

27 February 2020

Energy | Refineries & Petrochemicals

PTT Global Chemical (PTTGC TB)

Buy (Maintained)

Waiting For a Rebound In 2H20

Target Price (Return): THB59.10 (+33%)
 Price: THB44.50
 Market Cap: USD6,788m
 Avg Daily Turnover (THB/USD): 947m/31.0m

- **Maintain BUY, THB59.10 TP is based on 0.85x P/BV, 33% upside with 5% FY20F yield.** PTT Global Chemical's recent knowledge-sharing session highlighted its green initiative, with an investment in a plastic recycling plant. Its commodity prices, spreads and share price performance could remain subdued until there are signs that the COVID-19 outbreak can be contained – which are not apparent currently. Our rating is premised on the expectation that demand and spreads will normalise in 2H20.
- **PTTGC's knowledge-sharing session was about the circular economy** and how its investment in a THB2.5bn plastic recycling plant (which is scheduled to begin operating commercially by 4Q21) will play a role in Thailand's efforts to lower its carbon footprint. PTTGC is committed to cutting greenhouse gas emissions by 20% by 2030, and by 50% by 2050. In this report, we detail the company's push towards a circular economy.
- **Commodity prices and spreads will remain under pressure, at least in 1H20,** with a rebound in 2H20F. For its refinery, middle distillates will remain under pressure as transportation fuel demand has been hit by the COVID-19 outbreak. Also, International Maritime Organization (IMO) regulations are expected to support very low sulphur fuel oil (VLSFO) demand.
- **Weak petrochemical prices and spreads.** With new capacities entering and weak demand due to decelerating global growth and the COVID-19 outbreak, petrochemical prices and spreads should stay subdued, at least for 1H20. PE prices have stabilised QTD, while spreads have started to improve as naphtha prices fell slightly. QTD, the HDPE price is at USD850/ton (+1% QoQ), while HDPE spreads have risen to USD347/ton (+17% from 4Q19) – the uptrend is as we expected. Regional naphtha crackers' breakeven price is c.USD400/ton, so some naphtha crackers have already started to cut run rates. Spreads should be near bottom levels.
- **2H20F should see PTTGC's PO/Polyol and MPT retrofit projects enter,** which will add propylene oxide (PO) (200ktpa), polyol (130ktpa) and ethylene/propylene (500ktpa/250ktpa). These will be accompanied by a 35-day planned maintenance shutdown of I4/1 and I4/2 for the tie-in of facilities. As the PO/polyol and MTP retrofit projects are also slated for completion, this should help offset the softer spreads on its existing projects.
- **Feedstock repricing renegotiation with PTT (PTT TB, NEUTRAL, TP: THB43.30) has been completed,** and prices took effect in January (and will be used for the next 11 years). In the new agreement, the reference price will reflect the value of the use of ethane and propane, linked to products such as HDPE, LLDPE and LDPE (previously, it was mainly based on HDPE). The formula will still be based on profit-sharing, but will now reflect the cost of natural gas and end-products from PTTGC. With limited information, we make no changes to our current assumptions.

Analyst

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Share Performance (%)

	YTD	1m	3m	6m	12m
Absolute	(15.8)	(5.0)	(11.1)	(9.0)	(35.4)
Relative	(6.9)	3.3	(0.2)	3.6	(21.5)
52-wk Price low/high (THB)	46.8 – 73.3				

PTT Global Chemical (PTTGC TB)



Source: Bloomberg

Forecasts and Valuation	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
Total turnover (THBm)	518,655	412,810	403,574	406,358	406,358
Recurring net profit (THBm)	43,642	8,530	14,117	16,727	17,313
Recurring net profit growth (%)	8.5	(80.5)	65.5	18.5	3.5
Recurring P/E (x)	4.91	25.38	15.34	12.94	12.51
P/B (x)	0.7	0.8	0.7	0.7	0.7
P/CF (x)	4.76	7.57	4.56	6.29	6.17
Dividend Yield (%)	8.9	4.2	5.0	5.9	6.2
EV/EBITDA (x)	3.79	11.66	5.49	4.78	4.32
Return on average equity (%)	14.0	4.0	4.9	5.7	5.8
Net debt to equity (%)	17.3	28.7	11.6	5.3	(0.9)

Source: Company data, RHB

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Financial Exhibits

Asia	Financial summary (THB)	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
Thailand	Recurring EPS	9.78	1.89	3.13	3.71	3.84
Energy & Petrochemicals	DPS	4.25	2.00	2.39	2.83	2.97
PTT Global Chemical	BVPS	66.37	63.37	64.46	65.31	66.18
PTTGC TB	Return on average equity (%)	14.0	4.0	4.9	5.7	5.8
Buy						
	Valuation metrics	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
	Recurring P/E (x)	4.91	25.38	15.34	12.94	12.51
	P/B (x)	0.7	0.8	0.7	0.7	0.7
	FCF Yield (%)	9.3	1.2	8.6	12.6	12.9
	Dividend Yield (%)	8.9	4.2	5.0	5.9	6.2
	EV/EBITDA (x)	3.79	11.66	5.49	4.78	4.32
	EV/EBIT (x)	5.54	98.81	13.97	10.89	10.01
	Income statement (THBm)	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
	Total turnover	518,655	412,810	403,574	406,358	406,358
	Gross profit	56,202	19,038	29,192	31,707	31,404
	EBITDA	60,403	21,768	37,421	39,205	39,205
	Depreciation and amortisation	(19,055)	(19,198)	(22,724)	(21,993)	(22,296)
	Operating profit	41,348	2,570	14,697	17,212	16,909
	Net interest	(3,593)	(3,119)	(3,282)	(2,762)	(1,778)
	Pre-tax profit	43,257	12,999	15,716	18,749	19,431
	Taxation	(2,986)	(649)	(1,598)	(2,023)	(2,118)
	Reported net profit	40,069	11,682	14,117	16,727	17,313
	Recurring net profit	43,642	8,530	14,117	16,727	17,313
	Cash flow (THBm)	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
	Change in working capital	(8,873)	10,587	14,902	27	(234)
	Cash flow from operations	44,950	28,585	47,443	34,447	35,074
	Capex	(25,016)	(25,965)	(28,800)	(7,200)	(7,200)
	Cash flow from investing activities	(42,473)	(29,452)	9,358	(4,915)	(3,353)
	Dividends paid	(19,087)	(19,156)	(9,021)	(10,901)	(12,916)
	Cash flow from financing activities	(9,176)	(18,793)	(6,075)	(2,401)	684
	Cash at beginning of period	43,429	36,744	18,840	69,567	96,698
	Net change in cash	(6,698)	(19,659)	50,727	27,131	32,405
	Ending balance cash	36,744	18,840	69,567	96,698	129,103
	Balance sheet (THBm)	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
	Total cash and equivalents	53,562	25,560	76,287	103,418	135,823
	Tangible fixed assets	266,051	280,404	250,742	235,949	220,853
	Total investments	56,906	65,901	65,901	65,901	65,901
	Total assets	469,255	452,514	469,520	482,081	499,624
	Short-term debt	22,387	12,887	22,477	33,877	47,477
	Total long-term debt	83,648	96,918	88,557	85,657	85,657
	Total liabilities	165,773	158,919	170,991	179,741	193,341
	Total equity	303,482	293,595	298,529	302,339	306,283
	Total liabilities & equity	469,255	452,514	469,520	482,081	499,624
	Key metrics	Dec-18	Dec-19	Dec-20F	Dec-21F	Dec-22F
	Revenue growth (%)	17.9	(20.4)	(2.2)	0.7	0.0
	Recurrent EPS growth (%)	8.5	(80.7)	65.5	18.5	3.5
	Gross margin (%)	10.8	4.6	7.2	7.8	7.7
	Operating EBITDA margin (%)	11.6	5.3	9.3	9.6	9.6
	Net profit margin (%)	7.7	2.8	3.5	4.1	4.3
	Dividend payout ratio (%)	47.8	77.2	77.2	77.2	77.2
	Capex/sales (%)	4.8	6.3	7.1	1.8	1.8
	Interest cover (x)	11.5	0.8	4.5	6.2	9.5

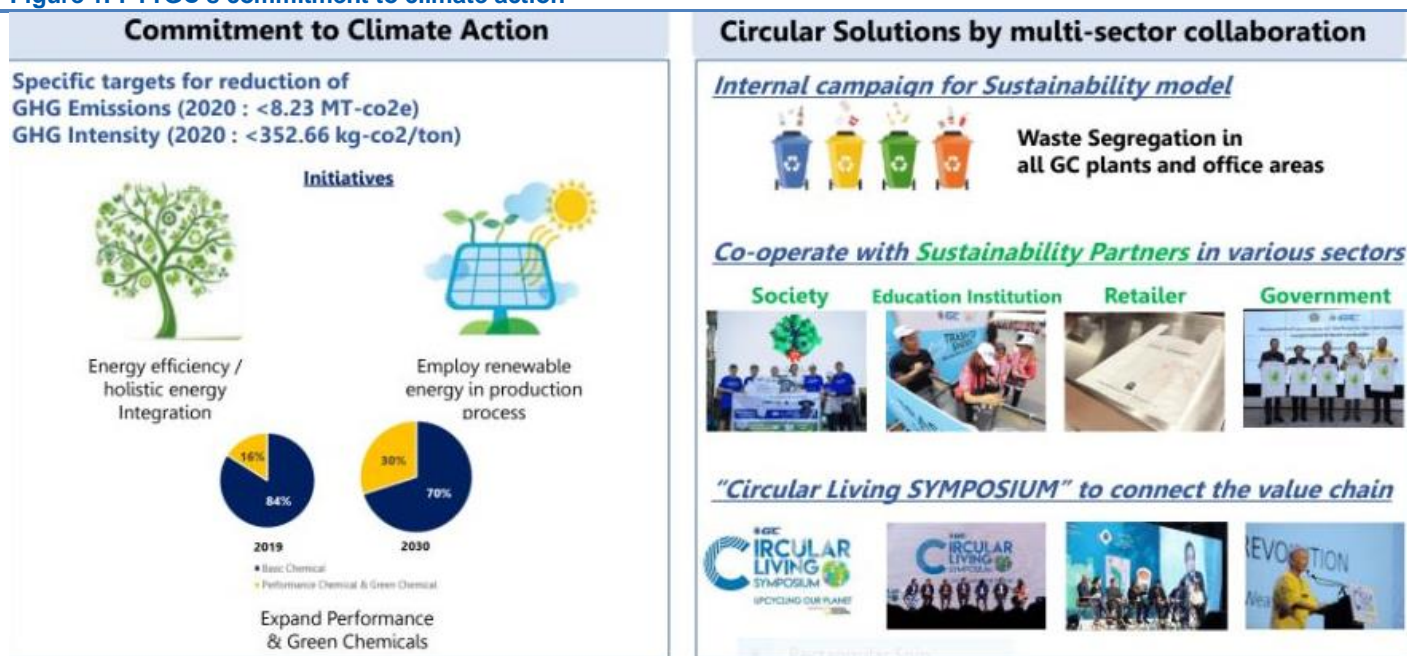
Source: Company data, RHB

Circular Economy: Recycling Project

PTTGC's knowledge-sharing session was about the circular economy and how its investment in the plastic recycling plant (commercial operations to begin by 4Q21) will play a role in Thailand's efforts to lower its carbon footprint. Note that Thailand is part of the Paris Agreement to cut greenhouse gas (GHG) emissions. PTTGC is committed to cutting GHG emissions by 20% by 2030 and by 50% by 2050. All of its plants will be environmentally friendly in the longer term.

Background: PTTGC has established a joint venture called ENVICCO Ltd, to operate the high-quality recycled plastic plant, of which PTTGC holds 70% and ALPLA holds 30%. The investment in the plastic recycling plant is a pilot project for plastic waste management. The plant will convert used packaging plastic to high-quality recycled plastic resin – to serve the increasing demand for recycled plastic in the market as well as lower the environmental burden. ENVICCO will manufacture and distribute high-quality recycled plastic resin, and has a total capacity of 45ktpa – which will comprise recycled polyethylene terephthalate (rPET, 30ktpa) and recycled high-density polyethylene (rHDPE, 15ktpa). The project will be located in the Asia Industrial Estate in Rayong, and is expected to be commercial by 4Q21.

Figure 1: PTTGC's commitment to climate action



Source: Company data

The circular economy push

The objective of recycling PET resin (rPET resin) and HDPE (ie rHDPE) is to remove impurity to be as close to virgin PET/HDPE as possible. At the moment, around 70-80% of PET can be collected, but this has not yet been used to recycle products for food purposes. At the moment, it is possible to use rPET for food-grade packaging – although this is not the case for rHDPE yet.

The process to recycle plastic is detailed as such: plastic bale enters the factory and goes into the feeder, which separates it from metals and impurities. The most important part is sourcing to separate the PET out of the bottle. NIR (infrared) technology is used to separate the plastics. It then goes through the grinder, which cuts the plastic bottles into plastic flakes (size: c. 5-6mm), and then into the wash section – with cold, hot and sodium hydroxide used to kill the germs and toxins. The flakes are then sorted to separate the polymer type/color. At the extrusion section, the flakes are heated (at 200° Celcius) and molded. Through this process, the recycled plastic will be very close to the quality of virgin plastic.

Global brands using rPET

Coca-Cola has a target that all of its packaging will be 100% recyclable by 2025. It will also ensure that at least 50% of the content of its plastic bottles comes from recycled materials.

Unilever aims to use rHDPE in packaging, with a 25% content in packaging for the domestic market in 2020.

Nestle will launch new rPET water brands using 50% rPET by 2020. It also aims to use 25% rPET in bottles across the EU by 2025.

Colgate-Palmolive intends to use recycled content in its packaging by 2025.

Strong demand growth expected for recycled plastics

Demand for rPET is expected to grow by 6-9% pa. Global demand was at 10mtpa in 2017, and this is expected to increase to 19mtpa by 2028. Within the Asia-Pacific Economic Cooperation (APEC) countries, demand was at 7mtpa in 2017. This is expected to increase to 10mtpa by 2028. Finally, for Thailand, demand was at 130ktpa in 2017 and this is expected to increase to 340ktpa by 2028.

Demand for rHDPE is expected to grow at 7-9% pa. Global demand was at 4mtpa in 2018, and is expected to increase to 8mtpa by 2027. In South-East Asia, demand was at 115ktpa in 2018. This is estimated to increase to 250ktpa by 2028. Finally, Thailand recorded demand of 40ktpa in 2018, and this is expected to increase to 85ktpa by 2028.

Applications for rPET and rHDPE

Applications for rPET are in bottles (food-grade/non-food grade); fibres (t-shirts, bags, shoes, mats, sofas etc) and electrical equipment (housing parts, ink cartridge).

Applications for rHDPE are in consumer products (homecare/personal care), construction (floor mat/playground), and others (automotive, ink toner, toys, buckets and furniture).

Question and answers

Is the cost of recycling plastics similar that of virgin plastic? The cost of processing virgin PET is in raw materials (MEG/PX/PTA) and processing costs. For rPET, the cost is in the recycled/waste bottles. PTTGC believes that costs are similar. Currently it costs c.THB6-7 per bottle, and it can sell a recycled bottle for THB10. Costs can be more expensive if there is a short supply of recycled bottles.

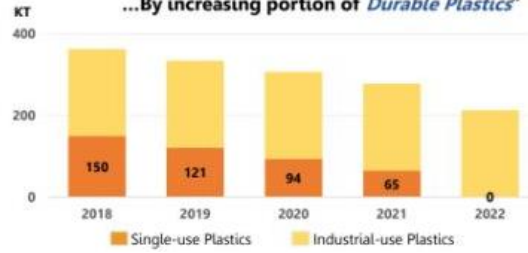
What is the problem with recycling? There is also the issue of the quality of bottles received before they are transported to the recycling plant – as impurities in the bottles can vary greatly. That said, Thailand has to promote the separation of waste. Although buying and selling used bottles in Thailand has been ongoing for over 40 years, there is no formal process set for such transactions.

Figure 2: PTTGC's action for sustainability



Our strategy on Single-use Plastic policy

" We aim to reduce HDPE film sales for single-use to **Zero within 2022** ...By increasing portion of *Durable Plastics*"



Source: Company data

Commodity Outlook

The COVID-19 outbreak has lowered global oil demand and commodity growth so far this year. As such, PTTGC expects demand and spreads to improve in 2H20.

Figure 3: Commodity outlook

	2017	2018	2019	2020	Comment
Crude oil price (Dubai, USD/bbl)	52.3	69.4	63.5	58-62	The COVID-19 outbreak has lowered global oil demand growth. It expects demand to be low in 1H20, before recovering in 2H20.
<u>Refinery (USD/bbl)</u>					
Gasoline-Dubai	14.9	10.6	9.1	10-12	The trend is for FCC to cut the run rate for VLSFO, leading to tighter gasoline supply. Weak driving activity related to the COVID-19 outbreak should be offset by lower Chinese exports, as refineries cut run rates.
Diesel-Dubai	12.5	14.7	13.7	14-15	IMO regulation should support diesel. However, the warmer winter, economic slowdown and COVID-19 outbreak has pressured diesel demand and prices.
VLSFO-Dubai	N/A	N/A	12.3	19-21	Bunkering activity has softened, due to the COVID-19 outbreak. That, and weaker economic activity, is pressuring VLSFO prices.
<u>Paraxylene value chain (USD/ton)</u>					
PX-naphtha	358	453	378	250-300	Pressure from PX new capacity and softer PTA demand will lead to lower operating rates. PX producers cutting their run rates will also lead to rebalancing, which should support PX margins.
PTA margin	85	150	137	85-140	New PTA capacities will pressure PTA margins, while the COVID-19 outbreak will lead to decelerating downstream demand in China and in textile manufacturing zones.
PET resin	136	181	123	120-130	The COVID-19 outbreak has impacted demand in China as well as logistics, and inventory – this should result in production cuts.
<u>Benzene value chain (USD/ton)</u>					
BZ-naphtha	327	206	116	150-175	New capacities almost get absorbed by new downstream capacities, SM, Phenol and CX. BZ producers are to cut run rates, therefore the market should undergo a rebalancing process.
PHL P2F	316	487	298	260-320	New capacities will come onstream in 2Q onwards along with new downstream units in China. Margins should be sustained in 1H20, due to supply tightness from turnaround exercises. The impact of COVID-19 is limited by Chinese producers cutting run rates.
<u>Ethylene & derivatives (USD/ton)</u>					
HDPE price	1168	1330	991	900-990	Demand pressure from the COVID-19 outbreak. Additional supply in Asia in 1H20 is anticipated to limit any price upside
HDPE-MOPJ	673	715	468	395-475	
MEG price	850	907	574	550-580	New MEG capacity from Asia and the US is expected to pressure prices in 2020. The COVID-19 outbreak in China should slow down the recovery of downstream polyester demand. MEG higher cost producers have started to cut run rates.
<u>Propylene & derivatives (USD/ton)</u>					
PP price	1155	1269	1101	1000-1040	New PP plants are anticipated to support Asian demand, while heavy maintenance in 2Q20 will support the market. Additional supply in Asia is expected enter in 1H20, further pressuring the market.
Propylene price	824	988	838	835-875	
PP-MOPJ	659	655	578	490-530	

Source: Company data, RHB

Recommendation Chart



Source: RHB, Bloomberg

Date	Recommendation	Target Price	Price
2020-02-17	Buy	59	53
2020-01-27	Buy	59	49
2019-11-11	Buy	63	54
2019-11-08	Buy	63	56
2019-10-22	Sell	46	51
2019-08-16	Sell	46	53
2019-08-08	Sell	50	54
2019-07-24	Sell	54	61
2019-05-15	Buy	77	65

Source: RHB, Bloomberg

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90 - 100		ดีเลิศ	Excellent
80 - 89		ดีมาก	Very Good
70 - 79		ดี	Good
60 - 69		ดีพอใช้	Satisfactory
50 - 59		ผ่าน	Pass
ต่ำกว่า 50	No logo give	N/A	N/A

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ทั้งนี้บริษัทหลักทรัพย์ อาร์เอชบี (ประเทศไทย) จำกัด (มหาชน) มิได้ยืนยันหรือรับรองถึงความครบถ้วนและถูกต้องของผลสำรวจดังกล่าวแต่อย่างใด

ข้อมูล Anti-Corruption Progress Indicator 2560

ประกาศเจตนารมณ์ CAC

A	ASK	CHG	FC	GREEN	JUTHA	MATCH	NINE	PIMO	RWI	SPPT	TFI	TU	VNT
AI	AU	CHOTI	FER	GSTEL	KASET	MATI	NMG	PK	SANKO	SPRC	THE	TVD	WAVE
AIE	BCH	CHOW	FPI	GUNKUL	KBS	MBAX	NNCL	PL	SAUCE	SR	TICON	TVO	WHA
AIRA	BJC	CIG	FSMART	HARN	KCAR	MC	NTV	PLANB	SC	SRICHA	TIP	TVT	WICE
AJ	BJCHI	COL	GEL	IFS	KTECH	MFEC	NUSA	POST	SCCC	SST	TKN	TWPC	WIJK
ALUCON	BLAND	COM7	GFPT	ILINK	KWC	MIDA	NWR	PRINC	SCN	STA	TLUXE	U	TRUE
AMATAV	BR	CPALL	GGC	INET	KYE	MILL	OGC	PRO	SEAOIL	SUPER	TMILL	UPA	
AOT	BROCK	CPF	GIFT	IRC	L&E	ML	PACE	PSTC	SE-ED	SUSCO	TMT	UREKA	
APCO	BRR	CPR	GJS	J	LEE	MTLS	PAF	PYLON	SENA	SWC	TNP	UWC	
AQUA	CEN	CSC	GLOBAL	JMART	LIT	NBC	PAP	QTC	SIRI	SYMC	TPA	VGI	
ARROW	CGH	EKH	GOLD	JMT	LVT	NCL	PATO	ROH	SMART	TAKUNI	TSE	VIBHA	
ASIA	CHEWA	EPCO	GPSC	JUBILE	MAKRO	NEP	PCSGH	ROJNA	SPACK	TBSP	TTI	VIH	

ได้รับการรับรอง CAC

ADVANC	BKI	CPN	FE	INTUCH	LANNA	MSC	PLAT	PTT	SAT	SNP	TCMC	TMD	UOBKH
AKP	BLA	CSL	FNS	IRPC	LHBANK	MTI	PM	PTTEP	SCB	SORKON	TFG	TNITY	WACOAL
AMANAH	BROOK	DCC	FSS	IVL	LHK	NKI	PPP	PTTGC	SCC	SPC	TGCI	TNL	
AP	BTS	DEMCO	GBX	K	LPN	NSI	PPS	Q-CON	SCG	SPI	THANI	TOG	
ASP	BWG	DIMET	GCAP	KBANK	MBK	OCC	PRANDA	QH	SGP	SSF	THCOM	TOP	
AYUD	CENTEL	DRT	GLOW	KCE	MBKET	OCEAN	PREB	QLT	SINGER	SSI	THRE	TPCORP	
BAFS	CFRESH	DTAC	HANA	KGI	MCOT	PB	PRG	RATCH	SIS	SSSC	THREL	TRU	
BANPU	CIMBT	DTC	HMPRO	KKP	MFC	PDI	PSH	RML	SITHAI	SVI	TIPCO	TSC	
BAY	CM	EASTW	HTC	KSL	MINT	PE	PSL	ROBINS	SMIT	SYNTEC	TISCO	TSSTH	
BBL	CNS	ECL	ICC	KTB	MONO	PG	PT	S & J	SMPC	TAE	TKT	TTCL	
BCP	CPI	EGCO	IFEC	KTC	MOONG	PHOL	PTG	SABINA	SNC	TCAP	TMB	TVI	

N/A

2S	ARIP	BSM	CSS	FMT	INOX	LTX	NPK	RCL	SFP	SUC	TITLE	TSR	VPO
AAV	AS	BTC	CTW	FN	INSURE	M	NPP	RICH	SGF	SUN	TIW	TSTE	VTE
ABICO	ASAP	BTNC	CWT	FOCUS	IRCP	MACO	NVD	RICHY	SHANG	SUTHA	TK	TTA	WG
ACAP	ASEFA	BTW	D	FORTH	IT	MAJOR	NYT	RJH	SIAM	SVH	TKS	TTL	WHAUP
ACC	ASIAN	BUI	DCON	FTE	ITD	MALEE	OHTL	ROCK	SIMAT	SVOA	TM	TTTM	WIN
ADAM	ASIMAR	CBG	DCORP	FVC	ITEL	MANRIN	OISHI	RP	SKE	SYNEX	TMC	TTW	WINNER
ADB	ASN	CCET	DDD	GC	JAS	MAX	ORI	RPC	SKN	T	TMI	TUCC	WORK
AEC	ATP30	CCP	DELTA	GENCO	JCT	M-CHAI	OTO	RPH	SKR	TACC	TMW	TWP	WORLD
AEONTS	AUCT	CGD	DIGI	GL	JKN	MCS	PAE	RS	SKY	TAPAC	TNDT	TWZ	WP
AF	BA	CHARAN	DNA	GLAND	JSP	MDX	PDG	RSP	SLP	TASCO	TNH	TYCN	WPH
AFC	BAT-3K	CHO	DTCI	GPI	JTS	MEGA	PERM	S	SMK	TC	TNPC	UAC	WR
AGE	BCPG	CHUO	EA	GRAMMY	JWD	METCO	PF	S11	SMM	TCB	TNR	UBIS	XO
AH	BDMS	CI	EARTH	GRAND	KAMART	MGT	PICO	SAFARI	SMT	TCC	TOA	UEC	YCI
AHC	BEAUTY	CITY	EASON	GTB	KC	MJD	PJW	SALEE	SOLAR	TCCC	TOPP	UKEM	YNP
AIT	BEC	CK	ECF	GULF	KCM	MK	PLANET	SAM	SPA	TCJ	TPAC	UMI	YUASA
AJA	BEM	CKP	EE	GYT	KDH	MM	PLE	SAMART	SPALI	TCOAT	TPBI	UMS	ZIGA
AKR	BFIT	CMO	EFORL	HFT	KIAT	MODERN	PMTA	SAMCO	SPCG	TEAM	TPCH	UNIQU	ZMICO
ALLA	BGRIM	CMR	EIC	HOTPOT	KKC	MPG	POLAR	SAMTEL	SPG	TFD	TIPL	UP	
ALT	BGT	CNT	EMC	HPT	KOOL	MPIC	POMPUI	SAPPE	SPORT	TFMAMA	TIPIP	UPF	
AMA	BH	COLOR	EPG	HTECH	KTIS	NC	PORT	SAWAD	SPVI	TGPRO	TPOLY	UPOIC	
AMARIN	BIG	COMAN	ERW	HUMAN	KWG	NCH	PPM	SAWANG	SQ	TH	TPP	UT	
AMATA	BIZ	CPH	ESSO	HYDRO	LALIN	NDR	PRAKIT	SCI	SSC	THAI	TR	UTP	
AMC	BKD	CPL	ESTAR	ICHI	LDC	NETBAY	PRECHA	SCP	SSP	THANA	TRC	UV	
ANAN	BLISS	CPT	ETE	ICN	LH	NEW	PRIN	SDC	STANLY	THG	TRITN	UVAN	
APCS	BM	CRANE	EVER	IEC	LOXLEY	NEWS	PRM	SE	STAR	THIP	TRT	VARO	
APEX	BOL	CRD	F&D	IHL	LPH	NFC	PTL	SEAFCO	STEC	THL	TRUBB	VCOM	
APURE	BPP	CSP	FANCY	III	LRH	NOBLE	RAM	SELIC	STHAI	THMUI	TSF	VI	
AQ	BSBM	CSR	FLOYD	INGRS	LST	NOK	RCI	SF	STPI	TIC	TSI	VNG	

Source: Thai Institute of Directors

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- ได้รับการรับรอง CAC

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