# Petrochemicals

SET Petro Index Close: 30/1/2024 676.55 Bt401mn -3.81 / -0.56%

Bloomberg ticker: SETPETRO



# Higher naphtha cost hurt spread

A 6% WoW rise in naphtha cost cut petrochemical product spreads 6-11% in the week; exceptions were propylene and benzene. This suggests the adjustment in product price is lagging cost on bearish market sentiment despite higher oil price and the hit to logistics and trade flow by the Red Sea attacks. The market is waiting for good news on global demand after the US announced surprising 4Q23 economic growth of 3.3% despite high interest rates and inflation. We see lackluster appetite for the sector despite undemanding valuation. Be cautious.

Average PE/PP spread fell WoW led by LLDPE. Average PE/PP spread slid 9% WoW to US\$316/t, far below 12MMA of US\$365/t, on weaker LLDPE (-11% WoW) and PP (-9% WoW) spreads as product prices lagged higher naphtha cost. Demand for polyolefins products is dull, with buyers on the sidelines and refraining from building high inventories amidst an uncertain global economic outlook. Higher oil price cannot stimulate restocking demand given abundant supply. Average PE/PP spread is below cash cost, suggesting capacity rationalization will continue.

Benzene spread up despite higher naphtha cost. a 3% WoW widening in benzene spread supported overall spread for the aromatics chain. Behind this was a 5% WoW rise in benzene price to a 5-month high of US\$1,000/t. We believe this reflects short-term concerns about the cold snap in the US that may cut benzene supply in the near term; China demand remained strong due to higher downstream capacity. PX spread fell 6% WoW to a 6-week low of US\$408/t (vs. 12MMA of US\$453/t) on anticipation of lower downstream PTA demand as several plants in China will be closed for planned maintenance during Feb-Mar. At the same time, lower feedstock for PX due to higher demand for gasoline blending could restrain PX supply.

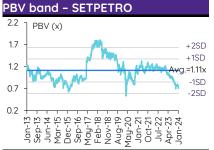
Integrated PET spread down to a 5-week low. Integrated PET spread fell 12% WoW to US\$88/t after staying above the US\$100/t mark since the beginning of the year, still far below 12MMA of US\$139/t. Steady demand held PET bottle chip price stable at US\$920/t but spread was hit by higher feedstock cost from higher oil price. Price of MEG stepped up 4% WoW to approach a two-year high of US\$565/t on market concern about the global freight disruption and US winter freeze (Czapp). PTA price also increased on tighter supply given planned shutdowns and higher demand from the polyester chain. We expect demand for PET bottle chips to improve gradually in coming weeks as the current price is sufficiently attractive to draw beverage producers to restock ahead of production for summer demand.

Valua	Valuation summary														
	Rating				P/E (x) 23F 24F										
GGC	Underperform	8.8	10.5	20.0	n.m. 15.3	0.9	0.8								
IVL	Neutral	24.1	35.0	46.5	50.2 10.5	0.7	0.7								
PTTGC	Neutral	34.3	50.0	47.4	n.m. 11.5	0.5	0.5								
Average					50 212 4	0.7	0.7								

Source: InnovestX Research

Price	perfor	man	ce								
	Al	solute		Relative to SET							
(%)	1M	3M	12M	1M	3M	12M					
GGC	(2.8)	10.8	(41.7)	0.2	11.5	(29.0)					
IVL	(11.6)	1.7	(40.5)	(8.8)	2.3	(27.6)					
PTTGC	(11.0)	(0.7)	(30.5)	(8.3)	(0.1)	(15.3)					

Source: SFT and InnovestX Research



#### Analyst

#### Chaipat Thanawattano Fundamental Investment

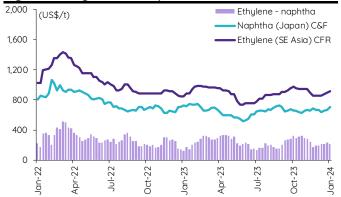
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Key product prices and spread

(US\$/t)	Current 26-Jan-24	-1W	-1M	-3M	-6M	-12M	1Q24 QTD	4Q23	QoQ%	2024 YTD	YoY%	12MMA
Naphtha (Japan) C&F	702	6%	5%	7%	9%	-3%	666	657	1%	666	-4%	652
Ethylene (SE Asia) CFR	915	2%	7%	-6%	18%	8%	885	919	-4%	885	3%	887
Propylene (SE Asia) CFR	1,000	6%	23%	25%	28%	10%	918	806	14%	918	2%	853
HDPE (SE Asia Film) CFR	1,020	1%	4%	-1%	3%	-2%	1,005	1,001	0%	1,005	-2%	1,031
LDPE (SE Asia Film) CFR	1,070	1%	6%	4%	13%	-6%	1,050	1,019	3%	1,050	-7%	1,046
LLDPE (SE Asia Film) CFR	1,000	0%	3%	2%	3%	-6%	1,000	975	3%	1,000	-4%	1,010
PP (SE Asia Inj) CFR	980	1%	4%	2%	5%	-7%	963	947	2%	963	-6%	985
Related stocks	PTTGC (+)	SCC (-)	IRPC (-)									
Paraxylene (FOB)	1,110	1%	1%	3%	-5%	-6%	1,098	1,083	1%	1,098	1%	1,106
Benzene (FOB Korea Spot)	1,000	5%	12%	9%	14%	0%	949	894	6%	949	2%	905
Related stocks	PTTGC (-)	TOP (-)										
MEG (SE Asia) CFR	565	4%	11%	18%	14%	4%	548	493	11%	548	3%	501
PTA (SE Asia) CFR	800	1%	3%	1%	-3%	-4%	788	776	2%	788	-1%	801
PET Bottle (NE Asia) FOB	920	0%	2%	3%	-1%	-7%	920	904	2%	920	-4%	948
Related stocks	PTTGC (-)	IVL (-)										
ABS (SE Asia) CFR	1,320	2%	3%	-4%	2%	-6%	1,300	1,331	-2%	1,300	-7%	1,353
PS GPPS (SE Asia) CFR	1,250	2%	4%	-2%	8%	-5%	1,228	1,254	-2%	1,228	-3%	1,247
Related stocks	IRPC (=)											
PVC (SE Asia) CFR	790	5%	5%	3%	-4%	-12%	760	786	-3%	760	-15%	835
Related stocks	SCC (+)	PTTGC (+)										
Spread												
Ethylene - naphtha	213	-8%	15%	-33%	63%	79%	219	263	-17%	219	31%	235
Propylene - naphtha	298	6%	111%	109%	119%	62%	251	150	68%	251	21%	201
HDPE - naphtha	318	-8%	2%	-15%	-8%	1%	339	344	-2%	339	1%	378
LDPE - naphtha	368	-7%	8%	-1%	20%	-11%	384	363	6%	384	-14%	393
LDPE - Ethylene	155	-6%	0%	182%	-11%	-47%	165	100	65%	165	-41%	158
LLDPE - naphtha	298	-11%	-1%	-8%	-8%	-11%	334	319	5%	334	-4%	357
PP - naphtha	278	-9%	3%	-10%	-3%	-14%	296	290	2%	296	-10%	332
PX - naphtha	408	-6%	-4%	-2%	-22%	-10%	431	426	1%	431	9%	454
BZ - naphtha	298	3%	35%	14%	26%	9%	283	238	19%	283	19%	253
MEG - Ethylene	-2	n.a.	n.a.	n.a.	n.a.	n.a.	-1	-76	n.a.	-1	n.a.	-49
PTA - PX	56	6%	21%	-19%	27%	43%	52	50	4%	52	-27%	60
PET spread	40	-28%	-28%	-16%	-24%	-56%	57	69	-18%	57	-37%	89
ABS spread	735	0%	-4%	-11%	-11%	-13%	741	804	-8%	741	-14%	829
PS spread	195	-10%	-22%	-25%	-19%	-32%	221	281	-21%	221	-22%	275
PVC - ethylene	299	13%	8%	1%	-32%	-38%	278	315	-12%	278	-41%	382

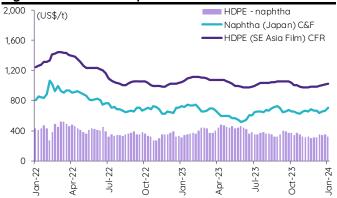






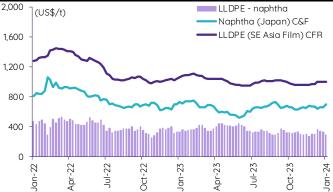
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 3: HDPE vs. naphtha



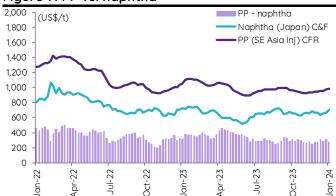
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 5: LLDPE vs. naphtha



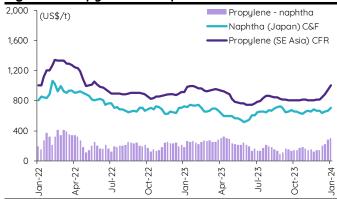
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

Figure 7: PP vs. naphtha



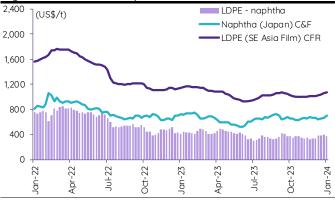
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

### Figure 2: Propylene vs. naphtha



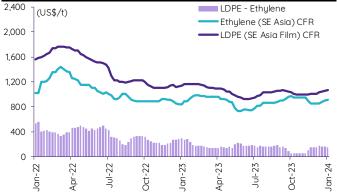
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

#### Figure 4: LDPE vs. naphtha



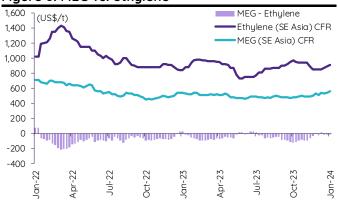
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 6: LDPE vs. ethylene



Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

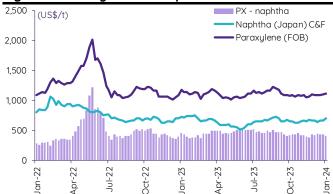
# Figure 8: MEG vs. ethylene



Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

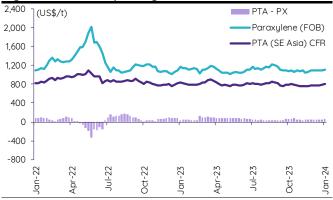






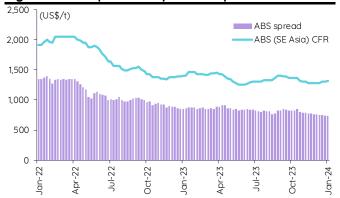
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 11: PTA vs. paraxylene



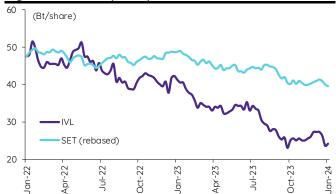
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

### Figure 13: ABS price and product spread



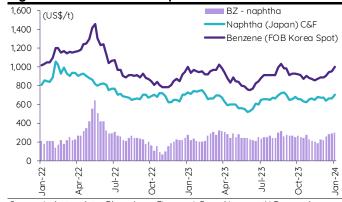
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 15: Share price performance - IVL



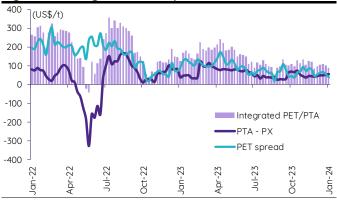
Source: Bloomberg Finance L.P. and InnovestX Research

### Figure 10: Benzene vs. naphtha



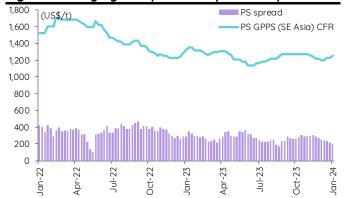
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

#### Figure 12: Integrated PET spread



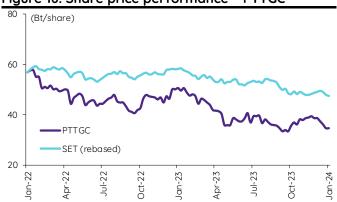
Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

### Figure 14: Polystyrene price and product spread



Source: Industry data, Bloomberg Finance L.P. and InnovestX Research

# Figure 16: Share price performance - PTTGC



Source: Bloomberg Finance L.P. and InnovestX Research





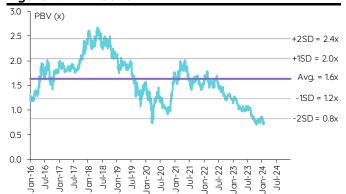


Figure 18: PBV band - PTTGC



Source: InnovestX Research

Source: InnovestX Research

Figure 19: Product spread - heat map

Product	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	Product
HDPE	362	497	518	607	583	576	462	505	421	445	368	336	373	436	361	344	339	HDPE
LDPE	430	577	601	831	968	917	740	880	741	782	600	472	446	437	343	363	384	LDPE
LLDPE	357	485	471	565	581	583	510	557	445	477	389	344	369	408	337	319	334	LLDPE
PP	464	560	525	653	754	695	547	550	428	432	352	291	359	393	295	290	296	PP
PX	294	196	122	149	226	312	274	179	286	635	501	468	401	484	490	426	431	PX
BZ	170	100	31	107	188	352	324	198	200	357	272	157	238	270	256	238	283	BZ
PS	372	459	411	574	511	498	450	472	395	305	392	365	285	306	239	281	221	PS
ABS	976	992	1,222	1,571	1,925	1,976	1,760	1,785	1,366	1,231	1,024	945	863	863	816	804	741	ABS
PET	146	175	129	132	145	149	118	217	203	201	200	69	109	117	66	69	57	PET
Int PET	198	279	213	208	241	224	209	321	269	172	257	113	166	190	106	112	101	Int PET
PVC	454	445	465	543	619	710	548	629	472	579	446	412	453	354	453	315	278	PVC

Source: InnovestX Research

Figure 20: Valuation summary (price as of Jan 30, 2024)

	Rating	Price	Target	ETR	P/E (x)	EPS growth (%)		P/BV (x)	ROE (%)	Div. Yield (%)			EV/EBITDA (x)			
		(Bt/Sh)	(Bt/Sh)	(%)	22A 23F 24F	22A	23F	24F	22A 23F 24F	22A 23F 24F	22A	23F	24F	22A	23F	24F
GGC	Underperform	8.75	10.5	20.0	8.9 n.m. 15.3	30	n.m.	n.m.	0.9 0.9 0.8	10 (3) 6	5.7	0.0	3.4	4.1	17.7	4.9
IVL	Neutral	24.10	35.0	46.5	3.5 50.2 10.5	44	(93)	377	0.7 0.7 0.7	22 1 7	6.6	1.2	2.9	4.3	7.1	5.0
PTTGC	Neutral	34.25	50.0	47.4	11.2 n.m. 11.5	(57)	n.m.	n.m.	0.5 0.5 0.5	4 (2) 4	2.9	1.5	4.4	8.6	11.4	7.1
Average					7.9 50.2 12.4	6	(93)	377	0.7 0.7 0.7	12 (1) 6	5.1	0.9	3.6	5.7	12.1	5.7

Source: InnovestX Research

Figure 21: Regional peer comparison

Company	PE (x)		EPS (	EPS Growth (%)			PBV (x)			ROE (%)			Yield (%	)	EV/EBITDA (x)			
	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F	23F	24F	25F
Sinopec Shanghai Petrochem	114.2	24.9	15.0	109.1	358.3	66.4	1.1	1.1	1.0	0.9	4.5	6.4	n.a	1.8	4.5	10.5	6.5	5.2
China Petroleum & Chemical	10.1	9.0	8.5	7.5	11.5	6.2	0.9	0.8	0.8	8.8	9.5	9.5	6.5	6.6	6.7	4.9	4.5	4.2
PetroChina Co Ltd	5.8	5.8	6.2	10.2	(0.6)	(6.7)	0.7	0.6	0.6	11.6	10.5	9.1	8.6	8.1	7.6	3.8	3.8	3.8
Reliance Industries Ltd	n.m.	23.8	21.2	n.m.	n.m.	12.3	2.3	2.1	1.9	8.7	9.4	9.7	0.3	0.3	0.4	13.9	12.3	11.1
Mitsui Chemicals Inc	11.2	9.5	8.0	(16.6)	17.9	19.0	1.0	0.9	0.8	9.9	10.8	11.6	3.1	3.4	3.6	7.2	6.6	5.8
Asahi Kasei Corp	31.5	13.5	11.9	273.5	133.7	13.7	0.9	0.8	0.8	5.3	6.4	7.0	3.3	3.3	3.4	7.8	6.9	6.4
Sumitomo Chemical Co Ltd	n.m	20.1	7.9	(225.8)	148.3	155.9	0.5	0.5	0.5	n.m.	2.6	6.5	3.9	3.7	4.3	30.1	15.3	7.5
Lotte Chemical Corp	532.2	18.0	8.9	(86.3)	2,861.9	101.4	0.4	0.4	n.a.	(0.1)	1.9	4.0	1.6	2.4	3.0	14.4	8.2	6.3
Far Eastern New Century Corp	19.8	18.5	14.8	(5.0)	7.1	25.2	0.7	0.7	0.7	3.8	4.1	4.9	3.8	4.5	4.8	11.3	10.5	10.0
Formosa Chemicals & Fibre	35.9	25.4	20.7	25.4	41.6	22.7	1.0	1.0	1.0	3.1	2.7	4.3	2.1	2.7	3.6	21.7	17.6	13.7
Formosa Plastics Corp	38.3	26.1	18.3	(66.9)	46.6	42.9	1.3	1.3	1.2	3.7	5.1	7.4	2.0	3.0	3.9	34.9	22.4	16.4
Nan Ya Plastics Corp	29.7	21.4	14.5	(49.1)	38.8	47.9	1.3	1.2	1.1	2.8	5.9	8.2	1.6	3.4	5.0	23.0	15.1	11.8
Formosa Petrochemical Corp	30.5	25.7	20.7	59.9	18.6	24.3	2.1	1.9	2.0	7.5	7.9	9.4	2.5	2.8	3.7	19.0	13.9	12.2
Petronas Chemicals Group Bhd	26.2	17.6	14.4	(67.0)	48.7	22.2	1.4	1.3	1.3	5.7	7.6	8.6	2.4	3.1	3.8	11.6	9.7	8.4
Indorama Ventures PCL	36.5	12.6	9.0	(87.7)	188.4	40.0	0.7	0.7	0.7	1.8	4.9	7.7	1.8	2.5	4.0	9.4	7.9	6.9
IRPC PCL	n.m	12.6	6.5	80.0	469.0	93.5	0.5	0.5	0.5	(1.4)	2.6	4.8	0.9	2.3	3.6	11.8	8.5	6.6
PTT Global Chemical PCL	n.m	20.0	13.7	61.7	330.4	46.5	0.6	0.5	0.5	5.9	3.0	5.3	6.9	3.0	4.7	12.2	9.4	7.9
Global Green Chemicals	350.0	12.7	11.4	(97.3)	2,660.0	11.6	0.9	0.8	0.8	(0.0)	6.9	7.1	1.1	3.3	4.5	11.1	6.0	5.8
Alpek SA de CV	20.2	6.8	7.0	(91.0)	197.1	(2.7)	0.6	0.5	0.5	3.6	5.5	7.4	12.5	8.1	8.6	4.5	4.3	4.3
Eastman Chemical Co	13.6	11.0	9.4	(3.8)	24.0	16.6	1.8	1.7	1.6	13.9	16.0	17.0	3.7	4.0	4.2	9.2	8.2	7.5
Average	81.6	16.8	12.4	(8.9)	400.1	37.9	1.0	1.0	1.0	5.0	6.4	7.8	3.6	3.6	4.4	13.6	9.9	8.1

Source: Bloomberg Finance L.P., InnovestX Research



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#### CG Rating 2023 Companies with CG Rating

#### Companies with Excellent CG Scoring

7UP, AAV, ABM, ACE, ACG, ADB, ADD, ADVANC, AEONTS, AF, AGE, AH, AHC, AIRA, AIT, AJ, AKP, AKR, ALLA, ALT, AMA, AMARIN, AMATA, AMATAV, ANAN, AOT, AP, APCO, APCS, ARIP, ARROW, ASEFA, ASK, ASP, ASW, ATP30, AUCT, AWC, AYUD, B, BA, BAFS, BAM, BANPU, BAY, BBG, BBIK, BBL, BC, BCH, BCP, BCPG, BDMS, BEC, BEM, BEYOND, BGC, BGRIM, BH, BIZ, BLC, BLCH, BLC, BLCH, BLC, BCH, BCP, BCPG, BDMS, BEC, BEM, BEYOND, BGC, BGRIM, BH, BIZ, BLC, BLCH, BLC, BCH, BCP, BCPG, BDMS, BEC, BEM, BEYOND, BGC, BGRIM, BH, BIZ, BLC, BCL, BE, BGCO, COTTO, CPALL, CPAXT, CPP, CPI, CPI, CPN, CPW, CRC, CRD, CSC, CSS, CV, DCC, DDD, DELTA, DEMCO, DMT, DOHOME, DRT, DUSIT, EA, EASTW, ECF, ECL, EE, EGCO, EPG, ERW, ETC, ETE, FE, FLOYD, FN, FPI, FPT, FSX, FVC, GBX, GC, GCAP, GENCO, GFPT, GGC, GLAND, GLOBAL, GPSC, GRAMMY, GULF, GUNKUL, HANA, HARN, HENG, HMPRO, HPT, HTC, ICC, ICHI, ICN, III, ILINK, ILM, IMH, IND, INET, INTUCH, IP, IRC, IRPC, ITC, ITEL, IVL, JAS, JTS, KBANK, KCC, KCE, KEX, KKP, KSL, KTB, KTC, KTMS, KUMWEL, KUN, LALIN, LANNA, LH, LHFG, LIT, LOXLEY, LPN, LRH, LST, M, MAJOR, MALEE, MATCH, MBK, MC, M-CHAI, MCOT, MEGA, MFC, MFEC, MILL, MINT, MONO, MOONG, MSC, MST, MTC, MTI, NC, NCH, NCL, NDR, NER, NKI, NOBLE, NRF, NTV, NVD, NWR, NYT, OCC, OISHI¹, ONEE, OR, ORI, OSP, OTO, PAP, PATO, PB, PCSGH, PDG, PDJ, PG, PHOL, PIMO, PJW, PLANB, PLAT, PLUS, PM, POLY, PORT, PPP, PPS, PR9, PRG, PRINC, PRM, PRTR, PSH, PSL, PT, PTC, PTT, PTTEP, PTTGC, Q-CON, QH, QTC, RATCH, RBF, RPH, RS, RT, S, S&J, SA, SABINA, SAK, SAMART, SAMTEL, SAPPE, SAT, SBNEXT, SC, SCB, SCC, SCG, SCGP, SCM, SDC, SEAFCO, SEAOIL, SECURE, SELIC, SENA, SENX, SFP², SFT, SGC, SGF, SGP, SHR, SICT, SIRI, SIS, SITHAI, SJWD, SKR, SM, SMPC, SMT, SNC, SNNP, SNP, SO, SPALI, SPC, SPCG, SPI, SPRC, SR, SSC, SSF, SSSC, STA, STC, STEC, STGT, STI, SUC, SUN, SUSCO, SUTHA, SVI, SVT, SYMC, SYNEX, SYNTEC, TACC, TAE, TCAP, TCMC, TEAMG, TEGH, TFG, TFMAMA, TGE, TGH, THANA, THANI, THCOM, THIP, THEC, TIDLOR, TIPH, TISCO, TK, TKN, TKS, TKT, TLI, TM, TWC, TMD, TMT, TNDT, TNITY, TNL, TNR, TOA, TOG, TOP, TPBI, TPICS, TPIPL, TPIPP

#### Companies with Very Good CG Scoring

2S, A5, AAI, AIE, ALUCON, AMR, APURE, ARIN, AS, ASIA, ASIAN, ASIMAR, ASN, AURA, BR, BSBM, BTG, CEN, CGH, CH, CHIC, CI, CIG, CMC, COMAN, CSP, DOD, DPAINT, DV8, EFORL, EKH, ESSO, ESTAR, EVER, FORTH, FSMART, FTI, GEL, GPI, HEALTH, HUMAN, IFS, INSET, IT, J, JCKH, JDF, JKN, JMART, JUBILE, K, KCAR, KGI, KIAT, KISS, KK, KTIS, KWC, KWM, LDC, LEO, LHK, MACO, METCO, MICRO, MK, MVP, NCAP, NOVA, NTSC, PACO, PIN, PQS, PREB, PRI, PRIME, PROEN, PROS, PROUD, PSTC, PTECH, PYLON, RCL, SALEE, SANKO, SCI, SCN, SE, SE-ED, SFLEX, SINGER, SKN, SONIC, SORKON, SPVI, SSP, SST, STANLY, STP, SUPER, SVOA, SWC, TCC, TEKA, TFM, TMILL, TNP, TPLAS, TPOLY, TRC, TRU, TRUBB, TSE, VRANDA, WAVE, WFX, WIIK, WIN, WP, XO

#### Companies with Good CG Scoring

24CS, AMANAH, AMARC, AMC, APP, ASAP, BCT, BE8, BIG, BIOTEC, BLESS, BSM, BVG, CAZ, CCET, CHARAN, CHAYO, CHOTI, CITY, CMAN, CMR, CRANE, CWT, DHOUSE, DTCENT, EASON, FNS, FTE, GIFT, GJS, GTB, GTV, GYT, HL, HTECH, HYDRO, IIG, INGRS, INSURE, IRCP, ITD, ITNS, JCK, JMT, JR, JSP, KBS, KGEN, KJL, L&E, LEE, MASTER, MBAX, MEB, MENA, META, MGT, MITSIB, MJD, MOSHI, MUD, NATION, NNCL, NPK, NSL, NV, OGC, PAF, PCC, PEACE, PICO, PK, PL, PLANET, PLE, PMTA, PPM, PRAKIT, PRAPAT, PRECHA, PRIN, PSG, RABBIT, READY, RJH, RSP, RWI, S11, SAAM, SAF, SAMCO, SAWAD, SCAP, SCP, SIAM, SKE, SKY, SMART, SMD, SMIT, SOLAR, SPA, STECH, STPI, SVR, TC, TCCC<sup>3</sup>, TEAM, TFI, TIGER, TITLE, TKC, TMI, TNH, TPA, TPAC, TRITN, UBA, UMI, UMS, UTP, VARO, VPO, W, WARRIX, WORK, WPH, YONG, ZIGA

### Corporate Governance Report

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The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date. InnovestX Securities Company Limited does not conform nor certify the accuracy of such survey result.

To recognize well performers, the list of companies attaining "Good", "Very Good" and "Excellent" levels of recognition (Not including listed companies qualified in the "no announcement of the results" clause from 1 January 2022 to 31 October 2023) is publicized.

<sup>1</sup>OISHI was voluntarily delisted from the Stock Exchange of Thailand, effectively on September 6, 2023

<sup>2</sup>SFP was voluntarily delisted from the Stock Exchange of Thailand, effectively on July 19, 2023

<sup>3</sup>TCCC was voluntarily delisted from the Stock Exchange of Thailand effectively on August 25, 2023

# Anti-corruption Progress Indicator

### Certified (ได้รับการรับรอง)

2S, 7UP, AAI, ADVANC, AF, AH, AI, AIE, AIRA, AJ, AKP, AMA, AMANAH, AMATAV, AP, APCS, AS, ASIAN, ASK, ASP, AWC, AYUD, B, BAFS, BAM, BANPU, BAY, BBGI, BBL, BCH, BCP, BCPG, BE8, BEC, BEYOND, BGC, BGRIM, BKI, BLA, BPP, BROOK, BRR, BSBM, BTS, BWG, CEN, CENTEL, CFRESH, CGH, CHEWA, CHOTI, CHOW, CIG, CIMBT, CM, CMC, COM7, CPALL, CPAXT, CPF, CPI, CPL, CPN, CPW, CRC, CSC, DCC, DELTA, DEMCO, DIMET, DOHOME, DRT, DUSIT, EA, EASTW, ECF, EGCO, EP, EPG, ERW, ESTAR, ETC, ETE, FNS, FPI, FPT, FSMART, FTE, GBX, GC, GCAP, GEL, GFPT, GGC, GJS, GPI, GPSC, GSTEEL, GULF, GUNKUL, HANA, HARN, HENG, HMPRO, HTC, ICC, ICHI, IFS, III, ILINK, ILM, INET, INOX, INSURE, INTUCH, IRPC, ITEL, IVL, JAS, JKN, JR, JTS, KASET, KBANK, KBS, KCAR, KCC, KCE, KGEN, KGI, KKP, KSL, KTB, KTC, L&E, LANNA, LHFG, LHK, LPN, LRH, M, MAJOR, MALEE, MATCH, MBAX, MBK, MC, MCOT, META, MFC, MFEC, MILL, MINT, MONO, MOONG, MSC, MST, MTC, MTI, NATION, NCAP, NEP, NKI, NOBLE, INF, NWR, OCC, OGC, OR, ORI, PAP, PATO, PB, PCSGH, PDG, PDJ, PG, PHOL, PIMO, PK, PL, PLANB, PLANET, PLAT, PM, PPP, PPPM, PPS, PR9, PREB, PRG, PRINC, PRM, PROS, PSH, PSL, PSTC, PT, PTECH, PTG, PTT, PTTEP, PTTGC, PYLON, Q-CON, QH, QLT, QTC, RABBIT, RATCH, RML, RS, RWI, S&J, SAAM, SABINA, SAK, SAPPE, SAT, SC, SCC, SCCC, SCG, SCGP, SCM, SCN, SCN, SEAOIL, SE-ED, SELIC, SENA, SGC, SGP, SIRI, SITHAI, SKR, SMIT, SMR, SMPC, SNC, SNP, SORKON, SPACK, SPALI, SPC, SPI, SPRC, SRICHA, SSF, SSP, SSSC, SST, STA, STGT, STOWER, SUSCO, SVI, SYMC, SYNTEC, TAE, TAKUNI, TASCO, TCAP, TCMC, TFG, TFI, TFMAMA, TGE, TGH, THANI, THCOM, THIP, THRE, THREL, TIDLOR, TIPCO, TISCO, TKS, TKT, TMD, TMILL, TMT, TNITY, TNL, TNP, TNR, TOG, TOP, TOPP, TPA, TPCS, TRT, TRU, TSC, TSI, TSTE, TSTH, TTA, TTB, TTCL, TU, TVDH, TVO, TWPC, UBE, UBIS, UEC, UKEM, UOBKH, UV, VCOM, VGI, VIH, WACOAL, WHA, WHAUP, WICE, WIIK, XO, YUASA, ZEN, ZIGA

#### Declared (ประกาศเจตนารมณ์)

ACE, ADB, ALT, AMC, ASW, BLAND, BTG, BYD, CAZ, CBG, CV, DEXON, DMT, EKH, FSX, GLOBAL, GREEN, ICN, IHL, ITC, J, JMART, JMT, LEO, LH, MENA, MITSIB, MODERN, NER, NEX, OSP, OTO, PLUS, POLY, PQS, PRIME, PROEN, PRTR, RBF, RT, SA, SANKO, SCB, SENX, SFLEX, SIS, SKE, SM, SVOA, TBN, TEGH, TIPH, TKN, TPAC, TPLAS, TQM, TRUE, W, WPH. XPG

#### N/A

24CS, 3K-BAT, A, A5, AAV, ABM, ACAP, ACC, ACG, ADD, ADVICE, AEONTS, AFC, AGE, AHC, AIT, AJA, AKR, AKS, ALL, ALLA, ALPHAX, ALUCON, AMARC, AMARIN, AMR, ANAN, ANI, AOT, APCO, APEX, APP, APURE, AQUA, ARIN, ARIP, ARROW, ASAP, ASEFA, ASIA, ASIMAR, ASN, ATF30, AU, AUCT, AURA, B52, BA, BBIK, BC, BCT, BDMS, BEAUTY, BEM, BGT, BH, BIG, BIOTEC, BIS, BIZ, BJ, C, BJCHI, BKD, BLC, BLESS, BLISS, BM, BOL, BR, BRI, BROCK, BSM, BSRC, BTNC, BTW, BUI, BVG, CCET, CCP, CEYE, CGD, CH, CHARAR, CHAYO, CHG, CHIC, CHO, CI, CITY, CIVIL, CK, CKP, CMAN, CMO, CMR, CNT, COCOCO, COLOR, COMAN, CPANEL, CPH, CPR, CPT, CRANE, CRD, CSP, CSR, CSX, CTW, CWT, D, DCON, DDD, DHOUSE, DITTO, DOD, DPAINT, DTCENT, DTCI, DV8, EASON, ECL, EE, EFORL, EMC, ETL, EVER, F&D, FANCY, FE, FLOYD, FMT, FN, FORTH, FTI, FVC, GABLE, GENCO, GFC, GIFT, GL, GLAND, GLOCON, GLORY, GRAMMY, GRAND, GSC, GTB, GTV, GYT, HEALTH, HFT, HL, HPT, HTECH, HUMAN, HYDRO, 12, IFEC, IIG, IMH, IND, INGRS, INSET, IP, IRC, IRCP, IT, ITD, ITNS, ITTHI, JAK, JCK, JCKH, JCT, JDF, JPARK, JSP, JUBILE, K, KAMART, KC, KCG, KCM, KDH, KEX, KIAT, KISS, KJL, KK, KKC, KLINIQ, KOOL, KTIS, KTMS, KUMWEL, KUN, KWC, KWI, KWM, KYE, LALIN, LDC, LEE, LIT, LOXLEY, LPH, LST, MANRIN, MASTER, MATI, MCA, M-CHAI, MCS, MDX, MEB, MEGA, METCO, MGC, MGI, MICRO, MIDA, MJD, MK, ML, MORE, MOSHI, MTW, MUD, MVP, NAM, NC, NCH, NCL, NDR, NETBAY, NEW, NEWS, NFC, NNCL, NOK, NOVA, NPK, NSL, NTSC, NTV, NUSA, NV, NVD, NYT, OHTL, ONEE, ORN, PACE, PACO, PAF, PCC, PEACE, PERM, PF, PHG, PICO, PIN, PJW, PLE, PLT, PMTA, POLAR, POMPUI, PORT, POST, PPM, PRAKIT, PRAPAT, PRECHA, PRI, PRIN, PRO, PROUD, PSG, PSP, PTC, PTL, RAM, RCL, READY, RICHY, RJH, ROCK, ROCTEC, ROH, ROJNA, RP, RPC, RPH, RSP, S, S11, SABUY, SAF, SAFARI, SAFE, SALEE, SAM, SAMART, SAMCO, SAMTEL, SAUCE, SAV, SAWANG, SBNEXT, SCAP, SCGD, SCI, SCL, SCP, SDC, SE, SEAFCO, SECURE, SFT, SGF, SHANG, SHR, SIAM, SICT, SIMAT, SINGER, SINO, SISB, SJWD, SK, SKN, SKY, SLM, SLP, SMART, SMD, SMT, SNNP, SO, SOLAR, SONIC, SPA, SPCG, SPG, SPVI, SQ, SR, SSS, SSS, STANLY, STARK, STC, STECH, STHAI, STI, S

#### Explanations

Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of November 1, 2023) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.