



# TPI Polene Public Company Limited

## SET Opportunity Day 2Q 2024



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# Topics

**Background**  
**Review on 2Q-1H 2024**  
**Trends and Outlook**  
**ESG and Sustainability**

# Key Assets and Features

## Construction Materials

- **Cement** - 4 lines totaling 10.8m tons clinker capacity (13.5m tons cement basis)
  - Largest single location Cement plant with **unmatchable cost advantage** due to scale
  - First **pioneer on Green Cement** path with using MSW as Fuel
- **Mortar** - 4 plants with 3m tons capacity
  - **Largest mortar producer** in Thailand
- **Ready Mix Concrete & Light Weight Concrete**
  - Leading with 3.9 million cubic meters RMC and 300K cubic meters LWC capacity
- **Concrete Roof Tiles**- 4m sq. meters or 45m pieces
  - customized with roofing system, **heat-resistant coating** etc.
- **Fiber Cement**- 380,000 tons capacity
  - Environmentally friendly and asbestos-free and **confirming international standards**, comprising of board sheets, **substitute for wood product category**, digital board and wall & floor decoration
- **Pyrolysis & WTE-MSW** – 14,400 tpd
- **Adhesives-Paints**

## Specialty Polymers/Chemical Segment

- **Specialty Polymers** – 158,000 tons capacity
  - HVA, customized with in-house proven R&D
- **EVA Emulsion & Powder** – 25,000 tons capacity
  - HVA, customized with in-house proven R&D
- **Nitrate**- 92,700 tons Ammonium Nitrate & 21,750 tons Nitric Acid for quarrying and cleaning solution for hi-tech gadgets, respectively. Subsidiary, Thai Nitrate, is the only nitrate producer in Thailand
- **Solar Sheets** - 10 lines with 20,100 tons capacity
  - Marketed under leading trade Names Polene Solar® and Vistasolar®
- **Agriculture**
  - **Bio Organic** fertilizer and compounds for Plants
  - Probiotic & Product for Livestock Farming and Aquaculture
- **Wellness & Healthcare Products**
  - Bio Knox – **natural calcium & Vitamin C**
  - Bio San –**suppresses** pathogenic bacteria, viruses & Bad smell in the toilets
  - Printemp Marie Rose Mouthwash **kills** Viruses and Bacteria
  - EESY Clean
- **Other Promising ventures**
  - All Solid and Liquid waste disposal
  - Drinking water, Packaging & Insurance

## Energy & Utilities

- **Current capacity 440 MW:** >65% Green power and target to **100% green by end 2025**
- **Alternative Fuels MSW Power Plant – 250 MW**
  - Largest in Thailand
  - 15 pre-sorting facilities in key provinces
  - Nine new sorting facilities under construction
- **Waste Heat Recovery Power Plant - 40 MW**
- **Coal/MSW Power Plant – 150 MW**
  - Target 100% MSW by 2025; 1 broiler COD 8/24
- **MSW power plant projects in two provinces** (under implementation)
- **Solar Farm – 73.216 MWdc** (61.226 MWac basis). Full COD June 2025. PPA signed (*update*)
- **5 MW solar roof capacity** (*update*)
- **Wind Farm – 5 MW** (*under technical review*)
- **Owns over 15,000 rai of land in strategic locations** across the country that can accommodate **up to 4,000 MW solar farms**
- **Petrol and Gas stations** - 8 petrol, 1 gas and 3 combo-petrol and gas stations

# Comprehensive and diversified product suite



> 5,000 SKUs

## WE BUILD THE SUSTAINABILITY FUTURE

TPI Polene's policy is to manufacture high-quality products and cement that meet our customers' expectations and continuously improve our quality-control process.



**Cement Products**



**TPI Plastic Products**



**TPI Polene Power**



**Concrete Roof Tile and Fiber Cement**



**TPI Super Special Armour Nano Paint**



**TPI Healthcare Products**



**TPI Agricultural Products**



**TPI Livestock Products**



**TPI Aquaculture Products**

# Focus 2024: Green Cement & Building Products\*

TGO Certified

**TIPL** ได้รับการรับรองเครื่องหมาย  
**คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์**  
 (Carbon Footprint of Product - CFP) มาตรฐาน Business to Customer (B2C)  
 ครอบคลุมการบริการตั้งแต่การให้คำปรึกษาจนถึง (ดูแล) การขนส่ง  
 ทั่วประเทศ 20 ผลิตภัณฑ์

5		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Super Portland Cement (Bag) 40 kg	40.4 kgCO <sub>2</sub> e	
6		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Portland Cement Type 3 (Bag) 50 kg	50.1 kgCO <sub>2</sub> e	
7		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Mixed Cement 50 kg (Bag) 50 kg	34.6 kgCO <sub>2</sub> e	
8		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Mixed Cement 25 kg (Bag) 25 kg	34.6 kgCO <sub>2</sub> e	

1		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ Hydraulic Cement Type 00 (TIPL Bag) 25kg (Bag) 50 kg	47.2 kgCO <sub>2</sub> e	
2		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ Hydraulic Cement Type 00 (TIPL Bag) 25kg (Bag) 1 ton	889 kgCO <sub>2</sub> e	
3		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Portland Cement Type 1 (Bag) 50 kg	50.7 kgCO <sub>2</sub> e	
4		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Portland Cement 1 ton	50.7 kgCO <sub>2</sub> e	

9		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Mixed Cement (Bag) 50 kg	37.9 kgCO <sub>2</sub> e	
10		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Super Mixed Cement (Bag) 40 kg	30.1 kgCO <sub>2</sub> e	
11		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ Adhesive Mortar for Flooring General Use M200 (Bag) 20 kg	7.03 kgCO <sub>2</sub> e	
12		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ Adhesive Mortar for Flooring General Use M200 (Bag) 50 kg	7.03 kgCO <sub>2</sub> e	

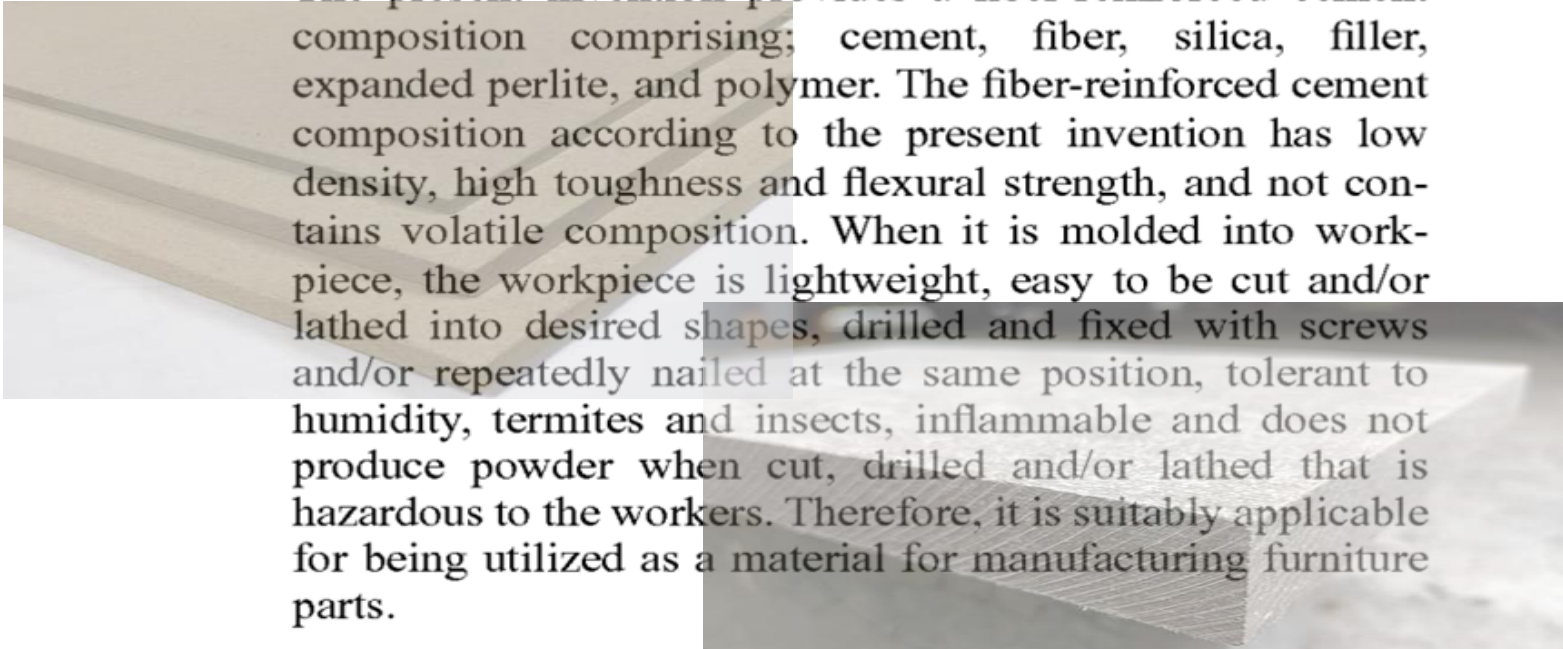
13		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Floor Board M200 (Bag) 50 kg	14.5 kgCO <sub>2</sub> e	
14		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Floor Board M200 (Bag) 50 kg	11.8 kgCO <sub>2</sub> e	
15		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL General Flooring Mortar M200 (Bag) 50 kg	13.1 kgCO <sub>2</sub> e	
16		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL General Mortar	13.1 kgCO <sub>2</sub> e	

17		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ Light Weight Block for Ceiling (Bag) 20 kg	10.9 kgCO <sub>2</sub> e	
18		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Lightweight Block Masonry Mortar M200 (Bag) 50 kg	16.1 kgCO <sub>2</sub> e	
19		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Lightweight Block Masonry Mortar M200 (Bag) 50 kg	13.9 kgCO <sub>2</sub> e	
20		คาร์บอนฟุตพริ้นท์ของผลิตภัณฑ์ TIPL Masonry Mortar	13.9 kgCO <sub>2</sub> e	

\* Official launch June 2023

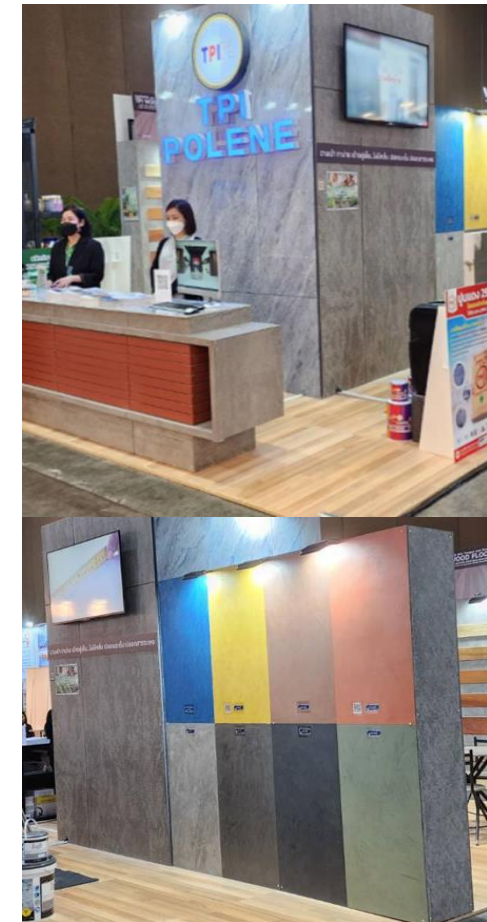
# Focus 2024: Reinforced Fibre Cement – Newly Patented Product

**Patent US 11 739 026 B2 Lightweight Fiber-Reinforced Cement Material**  
29-Aug-23



The present invention provides a fiber-reinforced cement composition comprising; cement, fiber, silica, filler, expanded perlite, and polymer. The fiber-reinforced cement composition according to the present invention has low density, high toughness and flexural strength, and not contains volatile composition. When it is molded into work-piece, the workpiece is lightweight, easy to be cut and/or lathed into desired shapes, drilled and fixed with screws and/or repeatedly nailed at the same position, tolerant to humidity, termites and insects, inflammable and does not produce powder when cut, drilled and/or lathed that is hazardous to the workers. Therefore, it is suitably applicable for being utilized as a material for manufacturing furniture parts.

The innovative products, could help TPIPL penetrate a wider market. According to IndustryARC's latest market research the fiber cement market is forecast to grow 6.2% pa reaching USD16.81 billion by 2030. [Link: https://lnkd.in/g/gh9vdUBq](https://lnkd.in/g/gh9vdUBq)



# Focus 2024: Bio-organics and Bio-synthetics – Sustainable Agriculture

**VENDOR VIEW POINT**

[www.agribusinessreview.com](http://www.agribusinessreview.com)

**BIO-ORGANICS & BIO-SYNTHETICS: A STEP CLOSER TO REGENERATIVE AGRICULTURE**

**TPI Bio-Organics Agricultural Products**  
For plants and animals

**Stop Global Warming, Improve Quality of Food, Support Farmers with TPI Bio-Organics**

TPI Polene Bio Pharmaceutical is among the few companies in the world capable of halting Foot & Mouth Disease (FMD) & African Swine Fever (ASF) in pigs, Early Mortality Syndrome (EMS) in shrimps, and Avian Influenza (AI) in poultry; ALL antibiotic free

TPI animal probiotics - Disease-free, Chemical-free, Antibiotic-free – Promoting quality of life in animals

**TPI Wood Vinegar**  
The only organic product in the world that can prevent and eradicate fungi, aphids, larvae, and insects, without need for insecticides, and can free plants from pests.  
Keeps plants robust, the efficiency to absorb nutrients and solar energy is greatly increased.  
Highly concentrated formula with added leaf adhesion agents for higher efficiency.  
Suitable for use in residential buildings.  
Does not contain toxic substances.

**TPI Purple Fertilizer**  
Contains phytonutrients - azox, gibberellin and cytokinin.  
Accelerates Plant Growth, Boost Foliage, Induce Flowering and Fruiting rising plant yield.  
Plant growth hormones.  
Aids in nutrient assimilation.  
Boosts yield and quality.  
Extracted from natural, organic substances.

**TPI Green Fertilizer**  
Contains plant growth hormones azox, gibberellin & cytokinin.  
Formula for soil enhancement, increasing plant nutrients extracted from natural organic substances.  
Enhances root, uptake get balance, helps restore healthy and fertile soil with organic matter.  
Increases plant's nutrient absorption.  
Facilitates the creation of beneficial soil microorganisms.  
Extracted from natural, organic substances.

**Tham Khang khao bio-organic fertilizer**  
Enhance the quality of nutrients in the soil.  
Provides comprehensive plant nutrients - essential secondary and trace elements.  
Arid soil conditions in hot, dry and moist, with water shortage.  
Promotes growth of roots.  
Promotes sturdy stems and branches especially among fruit trees.

**TPI Hoof Guard**  
Eliminates external parasites from livestock farms.  
Protects livestock parasite insects such as ticks and mites.  
Parasite control specifically for animal husbandry.

**TPI Bio Pets**  
Produced from natural organic ingredients.  
Safe for both humans and animal.  
Keeps control undesirable odors in livestock.

**TPI Yellow Powder**  
Dry powder form for easy application.  
Sprinkle on woods to prevent infestation.  
Acts as a deterrent against insects laying eggs in the woods.  
Reduces inflammation of tissues, promoting quick drying and healing.

**TPI Synbiotics and Probiotics**  
Immunity boosters for on animals, growth accelerator, promoting body waste elimination.  
Accelerates animal growth, strength and vigor via high feed conversion ratio.  
Improved nutrient absorption.  
Boosts immune defenses, guarding against various infections.  
Indigenous microorganisms work more effectively than imported ones.  
Reducing odor and smells in the farm.  
Enhances appetite, less digestive discomfort.  
Decreases reliance on antibiotics and growth-promoting formulations.

**TPI Bio San**  
Biological monitor for odor control in livestock farm.  
Eliminates odors, safe, and residue-free.  
A natural, environmentally friendly product.  
Free from harmful chemicals.  
Safe for humans and animals.

**TPI Microme Knox**  
Protects and eliminates virulent bacteria and viruses that can cause epidemic.  
Accelerates the healing of wounds in animals.  
One of the few products in the world that can suppress avian influenza, ASF, and various bacterial infection.  
Effective against PRRS - porcine reproductive & respiratory syndrome.  
Effective against ASF (African Swine Fever) in pigs and FMD (Foot & Mouth Disease) in cloven-hoofed animals.  
Guards against and eradicates bacteria that cause diseases in poultry such as Avian Influenza, Esol Cholera, Infectious Bronchitis and Pullorum.

**Bio DOLOMITE**  
A supplementary mineral for terrestrial animals.

**Natu Piglet**  
Powder to absorb moisture in piglet.

**Natu Pub**  
Mixed in poultry feeds for additional source of minerals.

**Natu Chick**  
Neutralizes odors from animal waste and smelt pollutants in the farm.

If TPIPL can grow in the market:

\* High profit potential as this is largely byproduct

\* Highly scale-able as utilization rate is below 20%



# EBITDA margin comparable to peers; valuation cheaper

## Local peer comparison: EBITDA margin

	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24
<b>ConsMat</b>										
Peer 1	12.0%	9.8%	7.7%	4.0%	9.5%	9.9%	8.0%	9.0%	17.0%	3.0%
Peer 2	22.0%	25.0%	13.0%	7.0%	15.2%	15.4%	18.0%	24.5%	24.0%	22.0%
<b>TPI Polene</b>	<b>13.0%</b>	<b>19.3%</b>	<b>10.3%</b>	<b>8.7%</b>	<b>5.2%</b>	<b>11.7%</b>	<b>17.4%</b>	<b>9.1%</b>	<b>22.7%</b>	<b>17.9%</b>
<b>Petrochemical</b>										
Peer 1 - operating only	6.7%	2.0%	3.4%	-2.9%	5.2%	3.0%	5.0%	1.0%	3.0%	3.0%
Peer 2 - polymers & chemicals	5.0%	9.0%	10.0%	0.0%	8.0%	3.0%	10.0%	5.0%	8.0%	5.0%
Peer 3 ** - value added PE	19.6%	17.3%	15.4%	20.0%	16.9%	19.8%	18.2%	18.0%	13.3%	17.0%
<b>TPI Polene *</b>	<b>36.0%</b>	<b>41.4%</b>	<b>46.0%</b>	<b>28.0%</b>	<b>26.0%</b>	<b>28.8%</b>	<b>28.3%</b>	<b>14.5%</b>	<b>16.5%</b>	<b>26.4%</b>

\* Includes Nitrate \*\* Value Added PE, FY ends March so 2Q corresponds to 1Q of peers.

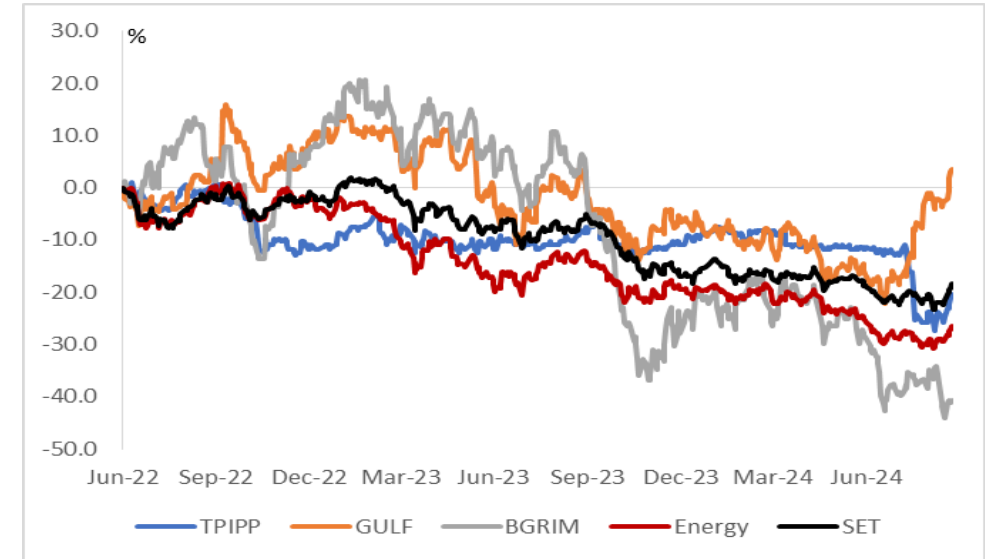
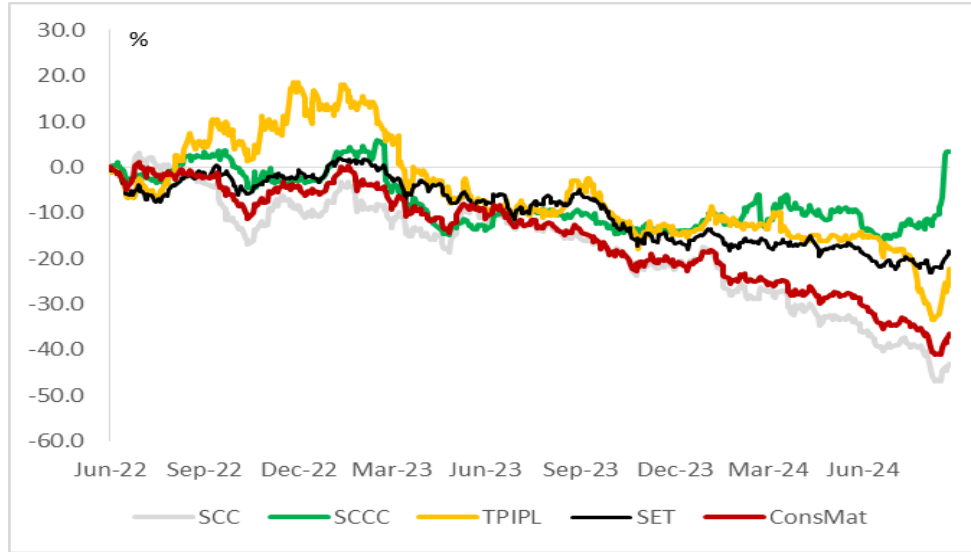
## Valuation – TPIPL/TPIPP market value not reflecting the better than peers' EBITDA margin

Bloomberg code	Mkt cap (USDm)	Price (THB)	Avg T/O Mn Shrs	TP (THB)	Upside (%)	EPS grw. (%)	P/E (x)	P/B (x)	ROE (%)	Div yld (%)					
						24E	25E	24E	25E	24E	25E	24E	25E	24E	25E
SCC TB	8,336	211.00	1.7	240.00	13.7	11.0	82.0	17.1	9.4	0.7	0.6	4.0	7.1	3.3	5.2
SCCC TB	1,378	158.50	1.5	180.00	13.6	45.6	8.2	12.4	11.4	1.4	1.3	11.5	11.7	6.9	6.9
PTTGC TB	3,323	25.25	17.2	33.00	30.7	-392.3	41.0	19.1	13.5	0.4	0.4	2.0	2.8	2.6	2.2
EPG TB*	363	4.44	2.5	7.80	75.7	13.9	8.1	8.9	8.2	1.0	0.9	9.8	9.5	5.8	7.3
<b>TPIPL TB</b>	<b>691</b>	<b>1.25</b>	<b>8.2</b>	<b>1.70</b>	<b>36.0</b>	<b>2.1</b>	<b>-1.4</b>	<b>7.4</b>	<b>7.5</b>	<b>0.4</b>	<b>0.4</b>	<b>5.8</b>	<b>5.6</b>	<b>7.8</b>	<b>7.7</b>
GULF TB	17,292	50.50	21.1	57.00	12.9	12.8	8.9	33.6	30.8	4.9	4.6	15.6	15.8	1.9	2.0
BGRIM TB	1,582	20.80	20.4	30.00	44.2	13.0	23.6	23.3	18.9	1.4	1.3	7.5	8.0	2.7	3.0
<b>TPIPP TB</b>	<b>726</b>	<b>2.96</b>	<b>8.2</b>	<b>3.2</b>	<b>8.1</b>	<b>0.3</b>	<b>-26.7</b>	<b>6.9</b>	<b>9.3</b>	<b>0.8</b>	<b>0.7</b>	<b>10.4</b>	<b>7.4</b>	<b>7.3</b>	<b>5.4</b>

Closing price: 23 August 2024, Source: Bloomberg, Brokers, SET MD&A filing



# Share Price Improving From Recent Lows



## Dividends Declared

TPIPL	1H23 EPS	1H DPS	1H24	1H DPS
EPS (THB)	0.10	0.03	0.07	0.02
DPR		31%		28%
Share price (29/8/24)				1.20
Prospective yield - not annualised				1.7%

TPIPP	1H23 EPS	1H DPS	1H24	1H DPS
EPS (THB)	0.24	0.12	0.19	0.09
DPR		51%		49%
Share price (29/8/24)				2.94
Prospective yield - not annualised				3.1%

\* 1H - interim; XD 24 September

Closing price: 23 August 2024, Source: Bloomberg



## Review on 2Q-1H 2024

# 2Q-1H 2024 Performance

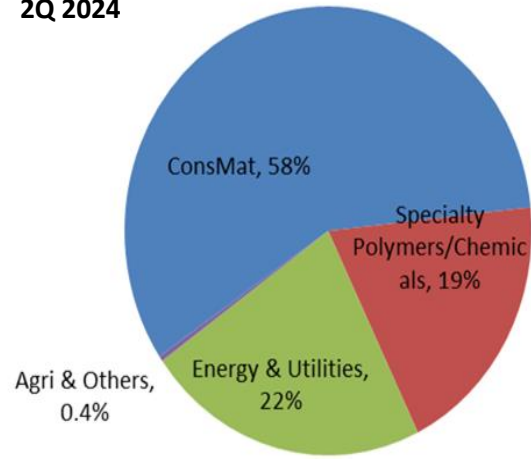


Profit and Loss Statement THB million					Common Size					Common Size	
	2Q23	2Q24	% Y/Y	% Q/Q	2Q23	2Q24	1H23	1H24	% H/H	1H23	1H24
Revenue from sales of goods	11,407	8,742	-23%	-3%	100	100	22,690	17,793	-22%	100	100
COGS	(8,827)	(6,686)	-24%	-5%	(77.4)	(76.5)	(17,707)	(13,727)	-22%	(78.0)	(77.2)
Gross Profit	2,580	2,056	-20%	2%	22.6	23.5	4,982	4,065	-18%	22.0	22.8
SG&A	(1,389)	(1,128)	-19%	-3%	(12.2)	(12.9)	(2,772)	(2,291)	-17%	(12.2)	(12.9)
Finance cost	(482)	(587)	22%	-6%	(4.2)	(6.7)	(951)	(1,214)	28%	(4.2)	(6.8)
Tax expense	(69)	(174)	153%	133%	(0.6)	(2.0)	(156)	(249)	60%	(0.7)	(1.4)
Forex gains (loss)	243	99	-59%	-75%	2.1	1.1	257	499	94%	1.1	2.8
<b>Profit for the period</b>	<b>1,449</b>	<b>862</b>	<b>-41%</b>	<b>-9%</b>	<b>12.7</b>	<b>9.9</b>	<b>2,406</b>	<b>1,812</b>	<b>-25%</b>	<b>10.6</b>	<b>10.2</b>
Profit attributable to the owners	1,171	606	-48%	-18%	10.3	6.9	1,817	1,348	-26%	8.0	7.6
<b>EBITDA</b>	<b>2,781</b>	<b>2,554</b>	<b>-8%</b>	<b>2%</b>	<b>24.4</b>	<b>29.2</b>	<b>5,142</b>	<b>5,057</b>	<b>-2%</b>	<b>22.7</b>	<b>28.4</b>
Profit for the period - excluding FX	1,206	763	-37%	39%			2,149	1,313	-39%		
EBITDA margin	24%	29%					23%	28%			

- Sales remain weak but Q/Q contraction is less
- Gross margin improved Y/Y mainly from cost savings and contribution from efficiency projects
- Finance cost higher Y/Y and is 6.7% of revenues but down Q/Q
- Tax expense higher due to expiry in some of the tax loss carry forward
- Core profit excluding forex gains improved 39% Q/Q on a marginally higher gross margin and tight lid on operating expense

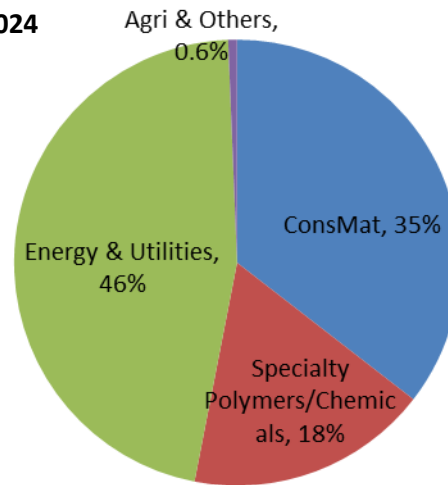


2Q 2024

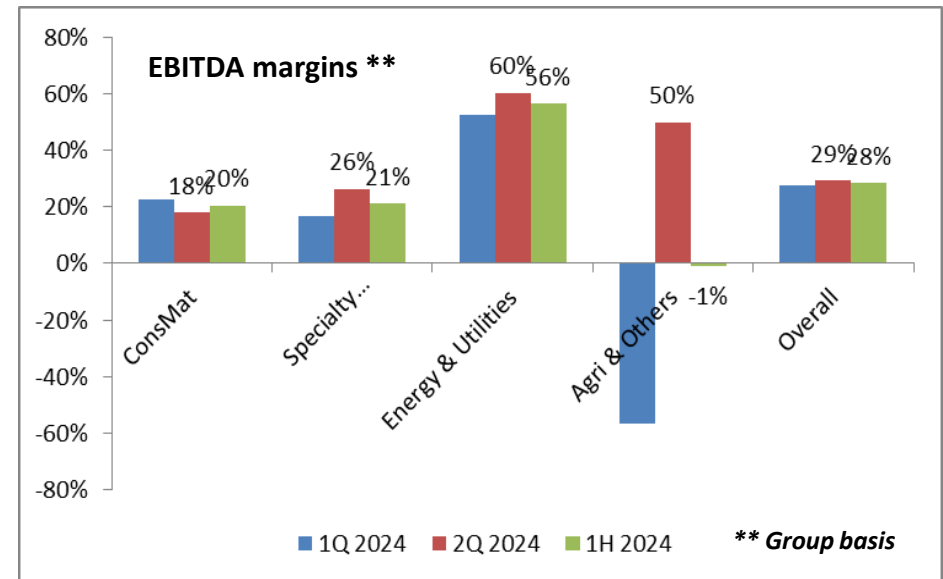


Sales = THB8,742 million

2Q 2024



EBITDA = THB2,554 million



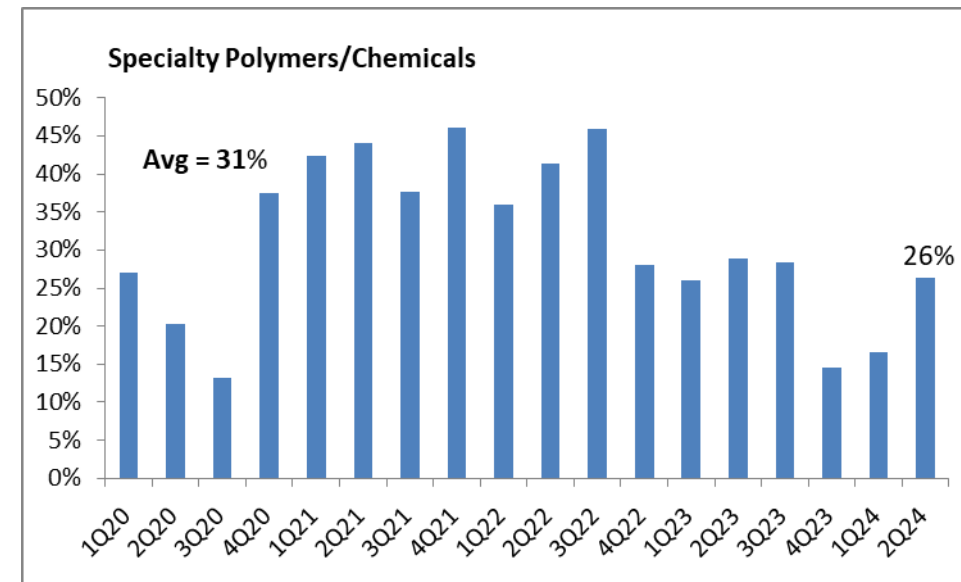
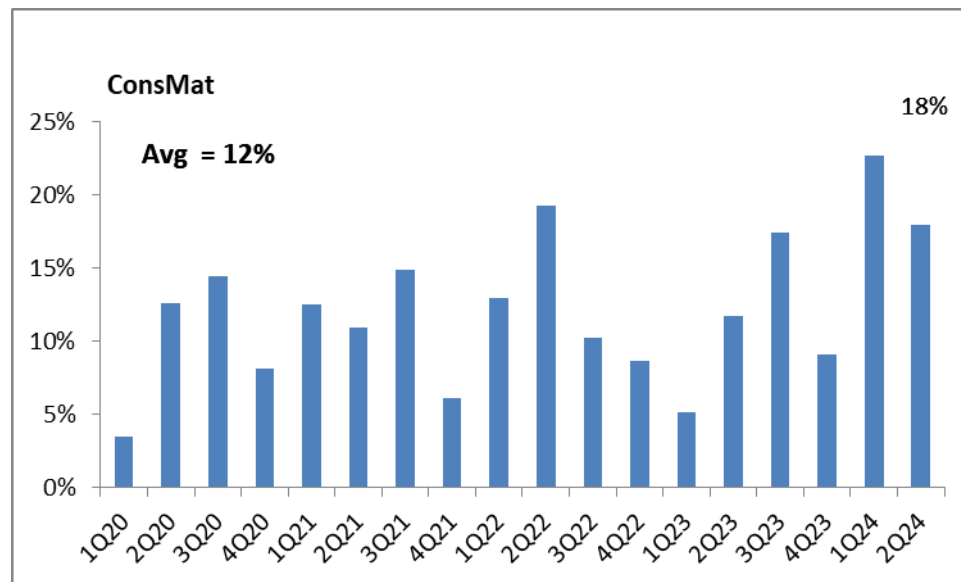
Performance Profile 1H 2024	% of Sales	% of EBITDA	EBITDA margin	Total Assets	Y/Y Growth	% of TA	EBITDA**/Assets
ConsMat	57%	41%	20%	90,579	11%	52%	2.3%
Specialty Polymers/Chemicals	20%	15%	21%	15,356	45%	9%	5.0%
Energy & Utilities	22%	44%	56%	63,462	27%	37%	3.5%
Agri & Others	0.4%	-0.01%	-1%	4,022	60%	2%	-0.02%
<b>Overall</b>	<b>17,793</b>	<b>5,057</b>	<b>28%</b>	<b>173,419 *</b>	<b>20%</b>		<b>2.9%</b>

- **Improved EBITDA Q/Q** in Specialty Polymer/Chemical is from Nitrate contribution
- **Excluding Nitrate**, EBITDA also improved Q/Q but below 2023 levels
- **Lower ConsMat EBITDA Q/Q** is due to weak cement especially exports and smaller currency gains
- **Higher Energy & Utilities EBITDA Q/Q** is due to higher throughput

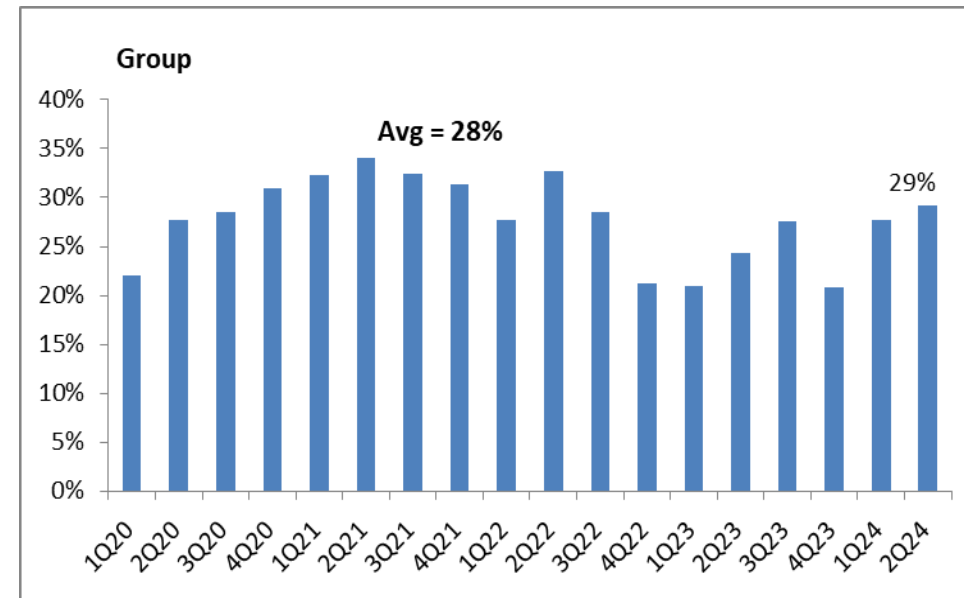
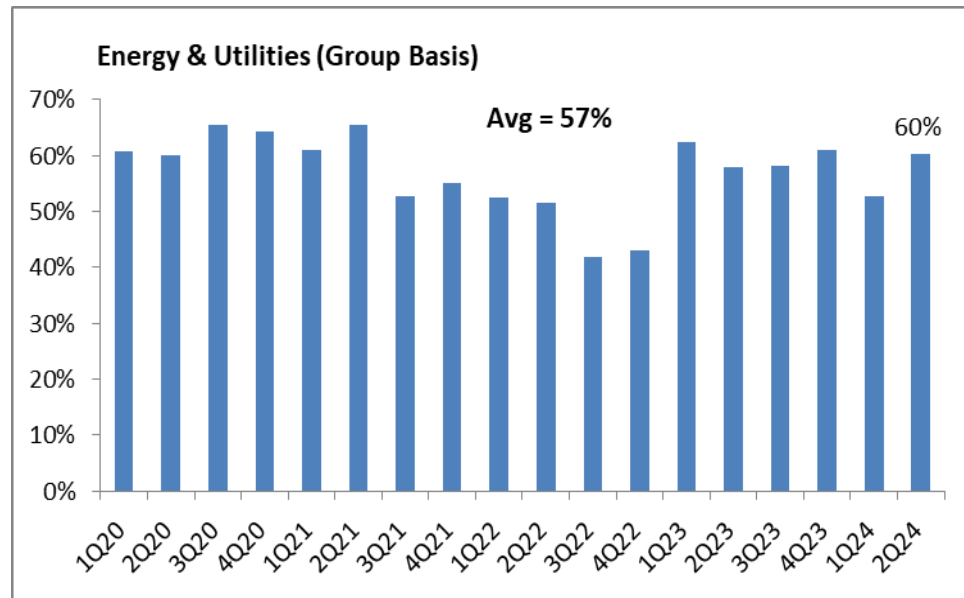
\* Excluding unallocated & intragroup assets \*\* 1H only, not annualized



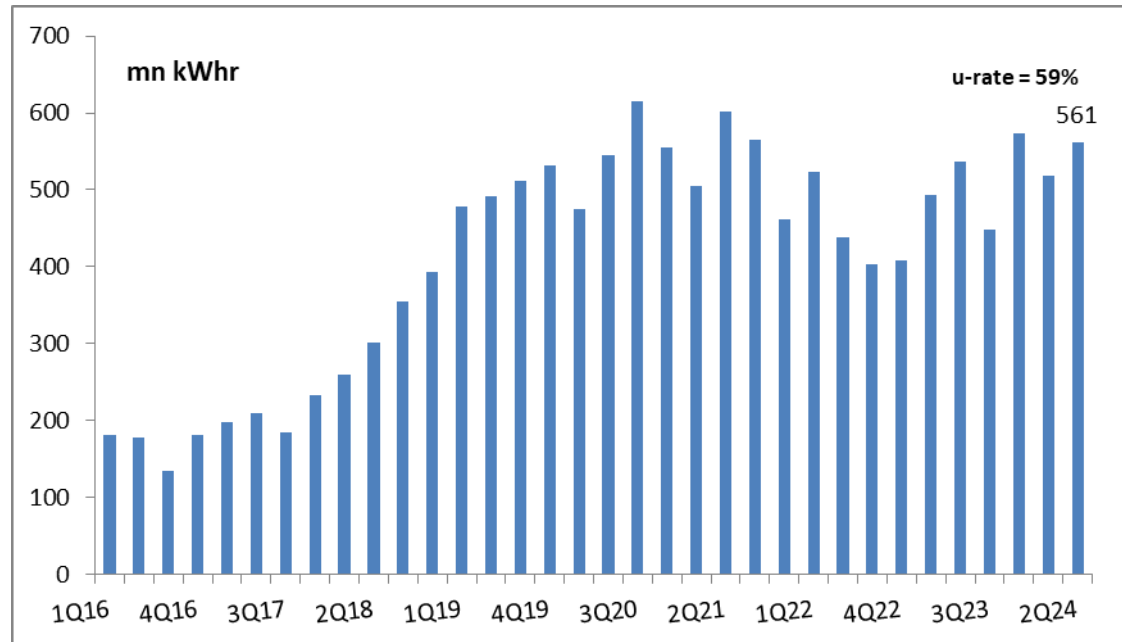
# EBITDA margin trends



# EBITDA margin trends

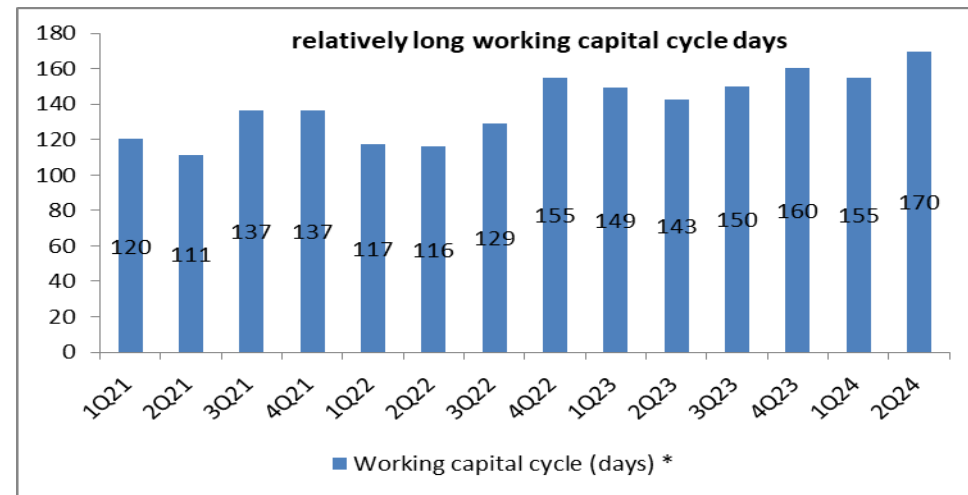
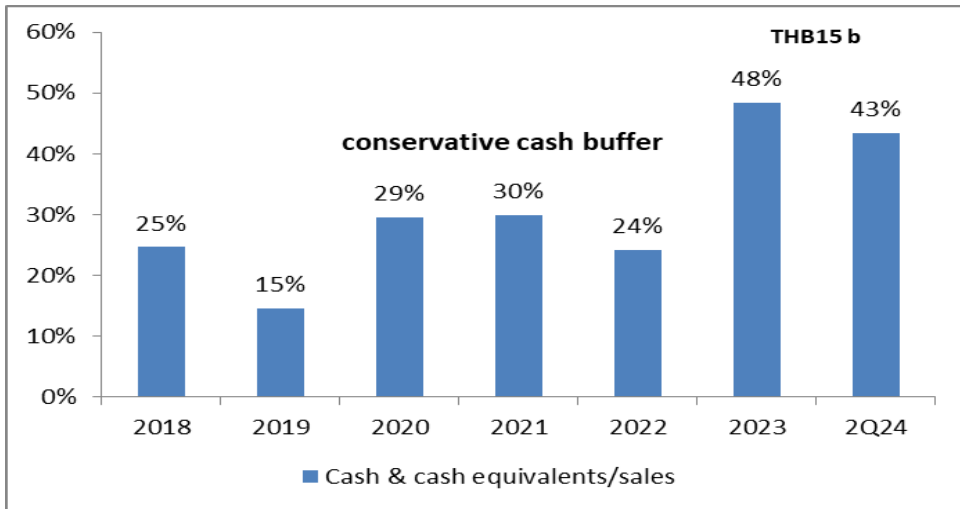
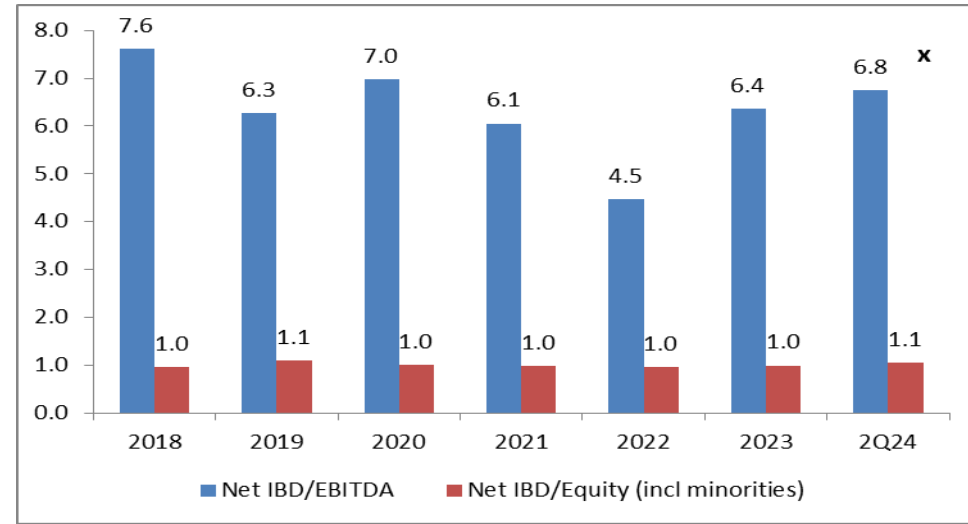
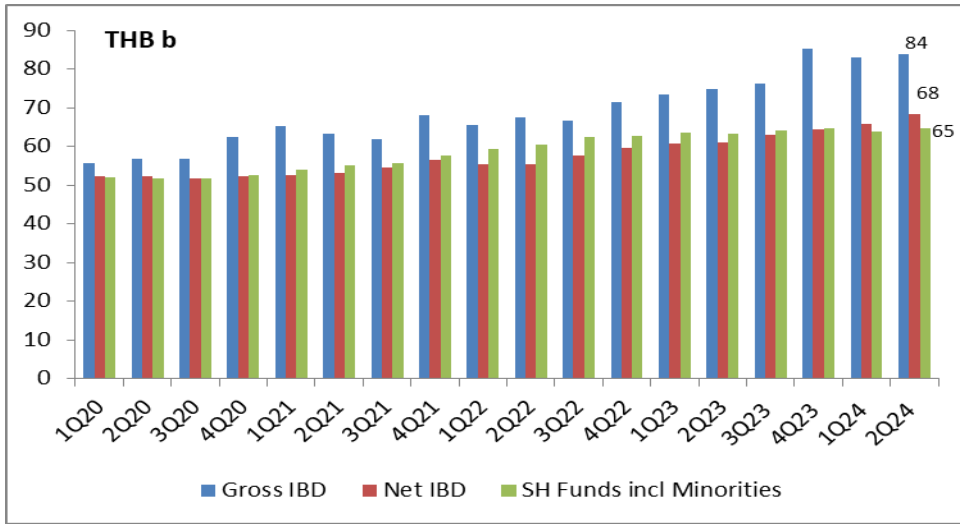


# Power EBITDA resilient



- Higher power throughput underpins resilience
- EBITDA higher Q/Q but lower Y/Y due to lower selling price, Ft

# Financial Condition – conservative on its liquidity stance

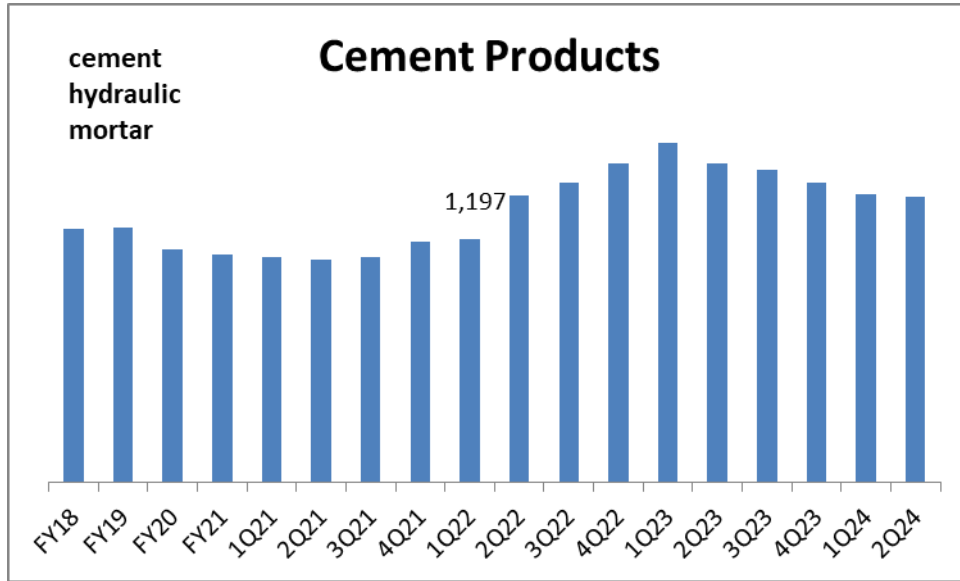


\* Based on 1) Accounts & other receivables + 2) Inventories - 3) Accounts & other payables

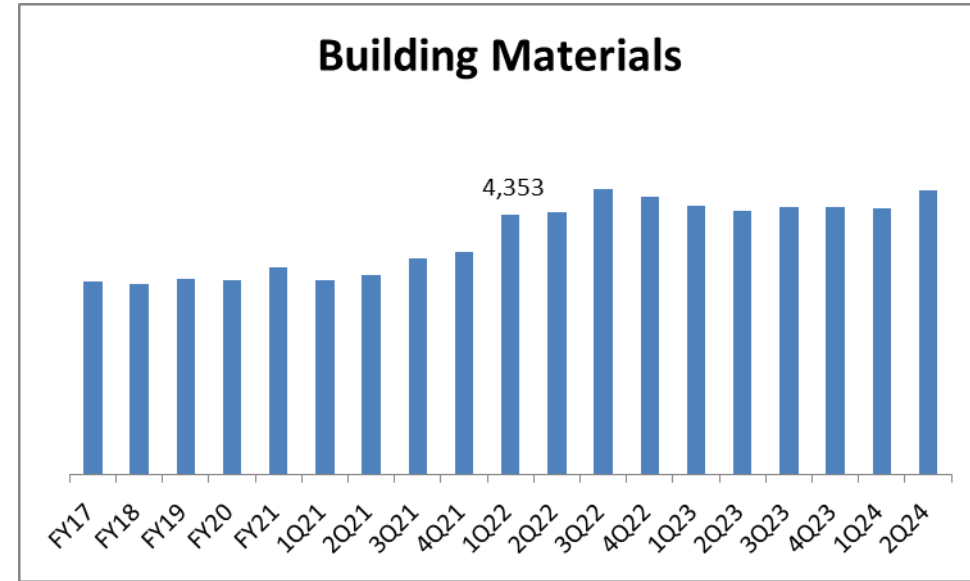


## Trends and Outlook

# Trends – price on per unit basis

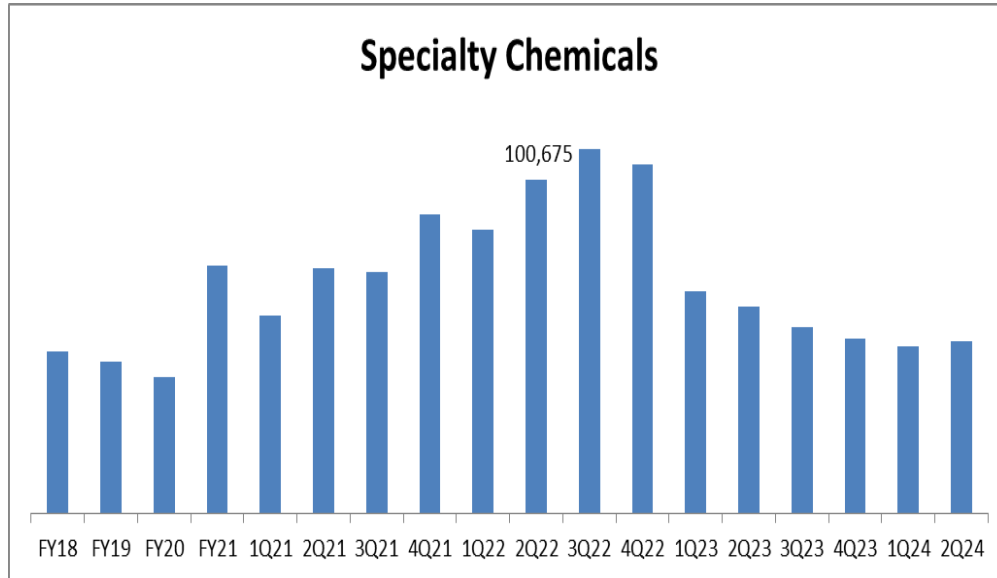


Lower prices YoY, QoQ in cement & hydraulic  
Higher prices in mortar

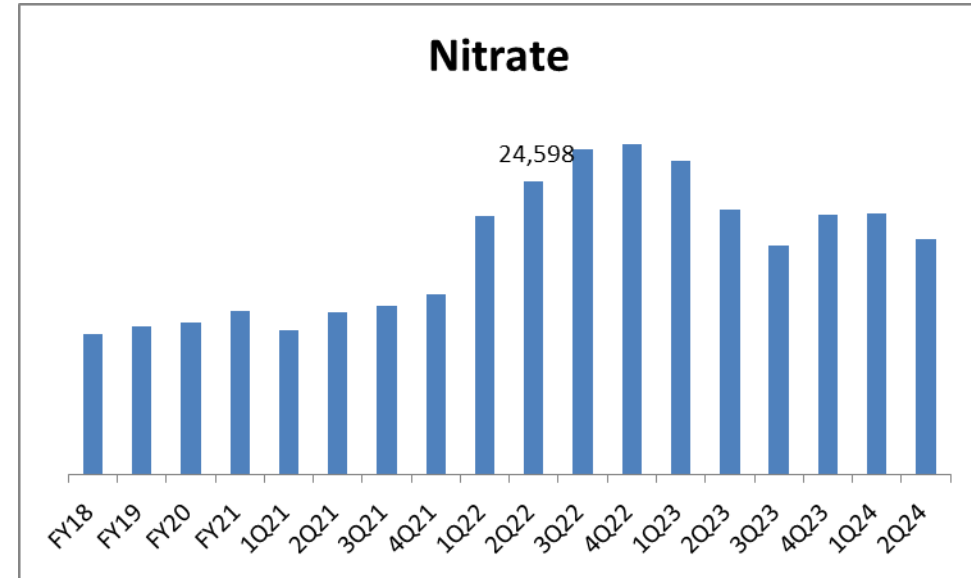


Largely stable  
Volume softer due to holidays

# Trends – price on per unit basis

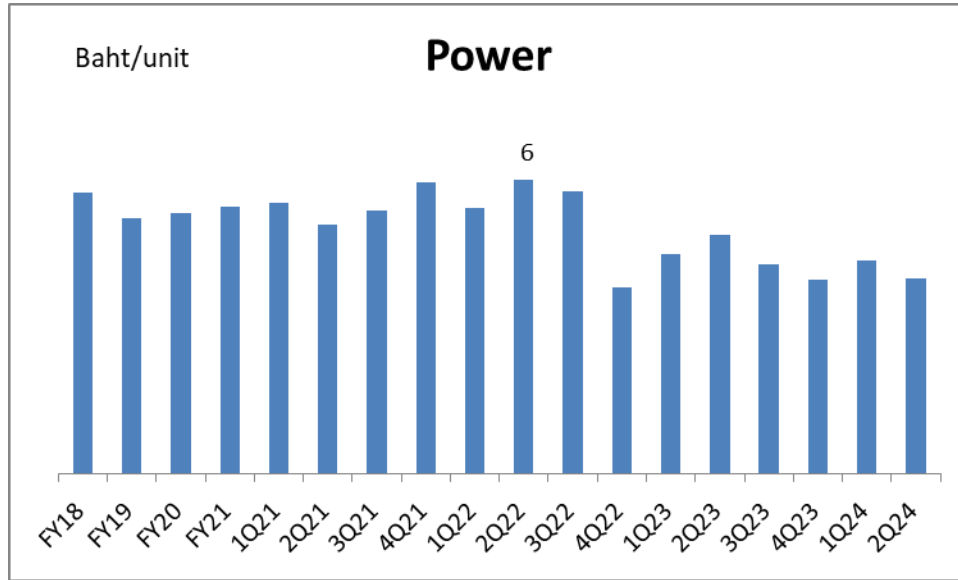


Mild recovery in prices the start of 2Q fizzled as utilization rate for EVA footwear slowed  
Volume steady

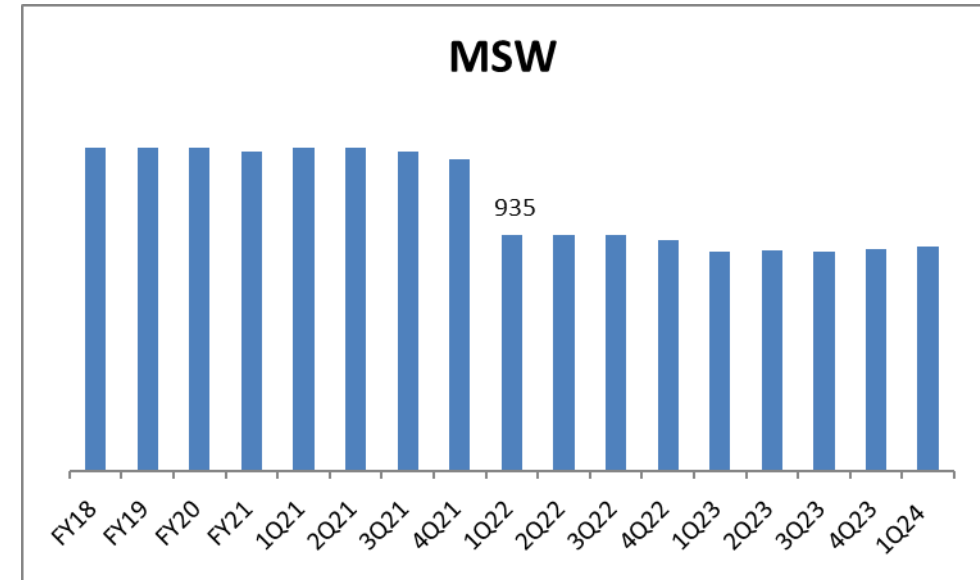


Prices lower due to higher contribution from ammonium nitrates and lower USD/THB

# Trends – price on per unit basis



Lower QoQ due to higher volume sale to TPIPL

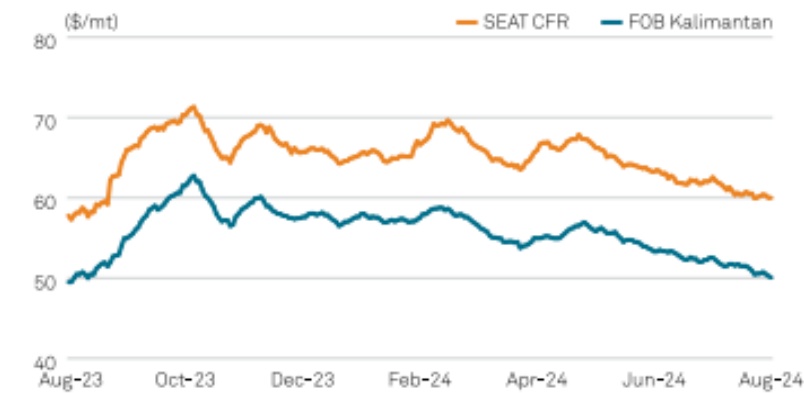


Slightly lower

# Trends – coal low, gas volatile

Energy prices off the 2021/22 highs...

SEAT vs FOB Kalimantan (Basis 4,200 kcal/kg GAR)



Source: S&P Global Commodity Insights

... and volatile in gas prices will influence Ft adjustments



Source: trading economics

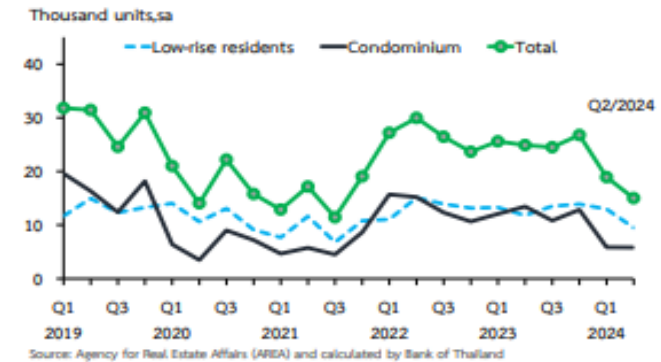
# Variables to watch... private construction

## Residential Property Still Lackluster

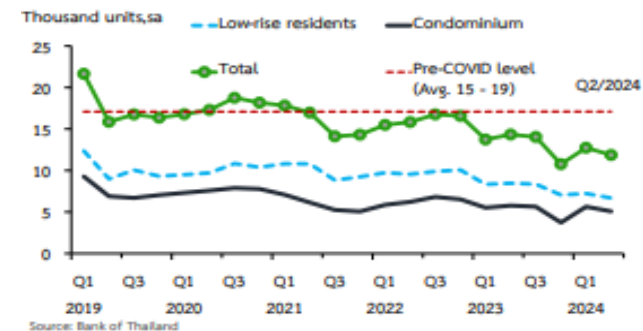
THBm	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	YoY	QoQ
ANAN #	5,288	4,362	5,163	4,700	5,300	3,650	-16%	-31%
LPN	2,786	2,621	2,581	1,978	1,858	2,866	9%	54%
ORI	12,004	12,461	12,472	10,328	8,139	10,192	-18%	25%
SC#	4,918	7,328	8,434	7,270	5,960	5,679	-23%	-5%
SIR#	8,089	10,022	7,579	11,891	9,548	10,667	6%	12%
AP	11,016	12,631	11,677	16,067	9,671	14,414	14%	49%
SPALI	9,029	8,256	6,227	5,352	6,927	6,434	-22%	-7%
QH	2,048	1,872	2,464	1,200	1,700	2,500	34%	47%
PSH	4,466	4,650	5,125	4,300	3,370	4,100	-12%	22%
LH	4,800	3,995	5,572	8,350	5,700	4,150	4%	-27%
<b>Total</b>	<b>64,444</b>	<b>68,198</b>	<b>67,294</b>	<b>71,436</b>	<b>58,173</b>	<b>64,652</b>	<b>-5%</b>	<b>11%</b>

- New launches and new mortgage loans have shown decline; but these are mainly laggard indicators
- Presales seem to have improved Q/Q
- Property stimulus may improve demand
- Lower interest rate may encourage banks to open the lending spigot hence opening up marginal demand

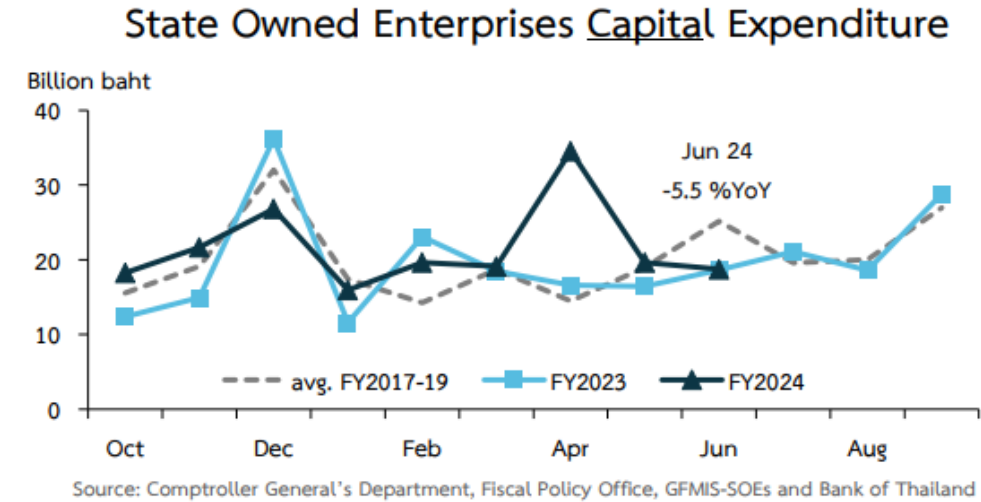
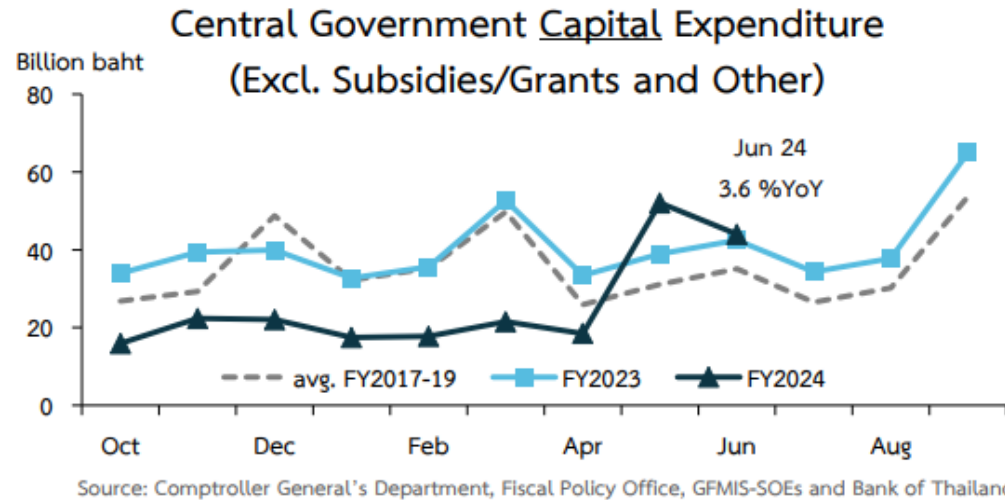
Newly Launched Properties  
in Bangkok and Vicinity Area



New Mortgage Loans from Commercial Banks  
in Bangkok and Vicinity Area



# Variables to watch... budget disbursement slowed



**Government's capex spending** after the brief uptick post budget approval in 26 April is falling again

**Expectation of expedited construction activities** failed to materialize

**Recent change in PM and formation of new cabinet could delay** deployment of FY24/25 fiscal budget

**As expected, La Nina is bringing heavy rains** in some regions causing floods

**The positive news:** Large contractors CK and STEC have high orderbook load of projects for implementation

# Variables to watch... public construction

Signed Projects in 2024	Signed	Project Value (MB)
1. Maintenance and Improvement : Si Rat Expressway and the Prachin Rattaya Expressway	January	618
2. Maintenance and improvement : Udon Rattaya Expressway	January	402
3. NAN Art and Culture Center and East Lanna Culture	April	488
4. Improvement for Enhancing the Stability and Efficiency of Water Treatment and Distribution Systems	July	448
5. MRT Orange Line (Western Extension), M&E	July	26,714
6. MRT Orange Line (Western Extension), Civil Work	July	82,502
<b>Total</b>		<b>111,172</b>

CK's orderbook gets massive boost from Orange Line:

Completion target 2030

<b>Newly signed contract (2024)</b>	(THBmn.)
• Other	2,063
<b>Active Major Projects</b>	<b>(THBmn.)</b>
• Yellow line, EBM	22,221
• Pink line, NBM	22,197
• Double track Denchai 2,3	17,369
• Purple line Contract 1&2 , MRTA	14,758
• Pluakdaeng power plant, GULF	11,134
• Hinkong power plant	9,825
• Morchit complex	9,057
• Cable conversion for Pink, Yellow II, MEA	7,941
• Double track Nongplalai-Huahin, SRT	7,193
• Cable conversion for Pink, Yellow I, MEA	7,118
• Manhole and ductbank – Pink, Yellow, MEA	6,983
• Govt. center zone C, Dhanarak	6,650
• O&M Motorway M6, M81	5,504
• The Solar Power Plants	5,240
• Thai Oil clean fuel	5,204
• Ayudhaya diversion canal, RID	3,524

STEC

STEC's orderbook has THB88 billion of projects to be rolled out

It will sign the contract for Utapao Airport soon – value THB 27 billion

# Variables to watch... construction overseas

## Short Term Potential Drivers To Help Absorb Excess Capacity In the Region

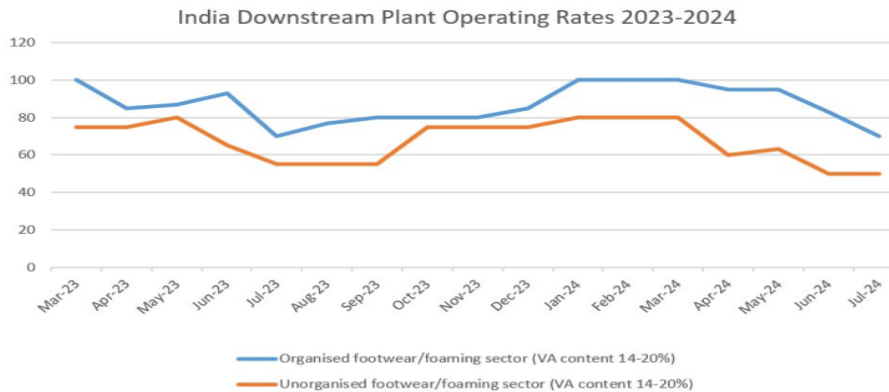
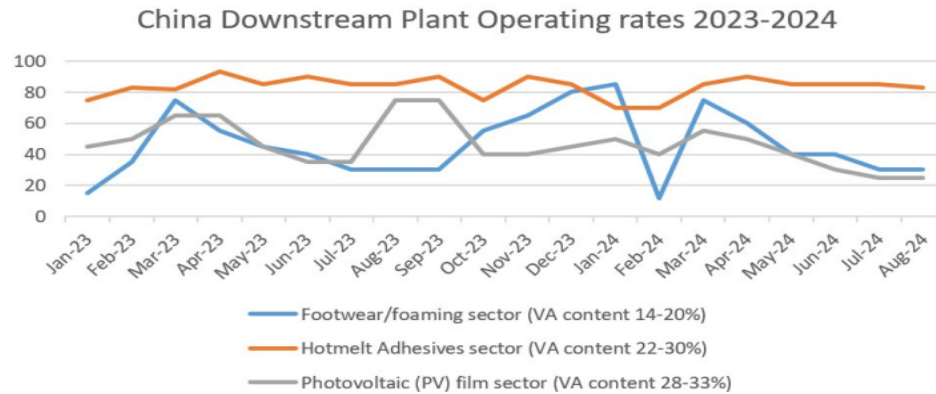
- **Reconstruction from flood - Dubai** experienced major floods in succession & and the Palm Islands have begun sinking. This will add on to the planned megaprojects estimated to cost **USD 30 billion**
- **Seawall to save Jakarta from sinking** - Groundwater levels in the northern coast of Java have decline 1 - 25 cm per year while the sea levels rise 1-15 cm per year, causing tidal floods of c. 5-200 cm. The sea wall project also aims to address the water supply problem in Jakarta, which relies on groundwater extraction. The estimated cost is **USD50-60 billion**
- **New capital city Indonesia (Nusantara)** – currently on roll-out valued at USD35 billion though implementation is slowed as the government plans 80% funding by private sector
- **Build Better More Program in the Philippines** – comprised of many projects including road networks, highways, mass transits is budgeted to cost PHP 9 trillion (**USD 16 billion**). Of particular interest is the Pan-Guimaras Bridge spanning over 30 kms, breaks ground in mid 2025 and scheduled to be operational by 2028 before Marcos’ term is over. PH imports close to 7.0 million tons of cement and Vietnam is the largest supplier

PH: Infrastructure Project List	No. of Projects	Indicative Project Cost PHP billion	Indicative Project Cost USD billion (@56.39)
<b>Implementing Agency</b>			
Department of Public Works & Highways (DPWH)	7	279.02	4.95
Department of Transportation (DOTr)	25	2,297.27	40.74
DPWH/Transportation Research Board (TRB)	5	96.72	1.72
Power Purchase Agreement (PPA)	2	20.41	0.36
University of the Philippines (UP)	2	22.23	0.39
Zamboanga City Special Economic Zone (ZCSE)	1	19.09	0.34
<b>Total</b>	<b>42</b>	<b>2,734.74</b>	<b>48.50</b>

Status	No. of Projects		
<b>Approved for implementation</b>			
For government approval	2	176.87	3.14
<b>Ongoing</b>	<b>9</b>	<b>1,109.11</b>	<b>19.67</b>
Pre-project preparation	19	1,231.73	21.84
Under project preparation	3	43.13	0.76
<b>Total</b>	<b>42</b>	<b>2,734.74</b>	<b>48.50</b>

# Variables to watch... manufacturing

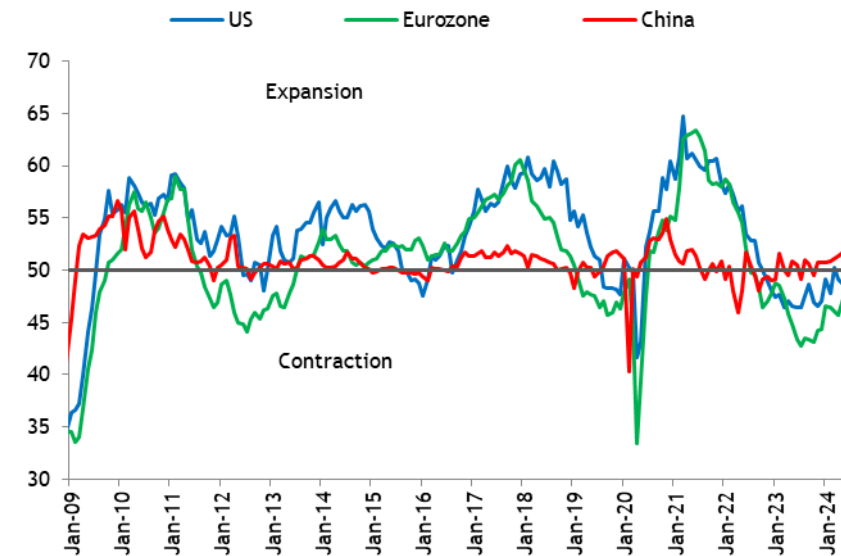
Operating rates forecast lowered due to weaker orders in footwear in China



\*Operating rate projections were based on updates from market sources.

PMI data up to the end of Feb still indicate weak manufacturing activities globally and amidst 3-5% supply growth

Spread on polymers will continue to be under pressure



\* HDPE-NPH is proxy

# Variables to watch – manufacturing

The rebound in spread fizzled as EVA price dropped more than VAM

Feedstock costs - EVA northeast Asia

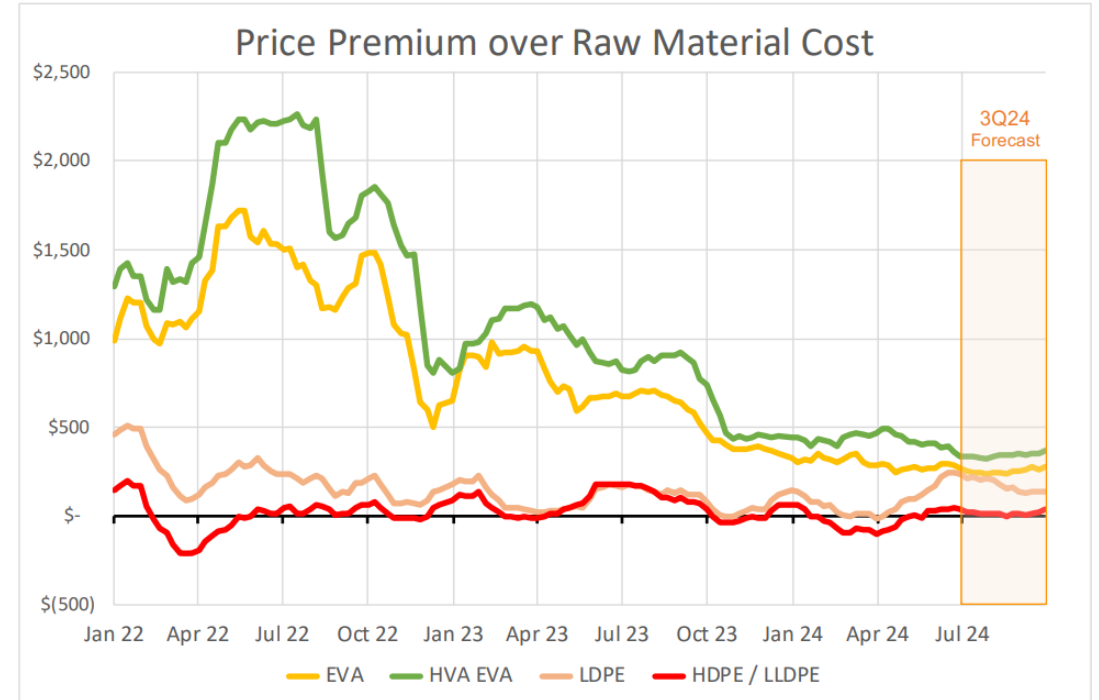
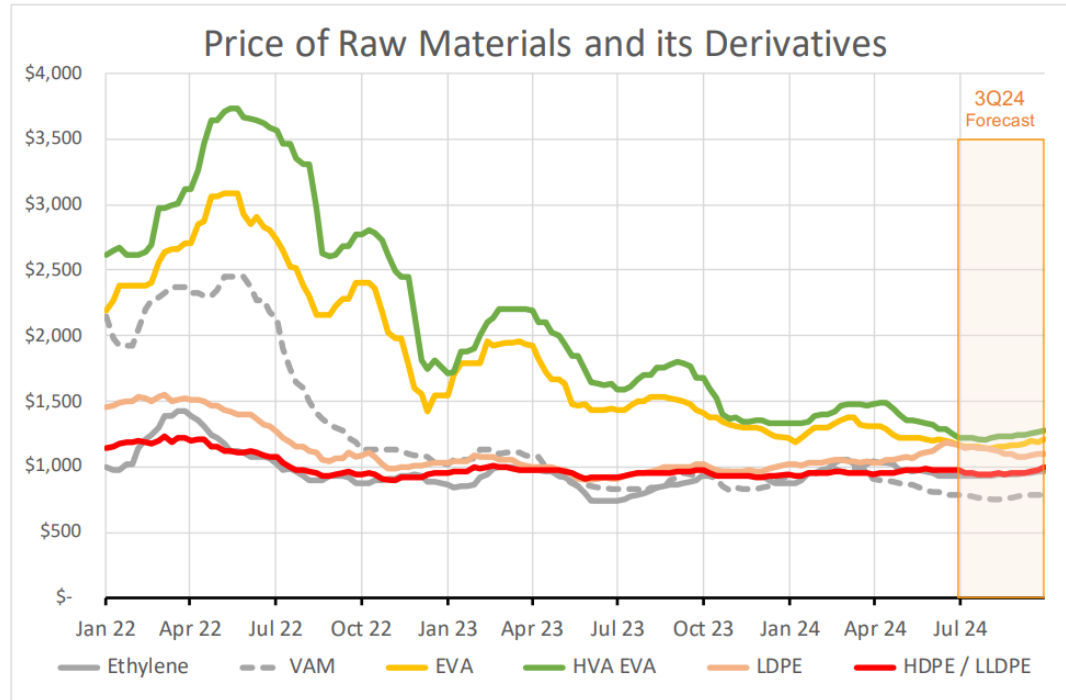


Dow CEO sees strong demand across several sectors – Bloomberg TV

<https://youtu.be/vQf0GcvwCqU?si=sobUdEaseRjMfAtN>

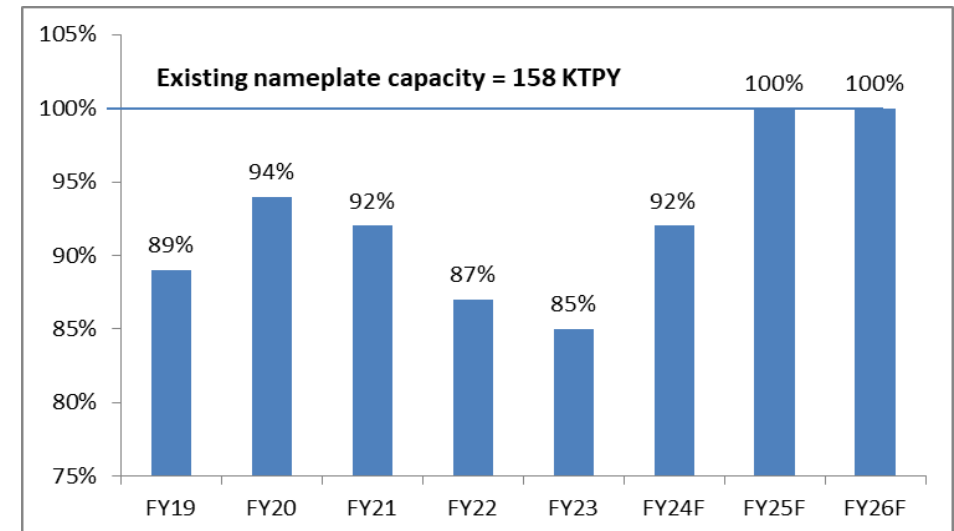
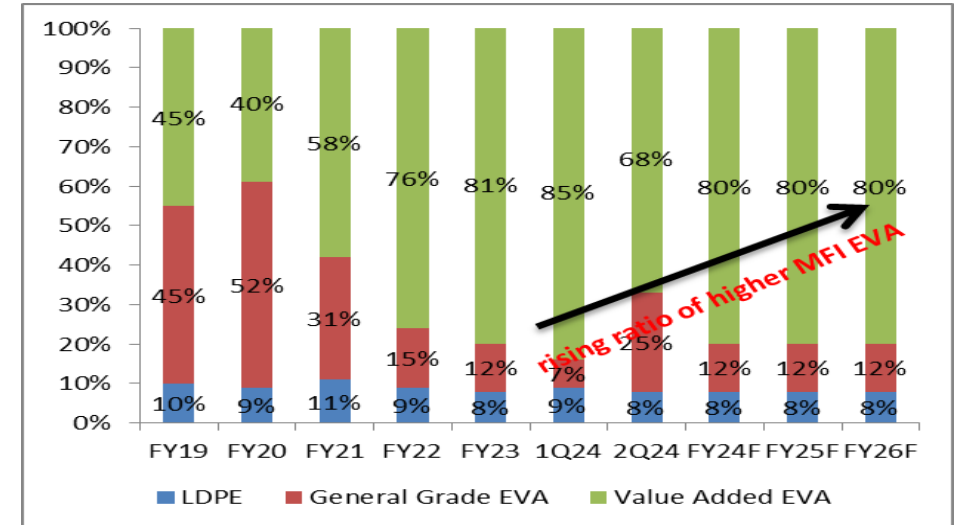
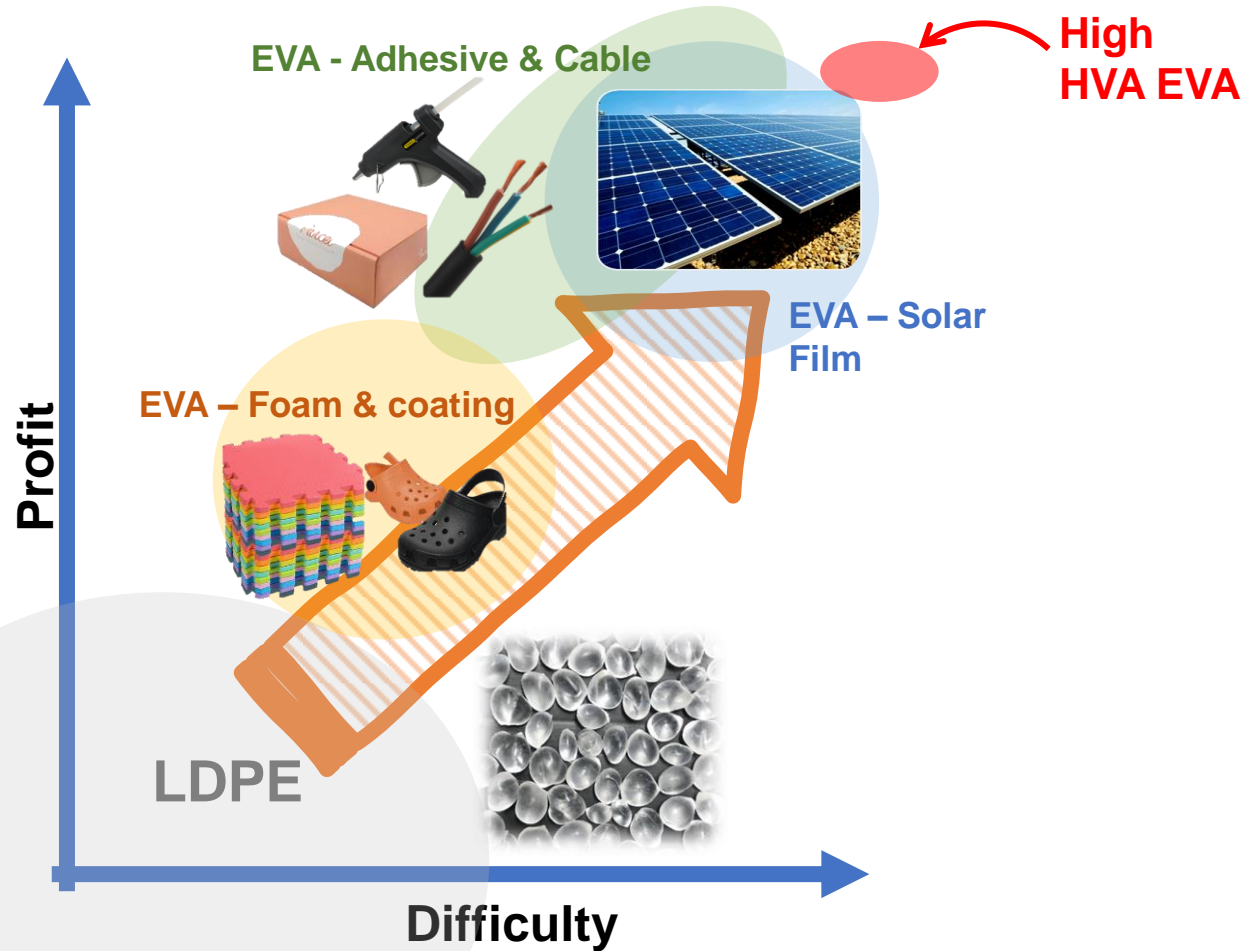


# Variables to watch...manufacturing



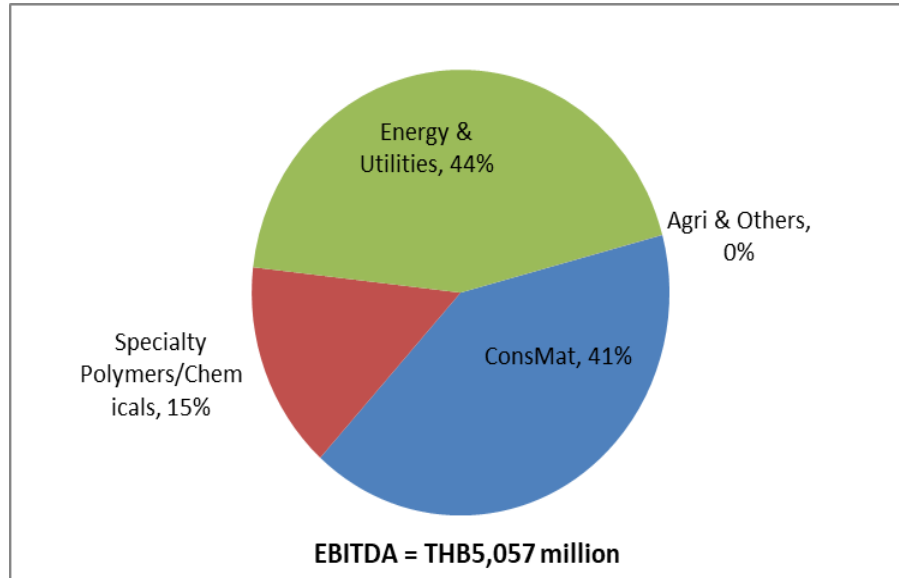
Source: ICIS

# TPIPL market position – High HVA is a bit ahead of the 80% FY target





# EBITDA and Capex



CAPEX Deployment (THB million)	1Q23	1H23	9M23	12M 23	1Q 24	1H24
<b>TPIPL</b>						
Acquisition of PPE	2,137	3,530	6,302	9,727	1,917	4,807
Advances payment PME	287	714	1,027	1,090	44	94
	<b>2,423</b>	<b>4,244</b>	<b>7,329</b>	<b>10,817</b>	<b>1,960</b>	<b>4,901</b>
<b>TPIPP</b>						
Acquisition of PPE	994	1,829	3,551	5,846	1,054	3,096
Advances payment PME	276	647	886	920	2	22
	<b>1,271</b>	<b>2,477</b>	<b>4,437</b>	<b>6,766</b>	<b>1,055</b>	<b>3,117</b>
<i>Capex in TPIPP/TPIPL consolidated</i>	<i>52%</i>	<i>58%</i>	<i>61%</i>	<i>63%</i>	<i>54%</i>	<i>64%</i>

- Guidance for 2024 EBITDA is THB11,323 million, + 12.6% YoY
- 1H 2024 EBITDA accounts for 45% of guidance
- There is downside relative to EBITDA guidance

EBITDA breakdown	2024 P
ConsMat	38%
Specialty Polymers/Chemicals	14%
Energy & Utilities	48%
Agri & Others	0.19%

### Capex – including advances paid for PPE

- Major capex continuing plant modification - 150MW coal-fired power
- Two new small MSW projects
- 1H 2024 deployed capex was THB4,901 million, 77.8% of the full year guidance; likely to be above guidance
  - Some projects have faster roll out
  - Additional investments on efficiency measures



# Environment, Social and Governance (ESG)

# On The Path To Net Zero In TPI Green Cement and Mortar

## 1. Use of Alternative Energy

- 1.1 uses 15-25% of alternative energy i.e. Municipal Waste to replace coal
- 1.2 uses of Municipal Waste to generate electricity
- 1.3 uses of solar cell to generate electricity
- 1.4 uses pyrolysis oil produced from waste tyres and rubber to replace coal/fuel oil

## 2. Use of decarbonized raw materials to reduce clinker factor and cement factor

- 2.1 uses copper slags, gypsum
- 2.2 uses of ashes from burning municipal waste boilers
- 2.3 uses of CDE limestone, sand, shale

## 3. Waste-heat-recovery (W-H-R) and improved efficiency measures

- 3.1 operates W-H-R to electricity
- 3.2 improves the heat recovery and filter systems

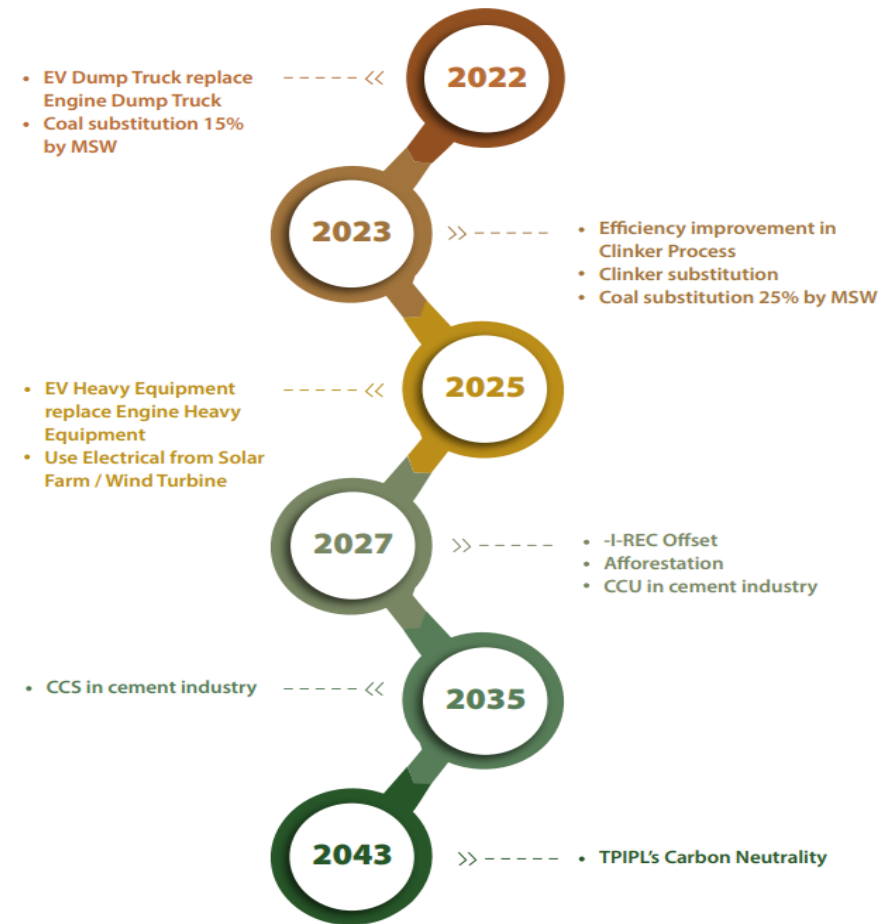
## 4. Increase the CO<sub>2</sub> capturing capacity of the environment

- 4.1 manufactures FCB to replace wood and eventually increases the capacity to absorb more CO<sub>2</sub> by increased forest area
- 4.2 produces organic fertilizer to accelerate the plant growth thus increasing the CO<sub>2</sub> capturing capacity of the environment
- 4.3 produces symbiotic for animals to reduce the waste from animal turning the animal feeds to meat reducing the methane gas from fermentation of the waste
- 4.4 produces Biosan to reduce fermentation of waste into a bad smell of CH<sub>4</sub> and sulfide

## 5. Electrification to replace fossil fuel vehicles

- 5.1 Changes to conveyor belt to replace trucks, and
- 5.2 Charges from fossil fuel trucks and mining equipment, forklifts to electric motor-driven trucks, equipment, cranes, etc

## TPIPL's (Cement) GHG Reduction Strategies



TPIPL's Task Force on Climate-Related Financial Disclosure 2023



# ESG Strides in 1H 2024 - TPIPL

Environment	1H 2024	% of Total
Waste fuel replacing coal (tons)	140,659	12.9%
Reduction of GHG (tons CO2e)	833,313	18.5% YoY basis
Recycled effluents via re-filter process (cum)	498,311	45.2%
Recycled Industrial Waste from Cement Production (tons)	2,459	99.81%
Disposal of Hazardous Industrial Waste (tons)	15,234	
Disposal of Non-Hazardous Industrial Waste (tons)	10,994	

### Green Technology in Value Chain:

- Green Mining / Green Quarry: Replaced Drill Trucks, Loaders Dump Truck, Excavators with Electric Cars
- Green Cement Process: Used waste as fuel to replace coal
- Green Logistics: Converted diesel-fuel trucks into electric trucks to transport cement and ready-mixed concrete
- Green Manufacturing: Produce environmentally friendly construction materials to help reduce global warming
- Green Marketing/Management: Use electric trains for sales and marketing operations, EV cars for executives
- Green Packing Line/Warehouse: Now 100% electric forklift

### Corporate Social Responsibility

Projects for public benefit (THB million)	15.7
New Hiring (head count)	470
General	361
Senior	67
With Disabilities	42
Human Rights Violation Complaints	zero
Fatal Occupational Injuries	zero
Occupational Injuries (High Impact Jobs)	zero
Occupational illnesses (employees and contractors)	zero



# ESG Strides in 1H 2024 - TPIPP

	1H 2024	% of Total
<b>Environment</b>		
All Types of Waste as fuel (tons)	1,399,181	
Reduction of GHG (tons CO2e)	288,045	22.2% YoY basis
Recycled effluents	190,335	4.6%
Recycled Industrial Waste - Zero Waste Policy	8,383	100%
Disposal of Non-Hazardous Industrial Waste (tons)	4,064	
<b>Corporate Social Responsibility</b>		
Projects for public benefit (THB million)	21.1	
New Hiring (head count)	36.0	
General	30	
Senior	3	
With Disabilities	3	
Human Rights Violation Complaints	zero	
Fatal Occupational Injuries	zero	
Occupational Injuries (High Impact Jobs)	zero	
Occupational illnesses (employees and contractors)	zero	



# Carbon-Related Merits



## TIIPP – T-Ver Certificates

### Carbon Credit T-VERs Registered by TGO

MSW Received

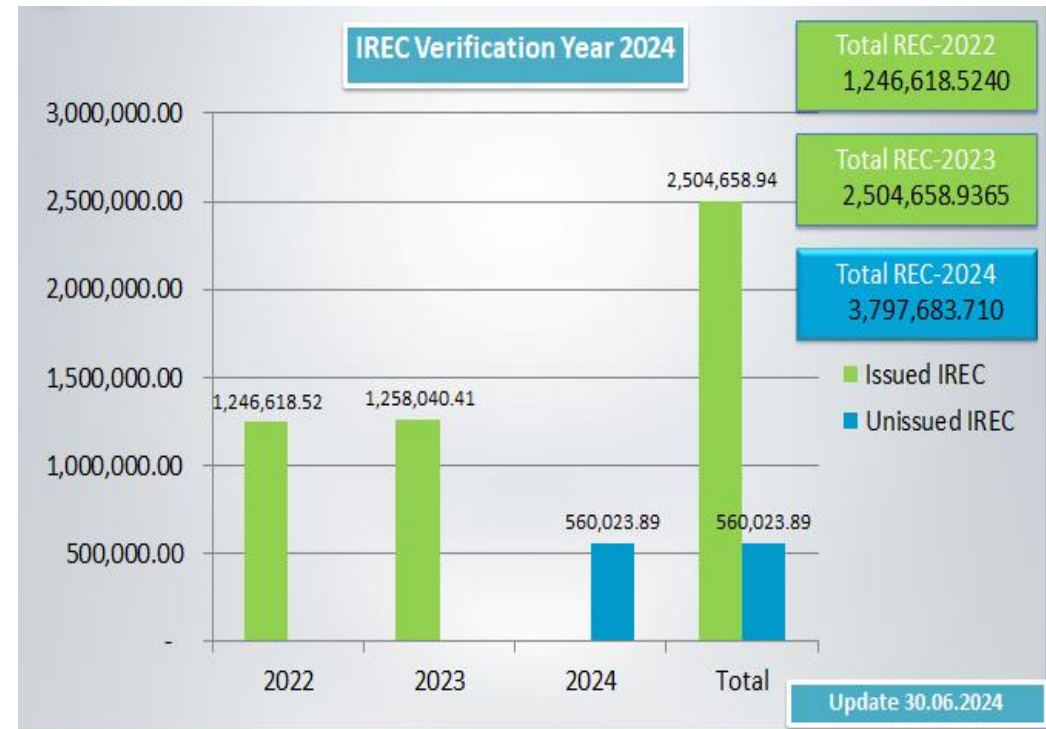
1. July 2015 – May 2016	13,483 tCO <sub>2</sub> eq
2. May 2016 – Apr 2017	68,573 tCO <sub>2</sub> eq
	82,056 tCO <sub>2</sub> eq
3. Sold out to <u>Zukunft des Konzentoffmarktes</u> -	34,690 tCO <sub>2</sub> eq
4. Remain	47,366 tCO <sub>2</sub> eq
5. Approval Credit 2022	717,931 tCO <sub>2</sub> eq
6. Approval Credit 2023	793,932 tCO <sub>2</sub> eq

**Total Carbon Credit 2023** 1,559,229 tCO<sub>2</sub>eq

7. In the certification process 462,351 tCO<sub>2</sub>eq

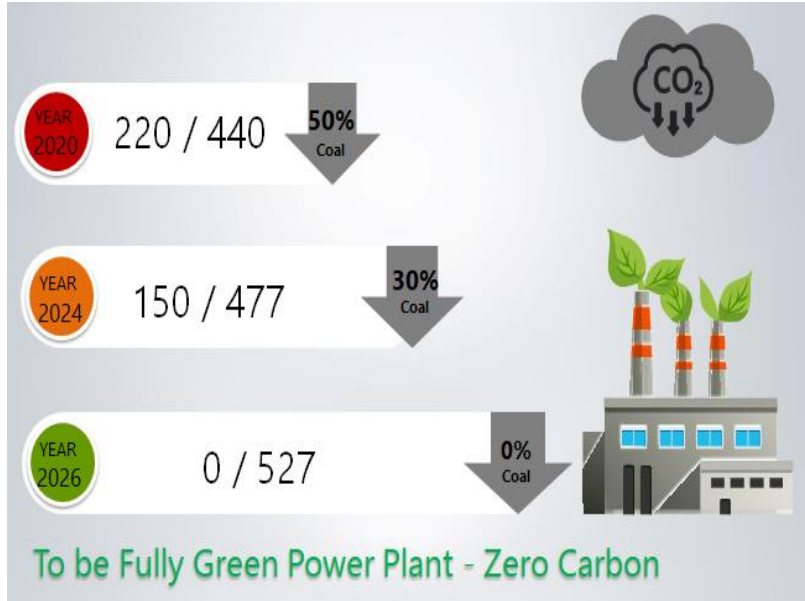
**Total Carbon Credit 2024** 1,921,580 tCO<sub>2</sub>eq

## TIIPP – Renewable Energy Certificates





# Our Carbon Situation (Scope 1 - Related)

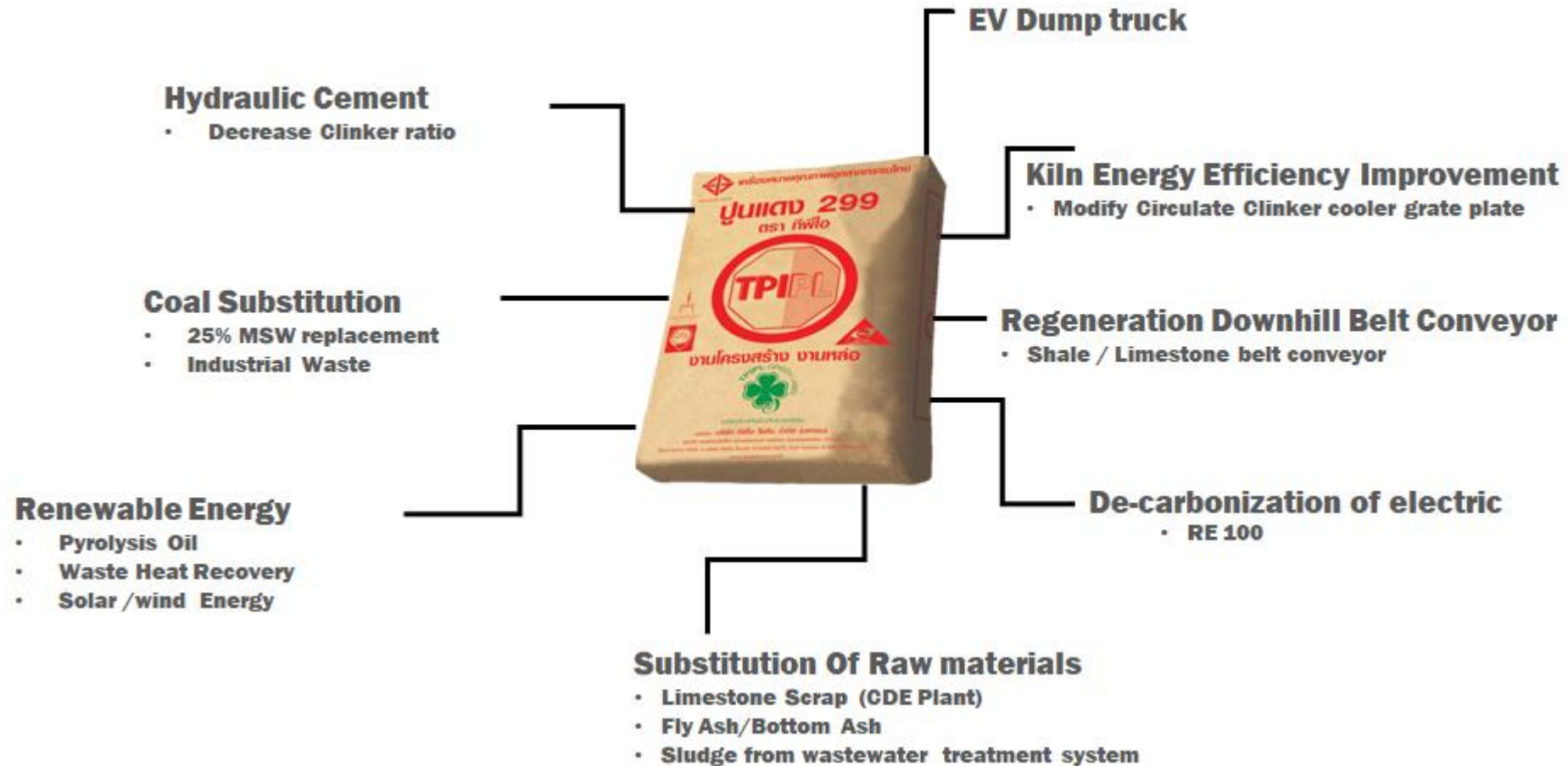


### EUA – Carbon Allowance Price

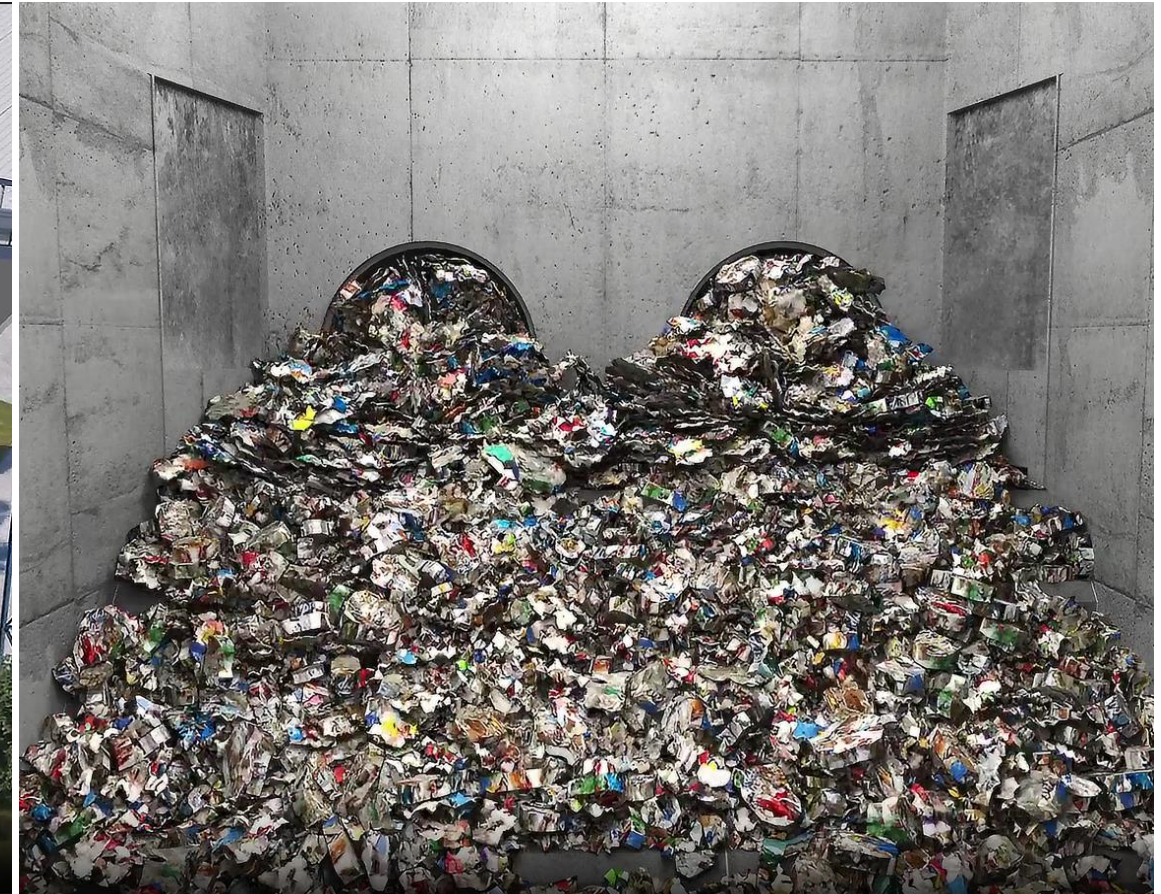


Source: TIPI SET Opportunity Day Presentation

# Green Cement – basis for Green Building Products



# Replacing coal with MSW in the clinker production process \*



**For more details:**

Link [https://drive.google.com/file/d/1h3yYa8c2eoeSM7U2NZ-Ut\\_qmICfdJyU-/view?usp=share\\_link](https://drive.google.com/file/d/1h3yYa8c2eoeSM7U2NZ-Ut_qmICfdJyU-/view?usp=share_link)

\* Other local cement producers use IW – industrial wastes

# CDE for Limestone Scrap – reduce industrial (mineral) waste



[Home](#) / [About](#) / [Case Studies](#)

**TPI**

Thailand

TPI achieves total utilisation of feed material with CDE wet classification technology. The 300tph solution is processing quarry by-product into valuable materials.

Tonnage  
300tph

Material  
Sand & Gravel, Quarry Waste, Crushed Rock, Manufactured Sands

Output  
0-0.6mm and 0.6mm-2.5mm Sand & C33 Man Sands | 2.5mm-5mm Aggregate | Filter Cake

End Use

For more details:

<https://www.cdegroupp.com/about/case-studies/tpi-thailand>

# Electrification of Heavy Trucks



Yutong Trucks for transporting stone between mines.

For more details

<https://www.yutongtruck.com/10-yutong-ytk90e-battery-electric-mining-trucks-delivered-to-thailand-drawing-up-a-new-blueprint-for-going-abroad/>



# Litigation Case – Pending At The Supreme Court

Case	Case Date	Plaintiff	Charge/ Offense	The Court ordered the Company by Environmental Acts B.E. 2535 to either		status
				Refill Rocks (Mil. Tons)	OR Pay (Mil. Baht)	
Sor Vor 4/2559	8/7/2015	Department of Primary Industry and Mines, Ministry of Industry (has no authority in Environmental Acts B.E. 2535)	The violation in mining activity (under Mineral Acts B.E. 2510 and Environmental Acts B.E. 2535)	31.52	4,047	Pending the Supreme Court Consideration
Sor Vor 5/2559	24/3/2016			12.48	1,603	Pending the Supreme Court Consideration
Sor Vor 6/2559	24/3/2016			2.45	314	Pending the Supreme Court Consideration
Sor Vor 1/2560	2/3/2017			1.22	326	Pending the Supreme Court Consideration
Sor Vor 2/2561	21/6/2018			0.25	67	Pending the Supreme Court Consideration
<b>Total</b>				<b>47.92</b>	<b>6,357</b>	<b>~THB0.34/shr; BVPS = THB3.42 (2Q 2024)</b>

**Share price = THB1.25 (23/08/24)**

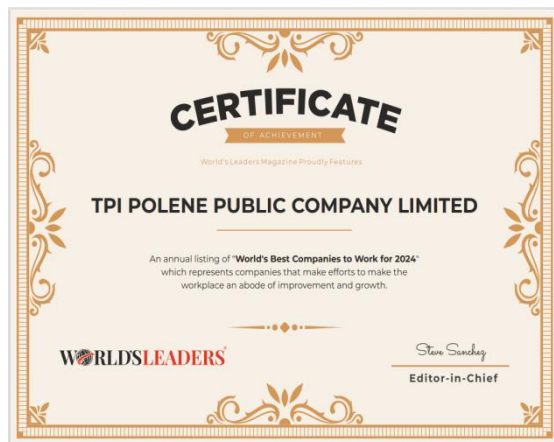
The Company did not commit any offense as accused by the Plaintiff and is of opinion that

- The disputed lands (buffer zones) sued by the Department of Primary Industry and Mines, Ministry of Industry, who has no authority in the Enhancement and Conservation of National Environmental Quality Act, B.E. 2535. (Environmental Acts B.E. 2535) were legally belonging to the Company as they were within concession areas, and there have been no claims for physical damages from anybody.
- The Company had approx. 600 million tons of industrial mineral rock in the concession area, and by the end of such concession period, the Company still had approx. 448.355 million tons of industrial mineral rock left to be surrendered to the Department of Primary Industry and Mines of the Ministry of Industry without any obligation to surrender such a big quantity or any quantity of minerals. Therefore, the Company had no reason to commit any illegal act as accused i.e. to steal 47.92million tons of rocks from the government in the disputed buffer zones and will give back 448.355 million tons of mineral rock to the government at the end of the concession period.
- At the moment, the concession for all these areas have been renewed including the disputed buffer zones.

From December 2021 until 2Q24, the Company has been granted new limestone and shale concession for the manufacturing of cement industry from the Department of Primary Industries and Mines, totaling 28 plots, with long-term concession period of 25-30 years for limestone, shale and soil-cement reserves total 448.355 million tons (averaging 16.3 million tons /year). If TPIPL needs more limestone, the company can apply for additional limestone concession in the future.



# Validation of Our ESG and BCG Efforts





End of Presentation

Q&A

Thank You