plc.
			2001-2012	Asst. Vice President Financial Operations Department	TPI Polene Plc.
			1992-2001	Manager of Finance Department	TPI Polene Plc.
Mrs. Bussara Ketmancee 57 years of age -no relationship	Bachelor of Accounting, Ramkhamhaeng University	-	2018-Present	Asst. Vice President Accounting Department	TPI Polene Plc.
			2012-2018	Manager of Accounting Department	TPI Polene Plc.
			1987-1997	Manager of Accounting Department	Cathay Finance & Securities Plc.

Remarks: * Percentage of shareholding above includes shares held by spouses and offspring.

Attachment 2

Positions of the Management and Controlling Persons over the Company, its Subsidiaries, the Joint Venture Company, Associated Companies and other related Companies as at 31 December 2021.

Name	TPI Polene	The Affiliated Company 2/																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Mr. Prachai Leophairatana	//	//X	//X	//X	//X	//X	//X	//X	//	//X	-	//X	//X	//X	//X	//X	//X	//X
2. Dr. Pramuan Leophairatana	//	//	//	//	//	//	//	//	//	//	//X	//	//	-	//	//	-	//
3. Mr. Prayad Liewphairatana	//	//	//	//	//	//	//	//	//	//	//	//	//	-	//	//	-	//
4. Mrs. Orapin Leophairatana	//	//	-	//	//	//	//	//	-	//	-	//	//	//	//	//	//	//
5. Mr. Pisej Iamsakulrat	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6. Mr. Thavich Taychanavakul	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7. Mr. Tayuth Sriyusiri	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8. Mr. Khantachai Vichakkhana	/X	-	-	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9. Miss Malinee Leophairatana	/	-	-	/	-	-	-	-	/	-	//	//	//	-	-	-	-	-
10. Mr. Supoj Singsanei	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11. Mr. Pakorn Leopairut	//	//	//	//	//	//	//	//	-	-	-	//	//	//	//	//	//	//
12. Mr. Pornpol Suwanamas	/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13. Miss Tanyaratt Iamsopana	//	-	-	-	-	-	-	-	-	-	/	-	-	-	-	-	-	-
14. Dr. Virat Chatdarong	/	-	-	-	//	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks: 1/ / = Director X = Chairman // = Executive Director
2/ Names of the Companies

No.	The Affiliated Company	Status
1	TPI Concrete Co., Ltd.	Subsidiary company
2	Thai Propoxide Co., Ltd.	Subsidiary company
3	TPI Polene Power Plc.	Subsidiary company
4	TPI All Seasons Co., Ltd.	Subsidiary company
5	Polene Plastic Co., Ltd.	Subsidiary company
6	TPI Polene Bio Organics Co., Ltd.	Subsidiary company
7	Thai Nitrate Co., Ltd.	Subsidiary company
8	Thai Special Steel Plc.	Associated company
9	Mondo Thai Co., Ltd.	Subsidiary company
10	Bangkok Union Life Insurance Plc.	Associated company
11	United Grain Industry Co., Ltd.	Associated company
12	Pornchai Enterprises Co., Ltd.	Related company
13	TPI Commercial Co., Ltd.	Subsidiary company
14	TPI Service Co., Ltd.	Subsidiary company
15	TPI Healthcare Co., Ltd.	Subsidiary company
16	Master Achieve (Thailand) Co., Ltd.	Subsidiary company
17	TPI Bio Pharmaceuticals Co., Ltd.	Subsidiary company

The Board of Directors – TPI Concrete Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Dr. Pramuan Leophairatana	Director
3. Mr. Prayad Liewphairatana	Director
4. Mrs. Orapin Leophairatana	Director
5. Mr. Panya Tangsingtrong	Director
6. Mr. Pakorn Leopairut	Director

The Board of Directors – TPI Polene Power Plc. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Dr. Pramuan Leophairatana	Vice Chairman
3. Mrs. Orapin Leophairatana	Vice Chairman
4. Mr. Prayad Liewphairatana	Director
5. Mr. Pakorn Leopairut	Director
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakkapol Leopairut	Director
8. Miss Nitawan Leophairatana	Director
9. Mr. Manue Leohairoj	Director
10. Mr. Thiraphong Vikitset	Director
11. Mr. Apichai Chantarasaen	Director
12. Mr. Khantachai Vichakkhana	Director
13. Miss Malinee Leophairatana	Director
14. Mr. Wanchai Manosutthi	Director
15. Mr. Porakrit Leophairatana	Director

The Board of Directors–TPI Polene Bio Organics Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director

Name	Position
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakorn Leopairut	Director
8. Mr. Pakkapol Leopairut	Director
9. Mrs. Achira Chatdarong	Director
10. Mrs. Nitawan Leophairatana	Director
11. Mr. Thanakorn Liewphairatana	Director
12. Miss Chutinan Liewphairatana	Director
13. Mr. Vipot Kotbua	Director
14. Mr. Pakpoom Thongsorn	Director

The Board of Directors – TPI All Seasons Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Mr. Panya Tangsingtrong	Director
7. Mr. Pakorn Leopairut	Director
8. Mrs. Nitawan Leophairatana	Director
9. Mrs. Achira Chatdarong	Director
10. Mr. Virat Chatdarong	Director
11. Mr. Porakrit Leophairatana	Director

The Board of Directors – Mondo Thai Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director

The Board of Directors – TPI Commercial Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mrs. Orapin Leophairatana	Director
3. Mr. Pakorn Leopairut	Director
4. Miss Pattrapan Leopairut	Director
5. Mr. Pakkapol Leopairut	Director
6. Mrs. Achira Chatdarong	Director
7. Mrs. Nitawan Leophairatana	Director
8. Mr. Thanakorn Liewphairatana	Director
9. Miss Chutinan Liewphairatana	Director
10. Mr. Prasert Ittimakin	Director
11. Mr. Vipot Kotbua	Director
12. Mr. Pakpoom Thongsorn	Director
13. Mr. Chairat Kittithorn	Director

The Board of Directors – TPI Service Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Mr. Pakorn Leopairut	Director
7. Mr. Pakkapol Leopairut	Director
8. Mrs. Achira Chatdarong	Director
9. Mrs. Nitawan Leophairatana	Director
10. Mr. Thanakorn Liewphairatana	Director

The Board of Directors – Thai Nitrate Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Dr. Pramuan Leophairatana	Director
3. Mr. Prayad Liewphairatana	Director
4. Mrs. Orapin Leophairatana	Director
5. Mr. Pakorn Leopairut	Director
6. Mr. Pakkapol Leopairut	Director

The Board of Directors – Master Achieve (Thailand) Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mrs. Orapin Leophairatana	Director
3. Mr. Pakorn Leopairut	Director
4. Mr. Pakkapol Leopairut	Director
5. Mrs. Achira Chatdarong	Director
6. Mrs. Nitawan Leophairatana	Director
7. Miss Pattrapan Leopairut	Director
8. Mr. Thanakorn Liewphairatana	Director
9. Miss Chutinan Liewphairatana	Director

The Board of Directors – TPI Bio Pharmaceuticals Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakorn Leopairut	Director
8. Mr. Pakkapol Leopairut	Director
9. Mr. Thanakorn Liewphairatana	Director
10. Miss Chutinan Liewphairatana	Director
11. Mr. Porakrit Leophairatana	Director

The Board of Directors – TPI Healthcare Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakorn Leopairut	Director
8. Mrs. Nitawan Leophairatana	Director
9. Mr. Pakkapol Leopairut	Director
10. Mr. Porakrit Leophairatana	Director

The Board of Directors – Thai Propoxide Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakorn Leopairut	Director
8. Mr. Pakkapol Leopairut	Director
9. Mr. Thanakorn Liewphairatana	Director
10. Miss Chutinan Liewphairatana	Director

The Board of Directors – Polene Plastic Co., Ltd. as at 31 December 2021

Name	Position
1. Mr. Prachai Leophairatana	Chairman
2. Mr. Prateep Leopairut	Director
3. Dr. Pramuan Leophairatana	Director
4. Mr. Prayad Liewphairatana	Director
5. Mrs. Orapin Leophairatana	Director
6. Miss Pattrapan Leopairut	Director
7. Mr. Pakorn Leopairut	Director
8. Mr. Pakkapol Leopairut	Director
9. Mr. Thanakorn Liewphairatana	Director
10. Miss Chutinan Liewphairatana	Director

Attachment 3

Detail of Internal Audit Manager as at 31 December 2021

NAME / FAMILY RELATION AMONG DIRECTORS & EXECUTIVES	EDUCATIONAL BACKGROUND/ TRAINING	%SHARE HOLDING*	WORK EXPERIENCE		
			DURATION	POSITION	COMPANY/ BUSINESS
Mr. Somchai Kitpipit -no relationship	M.B.A. Business Law Ramkhamhaeng University	0.00	2006-Present	Asst. Vice President Internal Audit Department	TPI Polene Plc.
	Bachelor of Business Administration (Accounting), Ramkhamhaeng University		1992-2006	Internal Audit Manager Internal Audit Department	Agro Industry business, Securities business, Petrochemical business, Cement business, Printing equipment business.
	Tax Auditor				

Courses Training for Internal Audit Manager

No.	Courses Training	Period	Training Companies
1	Covid-19 Tax Update and Accounting Standards 2021	December 18-19, 2021	Tax Auditor's Association
2	Anti-corruption	April 9, 2021	TPIPL Personnel Development and Training Department
3	Personal Data Protection Act B.E. 2562 (2019)	September 25, 2020	TPIPL Personnel Development and Training Department
4	Land and Property taxes, accounting for investment properties, as well as updating new legal regulation	November 21-22, 2020	Kritsomboon Training and Seminar Co., Ltd. with the approval of the Federation of Accounting Professions and the Revenue Department.
5	Ongoing operations, Financial instruments and update legal regulation	November 23-24, 2019	Kritsomboon Training and Seminar Co., Ltd. with the approval of the Federation of Accounting Professions and the Revenue Department.
6	Internal control and internal control assessment	May 29-30, 2019	Professional Internal Audit Service (PIAS)

Attachment 4

Assets used in the business operations and details of the appraisal of the assets as at December 31, 2021

Details of the assets used in the business operations and list of the asset appraisal are detailed in the Annual Report 2021 (Form 56-1 One Report), Section 1, Structure and Operation of the Group of Company, Section 4: Assets Used in Business Operation.

Attachment 5

Policies and Guidelines for Good Corporate Governance and Business Ethics: Full Version

Policies and Guidelines for Good Corporate Governance and Code of Conduct: Full Version. The Company discloses such information on its website, <https://www.tpipolene.co.th/th/aboutus/code-of-conduct-th>

Attachment 6

Audit Committee's Report for 2021

To: Shareholders:

Dear Sirs,

The Audit Committee of TPI Polene Public Company Limited consists of four independent directors, who are all qualified with knowledge of finance, law and management administration: namely, Mr. Supoj Singsaneai as the Chairman of the Audit Committee; Mr. Pises Iamsakulrat and Mr. Thavich Taychanavakul and Mr. Pornpol Suwanamas, as Audit Committee members; with Mr. Nitisit Jongpitakrat, the Corporate Secretary, as Secretary to the Audit Committee. All Audit Committee members possess appropriate qualifications and are, in all aspects, in compliance with the rules and regulations imposed by the Stock Exchange of Thailand.

The Audit Committee has fully performed its duties and responsibilities to review and evaluate internal control systems, disclosure of Company information, and to review implementation of the provisions of related governing laws, as well as any other important tasks, such as ESG principles to be in line with the Sustainability Report., etc. In 2021, the Audit Committee convened 5 meetings as follows:-

1. To review and to evaluate internal control systems

The Company and its subsidiaries have appropriate internal control systems and have operated the business efficiently and effectively under appropriate and sufficient internal controls, as supported by the operational performance report. The Company and its subsidiaries have internal controls and risk management systems that can protect against potential risks to the Company and to all related parties. The systems are in place to ensure that any mistakes and irregularities will be identified in due course; and that financial reports are accurate, adequate and reliable; and the assets used by the Company and its subsidiaries, benefit all parties as well as shareholders. In addition, TPI Polene group adheres to Environmental, Social and Governance (ESG) criteria, (Environmental, Social, Corporate Governance), by embracing the Bio Circular Green Economy as a sustainable business model under the standards of good corporate governance as follows:-

Environmental Dimension: regarding the use of materials, energy, waste water, pollution, waste, environmental practices, transportation and land degradation, contamination and soil restoration, with development into low-carbon societies targeting Net Zero GHG Emission, using waste fuel instead of coal, improve production efficiency to save energy, with an adherence to circular economy, to recycle waste from one plant as raw materials or fuel of another, aiming to zero waste, develop green manufacturing technology and innovation, using process automation system to control the production and unloading of cargos to be efficient, construct rainwater reservoirs to replace natural water sources, including recycle wastewater for reuse, conserve mining areas by co-planting forests, improve scenery and get rid of covid-19 contamination waste.

Social Dimension: regarding occupational health and safety, training and education, non-discrimination, non-child labor, labor criteria and forced labor, Security Practices, Human Rights Assessment, Customer health and safety, customer satisfaction, product and service label, data security, social and economic practices and products and services, to be in compliance with labor laws and labor relations, respect human rights principles and personal information of employees, suppliers, contractors and create a good environment in the workplace with properly Occupational Health and Safety, training and developing skills for personnel and provides opportunities to progress with indiscriminate, provide scholarships to children of employees, conduct customer relationship activities with focusing launching green products, deliver quality products of standard quality that display complete label and conduct business with trade partners in accordance with the agreements in the Partner Code of Conduct.

Governance Dimension: regarding Economic Performance, anti- corruption policy, use technology and innovation to develop products and services and R&D to top up business with compliance with relevant regulations and transparency against corruption, under technology and innovation advancement to drive the organization while focusing on effective management with research and development results to create value added to the products, seek high return on investments and mitigate all-round risks including risk associated from climate change.

In carrying out duties and responsibilities, the Company has embraced Four Rddhippada : Basic For Success 4 and a commitment to creating a balanced happiness with a sustainable quality of life under the principles of Brahma-vihara or Four sublime states of mind and Four Noble Truths, the Heart of Buddhism (Ariyatham to the Cessation or Extinction of Suffering), which have been taught by the Buddha and has embraced the Code of Conduct as a policy for all employees to follow, by emphasizing the balanced consideration of all related parties, fair treatment to all parties concerned, including shareholders, suppliers, and contractors. The Company also fosters the development of all our staff to expand their knowledge so as to become a knowledge organization. This will further enhance our long-term development and create sustainable growth for the Company.

2. To review the disclosure of all relevant information for investors.

The Company has a policy of disclosing all relevant information for investors, such as connected transactions and any other transactions that might affect the interests of related parties. The Company always discloses accurate, reliable and relevant information on a timely basis.

3. To review and to ensure that the Company performs in compliance with all regulations and related governing laws.

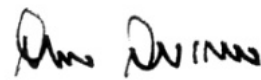
The Company has a clear policy to comply with all regulations and related governing laws, and codes of conduct, to protect against the use of insider information. As announced in the Company's Rules and Regulations, any misuse of internal information shall be subject to disciplinary action, including dismissal. The Company supervises submission by the Management of reports of their shareholding in the Company to comply with related governing laws. The Company realizes the importance of information disclosure, including financial statements and other reports, and ensures that they are complete, accurate, reliable and timely.

4. To select, nominate, and propose the remuneration of the statutory auditors of the Company for the year 2022.

The Audit Committee has taken into consideration the independence, performance, experience and an appropriate remuneration of auditors. The Audit Committee has passed a unanimous resolution to propose to the Company's Board of Directors for consideration and to propose to the shareholders' meeting to consider and approve the appointment of Mr. Ekkasit Chuthamsathit, CPA registration no. 4195 or Mr. Boonyarit Thanormcharoen, CPA registration no. 7900 or Mr. Natthapongse Thantijatthanond, CPA registration no. 8829, KPMG Phoomchai Audit Limited, or Miss Thanyalux Keadkaew, CPA registration no. 8179, to be the statutory auditors of the Company for the year 2022.

The Audit Committee considers that in the previous year, the Board of Directors as well as the Management of the Company, was in complete compliance with the principles of good corporate governance with an adherence to the importance of sustainable business management. They performed their duties and responsibilities ethically, with integrity, and in a professional manner, to achieve the objectives of the Company. In addition, a product quality system, in compliance with international standards and applicable laws, has been developed. The Audit Committee recognizes that the Company is committed to social and environmental responsibility. The Company has also prepared financial reports in compliance with generally accepted accounting principles, with an adequate disclosure of information, internal control and audit systems, and is able to ensure product quality and good corporate governance, without any material deficiencies.

On behalf of the Audit Committee,



Mr. Supoj Singsane
Chairman of the Audit Committee

Attachment 6

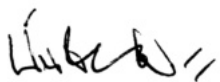
Report of the Board of Directors' Responsibilities for Financial Statements

The Board of Directors of the Company are aware of their duties and responsibilities to ensure that the financial reports of the Company and its subsidiaries are accurate, complete, and transparent, and are prepared in compliance with generally accepted accounting principles and reflect the application of an appropriate and consistent accounting policy. Such reports must be prepared prudently and on a reasonable basis and must reflect the Company's financial position and operational performance fairly and precisely for the benefit of shareholders and general investors.

In this regard, the Board of Directors have entrusted an Independent Audit Committee to be responsible for the review of accounting policy and financial reports, internal controls, internal audit and risk management systems. Comments on these issues have been included in the Audit Committee Report, which thereby forms a part of this Annual Report.

The Board of Directors are of the opinion that the overall internal control systems of the Company and its subsidiaries have functioned satisfactorily and credibly to ensure that the financial statements of the Company and its subsidiaries present financial positions, operational results and financial cash flow which are accurate and reliable in all material aspects.

Sincerely Yours,



Mr. Khantchai Vichakkana
Chairman of the Board



Mr. Prachai Leopairatana
Chief Executive Officer



TPI POLENE Public Company Limited

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