



# Utilities

SET ENER index Close: 8/2/2018 26,253.01 -98.73 / 0.37% Bt16,631mn  
 Bloomberg ticker: SET ENER

## Looking for 31% YoY overall growth in 4Q17

2017 was a great year for utilities and we project 42% earnings growth, from the COD of several projects, new overseas investments and better efficiency at existing projects. 4Q17 also looks nice with an expected 31% YoY earnings growth. We estimate sector average yield of 3.0% on 2017 operations. Top pick is WHAUP (Bt8.8 TP) with expected 7% electricity capacity growth with water volume growth plus potential progress in new solar rooftop projects in 2018.

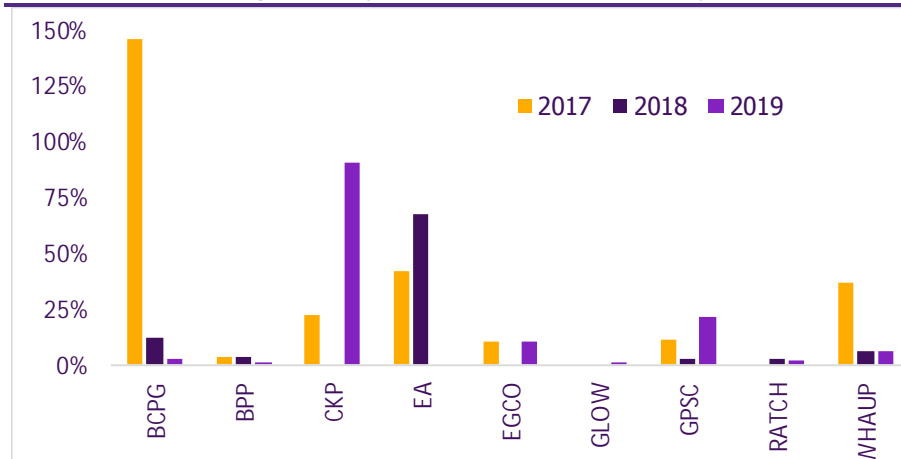
**4Q17F: Total earnings to rise 31% YoY, led by CKP, GPSC and BPP.** Total core earnings of the 10 utilities stocks under our coverage is projected to grow 31% YoY to Bt10.0bn in 4Q17, spurred by additional projects via operational startup of new power plants and new investment in operating projects especially overseas. The YoY earnings growth leaders are expected to be CKP (up 84% YoY off a low base and new COD of BIC-2 project), followed by GPSC (up 42% YoY from COD of IRPC-CP phase 2 and efficiency improvements of its Small Power Producers (SPP) projects and BPP (41% YoY increase from big improvement of Hongsa Power Plant after operations smoothed in 2017). QoQ will fall on seasonality, with a lower Availability Payment (AP) for Independent Power Producers (IPP), the completion of Contract Available Hours (CAH) before year-end and less sun for solar power.

**2017F: earnings to grow by 42%, led WHAUP, BPP and BCPG.** Total core earnings are projected to grow 42% to Bt45bn in 2017. Leaders are WHAUP (rising by 283% from new COD of 5 SPPs over 4Q16-4Q17, water volume growth with increasing heavy users and group restructure in 1H16), BPP (up 44% from smooth operations at Hongsa and COD of several solar projects in China and Japan with total attributed capacity of 104 MW). We estimate growth in total electricity capacity of power companies under our coverage of 6.0% to 19 GW in 2017), BCPG (increasing 40%, largely from new investments in Indonesia and the Philippines which added 172 attributed MW to operating assets in 2017).

**Average dividend yield of 3.0%, led by GLOW, TTW and RATCH.** We estimate average sector dividend yield of 3.0% on 2017 operations, led by GLOW (6.9%, DPS estimated at Bt4.219/sh on 2H17 or 5.1% of current price), TTW (4.9%, DPS of Bt0.35/sh on 2H17 or 2.6% of current price) and RATCH (4.4%, paying twice a year with DPS of Bt1.25/sh on 2H17 or 2.3% of current price).

**WHAUP is top pick.** We believe total attributed capacity of companies under coverage will grow at 3.4% in 2018, led by EA at 64%, BCPG at 11% and WHAUP at 7%. WHAUP, however, is our top sector pick, as it also has the water business as a growth driver plus expected progress in new solar rooftop projects soon while it is trading at only 12x 2018 PE (vs sector average of 22x).

### YoY rise in operating capacity (based on committed projects)



Source: SCBS Investment Research

See the end of this report for disclaimer

### Valuation summary

	Rating	Price (Bt)	TP (Bt)	ETR (%)	P/E (x) 18F	P/E (x) 19F	P/BV (x) 18F	P/BV (x) 19F
BCPG	Sell	24.9	19.0	(20.9)	18.1	16.4	3.2	2.9
BPP	Buy	24.9	32.0	31.7	10.8	9.9	1.6	1.5
CKP	Neutral	4.2	4.0	(2.4)	49.4	36.7	1.7	1.7
EA	Sell	66.5	27.0	(59.0)	43.0	31.8	12.6	9.3
EGCO	Buy	217.0	255.0	20.6	10.3	9.7	1.2	1.1
GLOW	Neutral	83.3	85.0	9.0	14.2	14.6	2.5	2.5
GPSC	Sell	83.0	52.0	(35.5)	31.0	26.9	3.1	2.9
RATCH	Buy	54.3	62.0	18.7	10.7	10.6	1.1	1.1
TTW	Buy	13.4	13.5	6.0	18.4	16.9	4.5	4.5
WHAUP	Buy	7.1	8.8	26.6	11.9	10.8	1.9	1.7
<b>Average</b>				<b>(0.5)</b>	<b>21.8</b>	<b>18.4</b>	<b>3.3</b>	<b>2.9</b>

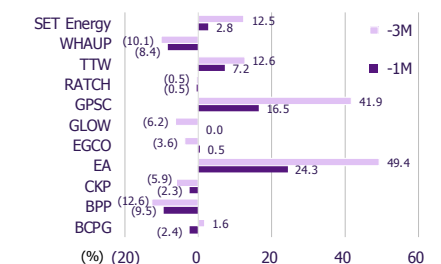
Source: SCBS Investment Research

### Price Performance

Company	Absolute			Relative to SET		
	1M	3M	12M	1M	3M	12M
BCPG	(2.4)	1.6	87.2	(1.9)	(3.1)	65.9
BPP	(9.5)	(12.6)	n.a.	(9.0)	(16.7)	(11.4)
CKP	(2.3)	(5.9)	32.5	(1.9)	(10.3)	17.4
EA	24.3	49.4	170.3	24.9	42.4	139.5
EGCO	0.5	(3.6)	7.4	0.9	(8.1)	(4.8)
GLOW	0.0	(6.2)	7.8	0.5	(10.6)	(4.5)
GPSC	16.5	41.9	125.9	17.0	35.2	100.1
RATCH	(0.5)	(0.5)	5.9	0.0	(5.1)	(6.2)
TTW	7.2	12.6	21.8	7.7	7.3	7.9
WHAUP	(8.4)	(10.1)	n.a.	(7.9)	(14.3)	n.a.

Source: SET, SCBS Investment Research

### Price performance relative to SET



Source: SET, SCBS Investment Research

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Figure 1: 4Q17 earnings preview

Btmn	4Q16	3Q17	4Q17F	YoY%	QoQ%	Note
<b>BCPG</b>						
Revenue	757	854	814	7.6	(4.6)	<ul style="list-style-type: none"> <li>- Core profit is projected to jump 39% YoY from 2 new investments: Geothermal power plants in Indonesia and a wind power project in the Philippines.</li> <li>- However, this is a 34% fall QoQ as it recognized all earnings contributions from the geothermal business over 9M17 in 3Q17 and it was soft seasonality for solar.</li> <li>- We expect 2017 core earnings to grow by 40% to Bt2.0bn from new earnings contributions from Indonesia and the Philippines.</li> </ul>
Gross profit	519	609	574	10.7	(5.7)	
Operating profit	369	429	399	7.9	(7.2)	
EBITDA	574	629	602	4.9	(4.4)	
<b>Core profit</b>	<b>324</b>	<b>680</b>	<b>450</b>	<b>39.1</b>	<b>(33.8)</b>	
Net profit	104	514	318	204.5	(38.0)	
Gross margin (%)	69	71	70	1.9	(0.8)	
Operating margin (%)	49	50	49	0.1	(1.3)	
Core profit margin (%)	43	80	55	12.5	(24.3)	
<b>BPP</b>						
Revenue	1,907	1,399	1,898	(0.5)	35.6	<ul style="list-style-type: none"> <li>- Core profit is expected to jump 41% YoY to Bt1.1bn led by Hongsa Power Plant, for which operations smoothed in 2Q17, despite a weaker performance of coal-fired power plants in China (profit-margin pressure from rising coal cost).</li> <li>- On a QoQ basis, we expect a 12% fall from seasonality.</li> <li>- We expect 2017 core earnings to grow by 44% to Bt7.0bn, driven by improving Hongsa and CODs of solar projects in China and Japan (total capacity of 104 MW).</li> </ul>
Gross profit	643	311	544	(15.5)	75.1	
Operating profit	228	-39	252	10.6	(751.3)	
EBITDA	401	103	456	13.7	342.8	
<b>Core profit</b>	<b>799</b>	<b>1,275</b>	<b>1,124</b>	<b>40.7</b>	<b>(11.9)</b>	
Net profit	1,094	838	772	(29.4)	(7.8)	
Gross margin (%)	34	22	29	(5.1)	6.5	
Operating margin (%)	12	-3	13	1.3	16.1	
Core profit margin (%)	42	91	59	17.3	(31.9)	
<b>CKP</b>						
Revenue	1,418	2,279	1,792	26.4	(21.4)	<ul style="list-style-type: none"> <li>- The COD of BIC-2 power plant (SPP) in mid-2017 will lead to 84% growth in 4Q17 core earnings YoY to Bt88mn.</li> <li>- However, since third quarter is normally the peak season for Nam Ngum 2 hydropower project in Laos, our 4Q17 earnings projection shows a 55% fall QoQ.</li> <li>- We expect 2017 core profit to slip by 15% to Bt327mn from lower water flow in Laos.</li> </ul>
Gross profit	400	840	643	61.1	(23.4)	
Operating profit	291	731	525	80.5	(28.2)	
EBITDA	639	1,135	938	46.7	(17.4)	
<b>Core profit</b>	<b>48</b>	<b>198</b>	<b>88</b>	<b>84.1</b>	<b>(55.3)</b>	
Net profit	-177	165	66	(137.6)	(59.7)	
Gross margin (%)	28	37	36	7.7	(0.9)	
Operating margin (%)	21	32	29	8.8	(2.8)	
Core profit margin (%)	3	9	5	1.5	(3.8)	
<b>EA</b>						
Revenue	2,278	3,097	3,035	33.2	(2.0)	<ul style="list-style-type: none"> <li>- 4Q17 core earnings are projected to grow 6% YoY from the COD of Hadkanghun wind project (126 MW) but fall 129% YoY from rising SG&amp;A from the preparation of several new projects.</li> <li>- QoQ will show a 4% decline from solar seasonality.</li> <li>- Full-year core profit is expected to grow by 14% to Bt3.8bn on the operational startup of a new wind project but a significant increase in expenses.</li> </ul>
Gross profit	1,187	1,475	1,446	21.8	(2.0)	
Operating profit	1,112	1,306	1,274	14.6	(2.4)	
EBITDA	1,432	1,745	1,737	21.3	(0.4)	
<b>Core profit</b>	<b>883</b>	<b>969</b>	<b>935</b>	<b>5.9</b>	<b>(3.5)</b>	
Net profit	830	976	935	12.6	(4.2)	
Gross margin (%)	52.1	47.6	47.6	(4.4)	0.0	
Operating margin (%)	48.8	42.2	42.0	(6.8)	(0.2)	
Core profit margin (%)	38.8	31.3	30.8	(8.0)	(0.5)	
<b>EGCO</b>						
Revenue	6,788	7,928	7,503	10.5	(5.4)	<ul style="list-style-type: none"> <li>- Core earnings are expected to grow 17% YoY to Bt2.2bn, on an 8% increase in capacity via the CODs of 3 SPPs with total attributed capacity of 322 MW in 2017.</li> <li>- This is down 29% QoQ from seasonality and scheduled plant maintenance.</li> <li>- Full-year core earnings (excluding FX) is expected to grow 20% to Bt10.6bn from the CODs of 3 SPPs in 2017, growing earnings from Khanom plant and full-year revenue from the wind project that started up in Dec 2016.</li> </ul>
Gross profit	2,326	1,654	1,536	(34.0)	(7.1)	
Operating profit	1,895	1,044	1,014	(46.5)	(2.8)	
EBITDA	2,978	2,347	2,326	(21.9)	(0.9)	
<b>Core profit</b>	<b>1,896</b>	<b>3,102</b>	<b>2,212</b>	<b>16.7</b>	<b>(28.7)</b>	
Net profit	839	3,517	2,643	215.1	(24.8)	
Gross margin (%)	34.3	20.9	20.5	(13.8)	(0.4)	
Operating margin (%)	27.9	13.2	13.5	(14.4)	0.4	
Core profit margin (%)	27.9	39.1	29.5	1.6	(9.6)	
<b>GLOW (result)</b>						
Revenue	12,017	13,225	12,567	4.6	(5.0)	<ul style="list-style-type: none"> <li>- GLOW reported results with a 4Q17 core profit growth of 18% YoY from the low base in 4Q16 when there was an unscheduled outage at GHECO-1 requiring equipment write-off.</li> <li>- QoQ showed a seasonal fall of 22%.</li> <li>- 2017 core profit declined by 11% to Bt7.8bn from the expiration of two power purchase agreements (PPAs) for SPP Phase 2 (with around 10% of total capacity) and a five-week scheduled maintenance of GHECO-1 in 1Q17.</li> </ul>
Gross profit	2,580	3,556	2,999	16.2	(15.7)	
Operating profit	2,127	3,381	2,673	25.7	(20.9)	
EBITDA	3,281	4,488	3,741	14.0	(16.7)	
<b>Core profit</b>	<b>1,475</b>	<b>2,218</b>	<b>1,742</b>	<b>18.1</b>	<b>(21.5)</b>	
Net profit	1,203	2,411	1,938	61.1	(19.6)	
Gross margin (%)	21.5	26.9	23.9	2.4	(3.0)	
Operating margin (%)	17.7	25.6	21.3	3.6	(4.3)	
Core profit margin (%)	12.3	16.8	13.9	1.6	(2.9)	

Btmn	4Q16	3Q17	4Q17F	YoY%	QoQ%	Note
<b>GPSC</b>						
Revenue	4,461	4,243	4,703	5.4	10.8	- Core earnings are projected to grow 42% from the COD of BIC-2 and IRPC-CP phase 2 and steadily improving efficiency of SPP projects.
Gross profit	746	876	934	25.3	6.6	
Operating profit	411	698	696	69.2	(0.4)	- This is, however, 21% below the previous quarter mainly for seasonal reasons: 1) QoQ lower weight factor of the Availability Payment (AP) for IPP and 2) no dividend income from RPCL vs Bt150mn in 3Q17.
EBITDA	813	1,246	1,179	45.0	(5.4)	
<b>Core profit</b>	<b>512</b>	<b>921</b>	<b>726</b>	<b>41.8</b>	<b>(21.2)</b>	- Full-year core profit is projected to grow 16% to Bt3.1bn, thanks to SPP projects with 2 new CODs and significant efficiency improvements at existing projects.
Net profit	419	888	632	51.0	(28.8)	
Gross margin (%)	16.7	20.6	19.9	3.1	(0.8)	
Operating margin (%)	9.2	16.5	14.8	5.6	(1.7)	
Core profit margin (%)	11.5	21.7	15.4	4.0	(6.3)	
<b>RATCH</b>						
Revenue	10,800	11,145	10,070	(6.8)	(9.6)	- Core profit is expected to improve 6% YoY to Bt1.54bn after Hongsa Power Plant began running smoothly in 2Q17.
Gross profit	1,496	1,503	1,364	(8.8)	(9.3)	
Operating profit	1,091	1,106	903	(17.3)	(18.4)	- However, this is down 18% YoY from normal seasonality with declining weight factor in the Availability Payment (AP) for IPPs.
EBITDA	1,567	1,519	1,291	(17.6)	(15.0)	
<b>Core profit</b>	<b>1,454</b>	<b>1,885</b>	<b>1,541</b>	<b>6.0</b>	<b>(18.2)</b>	- 2017 core earnings are projected to grow 19% to Bt7.1bn, driven by big operational improvement at Hongsa Power Plant.
Net profit	2,964	1,861	1,541	(48.0)	(17.2)	
Gross margin (%)	13.8	13.5	13.5	(0.3)	0.1	
Operating margin (%)	10.1	9.9	9.0	(1.1)	(1.0)	
Core profit margin (%)	13.5	16.9	15.3	1.8	(1.6)	
<b>WHAUP</b>						
Revenue	482	406	489	1.4	20.4	- Core earnings are projected to turn from a core loss in 4Q16 (when GHECO-1 had an incident) to Bt466mn core earnings, with support from the COD of 4 SPPs in 2017.
Gross profit	194	130	188	(2.7)	45.1	
Operating profit	161	101	144	(10.6)	42.7	- This is up 3% QoQ from 1) increasing water revenue from more heavy users (SPPs), 2) COD of 2 SPP in Sep and Nov 2017.
EBITDA	242	158	174	(28.0)	10.1	
<b>Core profit</b>	<b>-138</b>	<b>450</b>	<b>466</b>	<b>n/a</b>	<b>3.4</b>	- 2017 core earnings are expected to grow 283% to Bt1.4bn from 5 new plants over 4Q16-4Q17, water volume growth and group restructure in 1H16. We lower net profit forecast by 8% to Bt2.1bn.
Net profit	-138	450	466	n/a	3.4	
Gross margin (%)	40.1	32.0	38.5	(1.6)	6.5	
Operating margin (%)	33.4	24.9	29.5	(3.9)	4.6	
Core profit margin (%)	-28.6	110.8	95.2	123.8	(15.6)	
<b>TTW</b>						
Revenue	1,329	1,433	1,440	8.4	0.5	- Strong growth YoY is spurred by volume growth of 7.8%, tariff hike (1% at TTW, 0.4% at PTW and 6.5% at Bangpa-
Gross profit	978	1,032	1,038	6.2	0.6	
Operating profit	857	910	915	6.8	0.6	In industrial estate) and equity income from CKP's turnaround to a net profit of Bt17mn versus a net loss of Bt45mn in 4Q16.
EBITDA	1,072	1,211	1,217	13.6	0.5	
<b>Core profit</b>	<b>571</b>	<b>735</b>	<b>715</b>	<b>25.1</b>	<b>(2.7)</b>	- Small dip QoQ is due to seasonally lower equity income from CKP.
Net profit	571	735	715	n/a	(2.7)	
Gross margin (%)	73.6	72.0	72.1	(1.5)	0.0	- Meeting our forecast will bring net profit to Bt2.7bn for 2017, in line with our forecast.
Operating margin (%)	64.5	63.5	63.5	(0.9)	0.1	
Core profit margin (%)	43.0	51.3	49.7	6.7	(1.6)	
<b>Core profit summary</b>						
BCPG	324	680	450	39.1	(33.8)	Higher than average (YoY)
BPP	799	1,275	1,124	40.7	(11.9)	Higher than average (YoY)
CKP	48	198	88	84.1	(55.3)	Higher than average (YoY)
EA	883	969	935	5.9	(3.5)	
EGCO	1,896	3,102	2,212	16.7	(28.7)	
GLOW	1,475	2,218	1,742	18.1	(21.5)	
GPSC	512	921	726	41.8	(21.2)	Higher than average (YoY)
RATCH	1,454	1,885	1,541	6.0	(18.2)	
WHAUP	-138	450	466	n/a	3.4	
TTW	571	735	715	25.1	(2.7)	
<b>Total</b>	<b>7,824</b>	<b>12,434</b>	<b>9,999</b>	<b>30.8</b>	<b>(19.3)</b>	

Source: SCBS Investment Research

**Figure 2: Valuation summary** (price as of Feb 8, 2018)

	Rating	Price (Bt/Sh)	Target (Bt/Sh)	ETR (%)	P/E (x)			EPS growth (%)			P/BV (x)			ROE (%)			Div. Yield (%)			EV/EBITDA (x)		
					17F	18F	19F	17F	18F	19F	17F	18F	19F	17F	18F	19F	17F	18F	19F	17F	18F	19F
BCPG	Sell	24.90	19.0	(20.9)	25.2	18.1	16.4	40	39	10	3.6	3.2	2.9	14	19	19	2.6	2.8	3.2	26.7	20.4	17.0
BPP	Buy	24.90	32.0	31.7	12.8	10.8	9.9	44	18	10	1.9	1.6	1.5	15	16	16	2.4	3.2	4.0	53.3	33.4	31.4
CKP	Neutral	4.16	4.0	(2.4)	93.7	49.4	36.7	(15)	90	34	1.8	1.7	1.7	2	4	5	1.4	1.4	1.4	16.2	13.9	13.5
EA	Sell	66.50	27.0	(59.0)	64.9	43.0	31.8	14	51	35	16.9	12.6	9.3	29	34	34	0.3	0.4	0.5	41.2	30.8	23.2
EGCO	Buy	217.00	255.0	20.6	10.7	10.3	9.7	24	5	5	1.3	1.2	1.1	12	12	11	3.1	3.1	3.1	21.9	20.8	19.8
GLOW	Neutral	83.25	85.0	9.0	15.6	14.2	14.6	(11)	10	(3)	2.5	2.5	2.5	16	17	17	6.9	6.9	6.9	9.0	8.7	8.7
GPSC	Sell	83.00	52.0	(35.5)	39.6	31.0	26.9	16	28	15	3.2	3.1	2.9	8	10	11	1.5	1.8	1.9	28.0	22.9	21.3
RATCH	Buy	54.25	62.0	18.7	11.2	10.7	10.6	19	5	1	1.2	1.1	1.1	11	11	10	4.4	4.4	4.4	14.5	14.2	15.7
TTW	Buy	13.40	13.5	6.0	19.7	18.4	16.9	10	7	9	4.6	4.5	4.5	23	25	27	4.9	5.2	5.9	12.3	11.9	11.2
WHAUP	Buy	7.10	8.8	26.6	16.1	11.9	10.8	283	35	11	2.1	1.9	1.7	17	17	16	2.5	3.4	3.7	34.2	35.8	30.4
<b>Average</b>					<b>31.0</b>	<b>21.8</b>	<b>18.4</b>	<b>43</b>	<b>29</b>	<b>13</b>	<b>3.9</b>	<b>3.3</b>	<b>2.9</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>3.0</b>	<b>3.3</b>	<b>3.5</b>	<b>25.7</b>	<b>21.3</b>	<b>19.2</b>

Source: SCBS Investment Research

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### CG Rating 2017 Companies with CG Rating

▲▲▲▲▲

ADVANC, AKP, ANAN, AOT, AP, BAFS, BANPU, BAY, BCP, BIGC, BTS, BWG, CFRESH, CHO, CK, CNT, CPF, CPN, CSL, DELTA, DEMCO, DRT, DTAC, DTC, EASTW, EGCO, GC, GCAP, GFPT, GOLD, GPSC, GRAMMY, GUNKUL, HANA, HMPRO, ICC, ICHI, INTUCH, IRPC, IVL, JSP, KBANK, KCE, KKP, KTB, KTC, LHBANK, LPN, MBK, MCOT, MINT, MONO, NCH, NKI, NYT, OTO, PHOL, PLANB, PPS, PDJ, PRG, PSH, PSL, PTG, PTT\*, PTTEP\*, PTTGC, PYLON, Q-CON, QH, QTC, RATCH, ROBINS, SMART, SAMTEL, SAT, SC, SCB, SCC, SCCC, SE-ED, SIM, SIS, SITHAI, SNC, SPALI, SPRC, SSSC, STEC, SVI, SYNTEC, TCAP, THANA, THCOM, THREL, TISCO, TKT, TMB, TNDT, TOP, TRC, TRUE, TSC, TTCL, TU, TVD, UV, VGI, WACOAL, WAVE

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2S, AAV, ACAP, AGE, AH, AHC, AIRA, AIT, ALT, AMANAH, AMATA, AMATAV, APCO, ARIP, ASIA, ASIMAR, ASK, ASP, AUCTION, AYUD, BBL, BCPG, BDMS, BEC, BEM, BFIT, BJC, BJCHI, BLA, BOL, BROOK, BRR, BTW, CEN, CENTEL, CGH, CHARAN, CHEWA, CHG, CHOW, CI, CIG, CIMBT, CKP, CM, CNS, COL, COM7, CPI, CSC, CSP, CSS, DCC, EA, EASON, ECF, ECL, EE, EPG, ERW, FN, FNS, FORTH, FPI, FSMART, FVC, GBX, GEL, GLOBAL, GLOW, HARN, HOTPOT, HYDRO, ILINK, INET, IRC, IT, ITD, JWD, K, KGI, KKC, KOOL, KSL, KTIS, L&E, LALIN, LANNA, LH, LHK, LIT, LOXLEY, LRH, LST, M, MACO, MAJOR, MAKRO, MALEE, MBKET, MC, MEGA, MFC, MFEC, MOONG, MSC, MTI, MTL, NOBLE, NOK, NSI, NTV, NWR, OCC, OGC, OISHI, ORI, PAP, PATO, PB, PCSGH, PDI, PE, PG, PJW, PLANET, PLAT, PM, PPP, PR, PREB, PRINC, PT, RICHY, RML, RS, RWI, S, S & J, SABINA, SALEE, SAMCO, SAWAD, SCG, SCI, SCN, SEAFSCO, SEAOL, SENA, SFP, SIAM, SINGER, SIRI, SMK, SMPC, SMT, SNP, SORKON, SPC, SPI, SPPT, SR, SSF, SST, STA, STPI, SUC, SUSCO, SUTHA, SWC, SYMC, SYNEX, TAE, TAKUNI, TASCO, TBSP, TCC, TEAM, TF, TFG, TGCI, THAI\*, THANI, THIP, THRE, TICON, TIPCO, TIW, TK, TKN, TKS, TMC, TMI, TMILL, TMT, TNITY, TNL, TOG, TPAC, TPCORP, TRT, TRU, TSE, TSR, TSTE, TSTH, TTA, TTW, TVI, TVO, TWP, TWPC, U, UAC, UMI, UP, UPF, UPOIC, UWC, VIH, VNT, WICE, WINNER, XO, YUASA, ZMICO

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AEC, AEONTS, AF, AJ, AKR, ALLA, ALUCON, AMA, AMARIN, AMC, APURE, AQUA, ARROW, AS, ASEFA, ASIAN, ASN, ATP30, AU, BA, BCH, BEAUTY, BH, BIG, BIZ, BLAND, BPP, BR, BROCK, BTC, BTNC, CBG, CCET, CCP, CGD, CITY, CMR, COLOR, COMAN, CPL, CSR, CTW, CWT, DCON, DIGI, DNA, EFORL, EKH, EPCO, ESSO, ETE, FE, FER, FOCUS, FSS, GENCO, GIFT, GJS, GLAND, GSTEL, GTB, GYT, HPT, HTC, HTECH, IFS, IHL, INSURE, IRCP, J, JMART, JMT, JUBILE, KASET, KBS, KCAR, KIAT, KWC, KYE, LDC, LEE, LPH, MATCH, MATI, M-CHAI, MDX, METCO, MGT, MILL, MJD, MK, MODERN, MPG, NC, NCL, NDR, NEP, NETBAY, NPK, NPP, NUSA, OCEAN, PDG, PF, PICO, PIMO, PK, PL, PLE, PMTA, PRECHA, PRIN, PSTC, QLT, RCI, RCL, RJH, ROJNA, RPC, S11, SANKO, SAPPE, SCP, SE, SGP, SKR, SKY, SLP, SMIT, SOLAR, SPA, SPCG, SPG, SPVI, SQ, SRICHA, SSC, STANLY, SUPER, SVOA, T, TACC, TCCC, TCMC, TFD, TIC, TLUXE, TM, TMD, TNP, TNR, TOPP, TPA, TPBI, TPCH, TPIPL, TPOLY, TPP, TRITN, TTI, TVT, TYCN, UOBKH, UPA, UREKA, UT, VIBHA, VPO, VTE, WIIC, WIN

### Corporate Governance Report

The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

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. SCB Securities Company Limited does not conform nor certify the accuracy of such survey result.

BIGC was voluntarily delisted from the Stock Exchange of Thailand effectively on September 28, 2017

\* บริษัทหรือกรรมการหรือผู้บริหารของบริษัทที่มีข่าวด้านการกำกับดูแลกิจการ เช่น การกระทำความผิดเกี่ยวกับหลักทรัพย์ การทุจริต คอรัปชัน เป็นต้น ซึ่งการใช้ข้อมูล CGR ควรตระหนักถึงข้อจำกัดกล่าวประกอบด้วย

### Anti-corruption Progress Indicator

#### Certified (ได้รับการรับรอง)

ADVANC, AKP, AMANAH, AP, ASK, ASP, AYUD, BAFS, BANPU, BAY, BBL, BCH, BCP, BCPG, BKI, BLA, BROOK, BTS, BWG, CENTEL, CFRESH, CIMBT, CM, CNS, CPALL, CPF, CPI, CPN, CSC, CSL, DCC, DEMCO, DIMET, DRT, DTAC, DTC, EASTW, ECL, EGCO, FE, FNS, FSS, GBX, GC, GCAP, GEL, GFPT, GLOW, GOLD, GUNKUL, HANA, HMPRO, HTC, ICC, IFEC, IFS, INTUCH, IRPC, IVL, K, KASET, KBANK, KBS, KCE, KGI, KKP, KSL, KTB, KTC, LANNA, LHBANK, LHK, LPN, M, MBK, MBKET, MC, MCOT, MFC, MINT, MONO, MOONG, MSC, MTI, NBC, NINE, NKI, NMG, NSI, OCC, OCEAN, OGC, PB, PCSGH, PDI, PDJ, PE, PG, PHOL, PLAT, PM, PPP, PPS, PREB, PRG, PSH, PSL, PT, PTG, PTT, PTTEP, PTTGC, Q-CON, QH, QLT, RATCH, RML, ROBINS, S & J, SABINA, SAT, SCB, SCC, SCCC, SCG, SCN, SE-ED, SENA, SGP, SINGER, SIS, SITHAI, SMIT, SMPC, SNC, SNP, SORKON, SPACK, SPC, SPI, SPRC, SSF, SSI, SSSC, SUSCO, SVI, SYNTEC, TAE, TASCO, TCAP, TCMC, TFG, TFI, TFMAMA, TGCI, THANI, THCOM, THRE, THREL, TICON, TIP, TIPCO, TISCO, TKT, TMB, TMD, TMT, TNITY, TNL, TOG, TOP, TPA, TPCORP, TRU, TRUE, TSC, TSTH, TTCL, TVD, TVI, U, UOBKH, VGI, VNT, WACOAL, WHA, WICE

#### Declared (ประกาศเจตนารมณ์)

A, AIE, AJ, AMATAV, AOT, APCO, ARROW, ASIAN, BJC, BJCHI, BLAND, BLISS, BR, BRR, BTC, BUI, CEN, CGH, CHEWA, CHG, CHO, CHOTI, CI, CIG, COM7, CPR, EKH, EPCO, FN, FSMART, FTE, GGC, GJS, GPI, GPSC, GSTEL, HARN, ILINK, INET, ITTEL, JAS, JTS, JUBILE, KTECH, KWC, KWG, L&E, LDC, LEE, LIT, LRH, MAKRO, MALEE, MATCH, MATI, MFEC, MILL, MTL, NCL, NEP, NNCL, NUSA, NWR, PACE, PAP, PATO, PDG, PIMO, PK, PL, PLANB, PLANET, POST, PRINC, PRM, PRO, PSTC, PYLON, QTC, ROJNA, RWI, SAUCE, SC, SCI, SELIC, SIRI, SMK, SPPT, SRICHA, SST, STA, SUPER, SWC, SYMC, TAKUNI, THE, THIP, TKN, TLUXE, TMC, TMILL, TNP, TNR, TOPP, TRITN, TTI, TU, TVT, TWPC, UBIS, UPA, UWC, VIBHA, VIH, WAVE

#### N/A

2S, AAV, ABICO, ACAP, ACC, ADAM, ADB, AEC, AEONTS, AF, AFC, AGE, AH, AHC, AI, AIRA, AIT, AJA, AKR, ALLA, ALT, ALUCON, AMA, AMARIN, AMATA, AMC, ANAN, APCS, APEX, APURE, AQ, AQUA, ARIP, AS, ASAP, ASEFA, ASIA, ASIMAR, ASN, ATP30, AU, AUCTION, BA, BAT-3K, BDMS, BEAUTY, BEC, BEM, BFIT, BGRIM, BGT, BH, BIG, BIZ, BKD, BM, BOL, BPP, BROCK, BSBM, BSM, BTNC, BTW, CBG, CCET, CCP, CGD, CHARAN, CHOW, CHUO, CITY, CK, CKP, CMO, CMR, CNT, COL, COLOR, COMAN, CPH, CPL, CPT, CRANE, CRD, CSP, CSR, CSS, CTW, CWT, D, DCON, DCORP, DDD, DELTA, DIGI, DNA, DTIC, EA, EARTH, EASON, ECF, EE, EFORL, EIC, EMC, EPG, ERW, ESSO, ESTAR, ETE, EVER, F&D, FANCY, FC, FER, FLOYD, FMT, FOCUS, FORTH, FPI, FVC, GENCO, GIFT, GL, GLAND, GLOBAL, GRAMMY, GRAND, GREEN, GTB, GULF, GYT, HFT, HOTPOT, HPT, HTECH, HUMAN, HYDRO, ICHI, ICN, IEC, IHL, III, INGRS, INOX, INSURE, IRC, IRPC, IT, ITD, J, JCT, JKN, JMART, JMT, JSP, JUTHA, JWD, KAMART, KC, KCAR, KCM, KDH, KIAT, KKC, KOOL, KTIS, KYE, LALIN, LH, LOXLEY, LPH, LST, LTX, LVT, MACO, MAJOR, MANRIN, MAX, MBAX, M-CHAI, MCS, MDX, MEGA, METCO, MGT, MIDA, MJD, MK, ML, MM, MODERN, MPG, MPIC, NC, NCH, NDR, NETBAY, NEW, NEWS, NFC, NOBLE, NOK, NPK, NPP, NTV, NVD, NYT, OHTL, OISHI, ORI, OTO, PAE, PAF, PERM, PF, PICO, PJW, PLE, PMTA, POLAR, POMPUI, PORT, PPM, PRAKIT, PRECHA, PRIN, PTL, RAM, RCI, RCL, RICH, RICHY, RJH, ROCK, ROH, RP, RPC, RPH, RS, RSP, S, S11, SAFARI, SALEE, SAM, SAMART, SAMCO, SAMTEL, SANKO, SAPPE, SAWAD, SAWANG, SCP, SDC, SE, SEAFSCO, SEAOL, SF, SFP, SGF, SHANG, SIAM, SIMAT, SKE, SKN, SKR, SKY, SLP, SMART, SMM, SMT, SOLAR, SPA, SPALI, SPCG, SPG, SPORT, SPVI, SQ, SR, SSC, SSP, STANLY, STAR, STEC, STHAI, STPI, SUC, SUN, SUTHA, SVH, SVOA, SYNEX, T, TACC, TAPAC, TBSP, TC, TCB, TCC, TCCC, TCI, TCOAT, TEAM, TFD, TGPRO, TH, THAI, THANA, THG, THL, THMUI, TIC, TITLE, TIW, TK, TKS, TM, TMI, TMW, TNDT, TNH, TNPC, TOA, TPAC, TPBI, TPCH, TPIPL, TPIPP, TPOLY, TPP, TR, TRC, TRT, TRUBB, TSE, TSF, TSI, TSR, TSTE, TTA, TTL, TTTM, TTW, TUCC, TVO, TWP, TWZ, TYCN, UAC, UEC, UKEM, UMI, UMS, UNIQ, UP, UPF, UPOIC, UREKA, UT, UTP, UV, UVAN, VARO, VCOM, VI, VNG, VPO, VTE, WG, WHAUP, WIIC, WIN, WINNER, WORK, WORLD, WP, WPH, WR, XO, YCI, YNP, YUASA, ZIGA, ZMICO

### Explanations

Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of February 1, 2018) are categorised into: companies that have declared their intention to join CAC, and companies certified by CAC.