

22 December 2022

Utilities | Power

## Thai Solar Energy (TSE TB)

## Not Rated

### Large Onikoube Project Nears COD

Fair Value:	THB3.10-3.30
Price:	THB2.38
Market Cap:	USD145m
Avg Daily Turnover (THB/USD)	4.66m/0.13m

- SOTP-based THB3.10-3.30 FV.** We are optimistic that Thai Solar Energy can start the commercial operation date (COD) of the Onikoube project soon. The latter is TSE's large solar farm in Japan. Solar energy there is under a growth stage, supported by state agencies and matching the long-term global environmentally friendly trend. With 15 years of experience in this sector, it is likely to obtain positive outcomes from a promising industry.
- The large Onikoube project nears its start.** TSE is likely to reach the COD of this huge project in Japan in 1Q23. The Onikoube Solar Power Plant is a large solar farm located in northern Japan's Miyagi Prefecture. It has a 147MW capacity and purchasing power agreement (PPA) of 133MW (47% of TSE's 286MW total capacity) and Feed-in Tariff or FIT of JPY36. At the end of 3Q22, the company was able to construct c.91% of this facility. Its transmission lines are also being implemented and near completion. Consequently, we are optimistic that Onikoube's COD should be on 1Q23 as planned. We believe this project will help TSE improve normal profits of THB500m pa seen in 2021-2022 to c.TH890m in 2023. Onikoube is expected to compensate for solar farm projects in Thailand (80MW total), which have adders that are going to be gradually phased out.
- Reliable purchaser.** Onikoube's off-taker is Tohoku Electric Power (Tohoku), one of Japan's major energy purchasers. Tohoku produces power via nuclear, hydro, thermal, and renewable energy sources, sourcing such energy for power plants. The firm serves residential and commercial customers in Aomori, Iwate, Akita, Miyagi, Yamagata, Fukushima, and Niigata Prefectures, among others. Onikoube's PPA is also a long-term one, ie 20 years.
- 4Q22 to be better YoY (lower QoQ) on seasonality.** TSE is expected to post a 4Q22 bottomline of c.TH112m (+282%YoY, -8% QoQ). The lower QoQ number is because of seasonality, ie low sunlight during the winter period. The YoY improvement comes from abnormal SG&A and project advisor costs, as well as more severe than normal snowfall in 2021.
- Still has room for funding.** TSE plans to invest in JVs and M&A of c.50MW in Thailand – this will likely be a combination of several small projects and 50-100MW in overseas developments the company is currently searching for. TSE has also joined Thailand's 5.2GW renewable PPA FiT scheme's bidding process and already passed the first round. It still has room to fund this new project, with net debt/equity of 2x, ie below its 3x covenant.
- Cheap valuation.** TSE is expected to post 20% profit growth in 2023 and trade at cheap valuation of 9x core P/E, ie -1SD of the last 5-year average. The consensus TP is THB3.16.

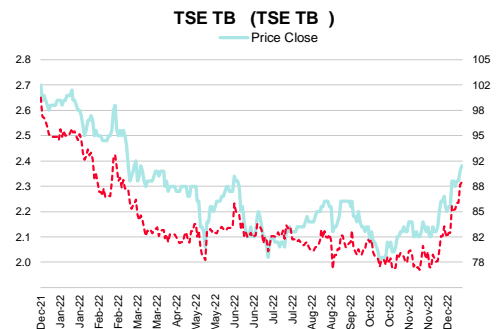
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#### Share Performance (%)

	YTD	1m	3m	6m	12m
Absolute	(9.2)	12.3	10.2	11.2	(11.9)
Relative	(6.3)	12.9	11.6	9.0	(11.1)
52-wk Price low/high (THB)				2.00	– 2.68



Source: Bloomberg

Forecasts and Valuation	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21
Total turnover (THBm)	229	561	1,349	1,530	1,524
Recurring net profit (THBm)	416	174	780	519	560
Recurring net profit growth (%)	(29.2)	(58.2)	348.6	(33.4)	7.7
Recurring P/E (x)	10.39	25.47	6.14	9.70	9.01
P/B (x)	0.9	1.0	0.9	0.9	0.8
P/CF (x)	2.02	na	8.56	13.15	49.12
Dividend Yield (%)	4.6	4.4	2.1	5.0	3.4
EV/EBITDA (x)	na	178.54	16.38	23.70	21.39
Return on average equity (%)	9.1	3.7	14.9	7.3	8.1
Net debt to equity (%)	90.7	179.7	159.9	200.3	187.9

Source: Company data, RHB

#### Note:

Small cap stocks are defined as companies with a market capitalisation of less than USD0.5bn.

## Financial Exhibits

Asia	Financial summary (THB)	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21
Thailand	Recurring EPS	0.23	0.09	0.39	0.25	0.26
Utilities	DPS	0.11	0.10	0.05	0.12	0.08
<b>Thai Solar Energy</b>	BVPS	2.54	2.50	2.66	2.79	2.97
TSE TB	Return on average equity (%)	9.1	3.7	14.9	7.3	8.1
Not Rated						
	<b>Valuation metrics</b>	<b>Dec-17</b>	<b>Dec-18</b>	<b>Dec-19</b>	<b>Dec-20</b>	<b>Dec-21</b>
<b>Valuation basis</b>	Recurring P/E (x)	10.39	25.47	6.14	9.70	9.01
SOTP	P/B (x)	0.9	1.0	0.9	0.9	0.8
	FCF Yield (%)	9.7	(108.1)	(12.1)	(49.8)	(13.3)
<b>Key drivers</b>	Dividend Yield (%)	4.6	4.4	2.1	5.0	3.4
i. Expanding capacity;	EV/EBITDA (x)	na	178.54	16.38	23.70	21.39
ii. Electricity demand.	EV/EBIT (x)	na	na	56.64	73.65	57.56
	<b>Income statement (THBm)</b>	<b>Dec-17</b>	<b>Dec-18</b>	<b>Dec-19</b>	<b>Dec-20</b>	<b>Dec-21</b>
<b>Key risks</b>	Total turnover	229	561	1,349	1,530	1,524
i. Availability of sunlight;	Gross profit	52	126	438	507	449
ii. Political risks.	EBITDA	(15)	64	706	627	685
	Depreciation and amortisation	(82)	(144)	(502)	(425)	(431)
<b>Company Profile</b>	Operating profit	(97)	(80)	204	202	255
TSE generates and distributes renewable energy for clients in Thailand, eg the Provincial Electricity Authority and Metropolitan Electricity Authority. It also has customers in Japan, eg Hokuriku Electric Power, Tokyo Electric Power, and Tohoku Electric Power.	Net interest	(112)	(123)	(147)	(341)	(338)
	Pre-tax profit	417	267	804	419	502
	Taxation	(3)	(84)	(5)	(0)	(9)
	Reported net profit	416	174	775	421	493
	Recurring net profit	416	174	780	519	560
	<b>Cash flow (THBm)</b>	<b>Dec-17</b>	<b>Dec-18</b>	<b>Dec-19</b>	<b>Dec-20</b>	<b>Dec-21</b>
	Change in working capital	2,268	(2,723)	5	97	(236)
	Cash flow from operations	2,137	(2,865)	559	383	103
	Capex	(1,719)	(1,921)	(1,138)	(2,893)	(772)
	Cash flow from investing activities	(3,939)	(1,944)	(1,213)	(3,054)	(935)
	Dividends paid	(200)	(200)	(105)	(254)	(169)
	Cash flow from financing activities	1,310	4,871	901	2,685	793
	Cash at beginning of period	1,065	574	636	884	897
	Net change in cash	(492)	62	247	14	(39)
	Ending balance cash	573	636	883	898	858
	<b>Balance sheet (THBm)</b>	<b>Dec-17</b>	<b>Dec-18</b>	<b>Dec-19</b>	<b>Dec-20</b>	<b>Dec-21</b>
	Total cash and equivalents	574	636	884	897	858
	Tangible fixed assets	5,241	7,018	7,654	10,121	10,463
	Total investments	1,776	1,799	1,874	2,035	2,198
	Total assets	12,218	14,689	15,870	19,177	19,706
	Short-term debt	60	2,587	1,793	2,723	3,179
	Total long-term debt	4,852	6,880	8,095	10,032	9,492
	Total liabilities	7,438	9,775	10,238	13,257	13,421
	Total equity	4,781	4,915	5,632	5,919	6,285
	Total liabilities & equity	12,218	14,689	15,870	19,177	19,706
	<b>Key metrics</b>	<b>Dec-17</b>	<b>Dec-18</b>	<b>Dec-19</b>	<b>Dec-20</b>	<b>Dec-21</b>
	Revenue growth (%)	23.6	145.1	140.3	13.5	(0.4)
	Recurrent EPS growth (%)	(29.2)	(59.2)	314.8	(36.7)	7.7
	Gross margin (%)	22.6	22.5	32.4	33.1	29.4
	Operating EBITDA margin (%)	(6.4)	11.4	52.4	41.0	45.0
	Net profit margin (%)	181.6	31.0	57.4	27.5	32.4
	Dividend payout ratio (%)	48.0	114.8	13.5	60.3	34.3
	Capex/sales (%)	750.6	342.2	84.3	189.0	50.7
	Interest cover (x)	(0.86)	(0.65)	1.39	0.59	0.75

Source: Company data, RHB

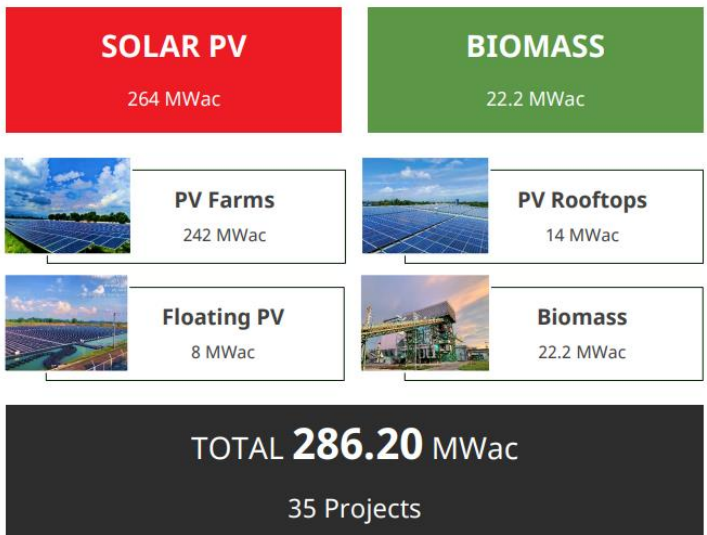
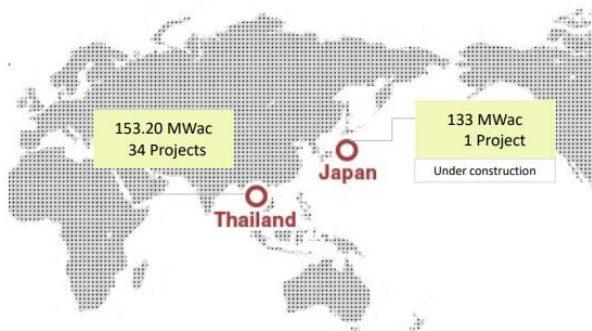
Figure 1: Onikoube's construction nears completion



Source: Company

Figure 2: Various projects in Thailand and Japan

TSE and its subsidiaries ("the Group")  
The Group's core businesses are generation and distribution of electricity from solar power and biomass to government and private company in Thailand and Japan.



Source: Company

## Recommendation Chart



Source: RHB, Bloomberg

Date	Recommendation	Target Price	Price
2022-12-21			

Source: RHB, Bloomberg

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- they do not have any financial interest in the securities or other capital market products of the subject companies mentioned in this report, except for:

Analyst	Company
-	-

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(2) no part of his or her compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this report.



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Corporate Governance Report Rating 2021 (CG Score) as of 30 Dec 2021

## Companies with Excellent CG Scoring by alphabetical order

AAV	BGC	CSS	GRAMM	LH	NWR	PTTEP	SENA	TEAMG	TTA
ADVAN	BGRIM	DDD	GULF	LHFG	NYT	PTTGC	SHR	TFMAMA	TTB
AF	BIZ	DELTA	GUNKUL	LIT	OISHI	PYLON	SIRI	TGH	TTCL
AH	BKI	DEMCO	HANA	LPN	OR	Q-CON	SIS	THANA	TTW
AIRA	BOL	DRT	HARN	MACO	ORI	QH	SITHAI	THANI	TU
AKP	BPP	DTAC	HMPRO	MAJOR	OSP	QTC	SMK	THCOM	TVD
ALT	BRR	DUSIT	ICC	MAKRO	OTO	RATCH	SMPC	THG	TVI
AMA	BTS	EA	ICHI	MALEE	PAP	RS	SNC	THIP	TVO
AMATA	BTW	EASTW	III	MBK	PCSGH	S	SONIC	THRE	TWPC
AMATA	BWG	ECF	ILINK	MC	PDG	S & J	SPALI	THREL	U
ANAN	CENTEL	ECL	ILM	MCOT	PDJ	SAAM	SPI	TIPCO	UAC
AOT	CFRESH	EE	INTUCH	METCO	PG	SABINA	SPRC	TISCO	UBIS
AP	CHEWA	EGCO	IP	MFEC	PHOL	SAMART	SPVI	TK	UV
ARIP	CHO	EPG	IRPC	MINT	PLANB	SAMTEL	SSSC	TKT	VGI
ARROW	CIMBT	ETC	ITEL	MONO	PLANET	SAT	SST	TMT	VIH
ASP	CK	FPI	IVL	MOONG	PLAT	SC	STA	TNDT	WACOA
AUCT	CKP	FPT	JSP	MSC	PORT	SCB	STEC	TNTY	WAVE
AWC	CM	FSMART	JWD	MST	PPS	SCC	STI	TOA	WHA
AYUD	CNT	GBX	K	MTC	PR9	SCCC	SUN	TOP	WHAUP
BAFS	COM7	GC	KBANK	MVP	PREB	SCG	SUSCO	TPBI	WICE
BANPU	COMAN	GCAP	KCE	NCL	PRG	SCGP	SUTHA	TQM	WINNER
BAY	COTTO	GFPT	KKP	NEP	PRM	SCM	SVI	TRC	ZEN
BBL	CPALL	GGC	KSL	NER	PROUD	SDC	SYMC	TRU	TRUE
BCP	CPF	GLAND	KTB	NKI	PSH	SEAFCO	SYNTEC	TSC	
BCPG	CPI	GLOBAL	KTC	NOBLE	PSL	SEAOIL	TACC	TSR	
BDMS	CPN	GPI	LALIN	NSI	PTG	SE-ED	TASCO	TSTE	
BEM	CRC	GPSC	LANNA	NVD	PTT	SELIC	TCAP	TSTH	



## Companies with Very Good CG Scoring by alphabetical order

2S	ATP30	CPW	GJS	KIAT	MTI	QLT	SKE	TCC	UMI
7UP	B	CRD	GYT	KISS	NBC	RBF	SKN	TCMC	UOBKH
ABICO	BA	CSC	HEMP	KOOL	NCAP	RCL	SKR	TEAM	UP
ABM	BAM	CSP	HPT	KTIS	NCH	RICHY	SKY	TFG	UPF
ACE	BC	CWT	HTC	KUMWEL	NETBA	RML	SLP	TFI	UPOIC
ACG	BCH	DCC	HYDRO	KUN	NEX	ROJNA	SMT	TIGER	UTP
ADB	BEC	DCON	ICN	KWC	NINE	RPC	SMT	TITLE	VCOM
AEONTS	BEYOND	DHOUSE	IFS	KWM	NRF	RT	SNP	TKN	VL
AGE	BFIT	DOD	IMH	L&E	NTV	RWI	SO	TKS	VNT
AHC	BJC	DOHOME	IND	LDC	OCC	S11	SORKON	TM	VPO
AIT	BJCHI	DV8	INET	LEO	OGC	SA	SPA	TMC	VRANDA
ALL	BLA	EASON	INSET	LHK	PATO	SAK	SPC	TMD	WGE
ALLA	BR	EFORL	INSURE	LOXLEY	PB	SALEE	SPCG	TMI	WIJK
ALUCON	BROOK	ERW	IRC	LRH	PICO	SAMCO	SR	TMILL	WP
AMANA	CBG	ESSO	IRCP	LST	PIMO	SANKO	SRICHA	TNL	XO
AMARIN	CEN	ESTAR	IT	M	PJW	SAPPE	SSC	TNP	XPG
APCO	CGH	ETE	ITD	MATCH	PL	SAWAD	SSF	TOG	YUASA
APCS	CHARAN	FE	J	MBAX	PM	SCI	STANLY	TPA	
APURE	CHAYO	FLOYD	JAS	MEGA	PMTA	SCN	STGT	TPAC	
AQUA	CHG	FN	JCK	META	PPP	SCP	STOWER	TPCS	
ASAP	CHOTI	FNS	JCKH	MFC	PPPM	SE	STPI	TPS	
ASEFA	CHOW	FORTH	JMART	MGT	PRIME	SFLEX	SUC	TRITN	
ASIA	CI	FSS	JMT	MICRO	PRIN	SFP	SWC	TRT	
ASIAN	CIG	FTE	KBS	MILL	PRINC	SFT	SYNEX	TSE	
ASIMAR	CMC	FVC	KCAR	MITSIB	PSG	SGF	TAE	TVT	
ASK	COLOR	GEL	KEX	MK	PSTC	SIAM	TAKUNI	TWP	
ASN	CPL	GENCO	KGI	MODERN	PT	SINGER	TBSP	UEC	





Companies with Ver Good CG Scoring by alphabetical order

A	CMAN	KASET	PRAKIT	THMUI
AI	CMO	KCM	PRAPAT	TNH
AIE	CMR	KK	PRECHA	TNR
AJ	CPT	KKC	PTL	TOPP
ALPHAX	CRANE	KWI	RJH	TPCH
AMC	CSR	KYE	RP	TIPL
APP	D	LEE	RPH	TIPIP
AQ	EKH	LPH	RSP	TPLAS
ARIN	EMC	MATI	SABUY	TPOLY
AS	EP	M-CHAI	SF	TQR
AU	F&D	MCS	SGP	TTI
B52	FMT	MDX	SICT	TYCN
BEAUTY	GIFT	MJD	SIMAT	UKEM
BGT	GLOCON	MORE	SISB	UMS
BH	GREEN	MUD	SK	UNIQ
BIG	GSC	NC	SMART	UPA
BLAND	GTB	NDR	SOLAR	UREKA
BM	HTECH	NFC	SPACK	VIBHA
BROCK	HUMAN	NNCL	SPG	W
BSBM	IHL	NOVA	SQ	WIN
BSM	IIG	NPK	SSP	WORK
BTNC	INGRS	NUSA	STARK	WPH
BYD	INOX	PAF	STC	YGG
CAZ	JAK	PF	SUPER	ZIGA
CCP	JR	PK	SVOA	
CGD	JTS	PLE	TC	
CITY	JUBILE	PPM	TCCC	

IOD (IOD Disclaimer)

การเปิดเผยผลการสำรวจของสมาคมส่งเสริมสถาบันกรรมการบริษัทไทย (IOD) ในเรื่องการกำกับดูแลกิจการ (Corporate Governance) นี้เป็นการดำเนินการตามนโยบายของสำนักงานคณะกรรมการกำกับหลักทรัพย์และตลาดหลักทรัพย์ โดยการสำรวจของ IOD เป็นการสำรวจและประเมินจากข้อมูลของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยและตลาดหลักทรัพย์เอเอ็มเอไอ ที่มีการเปิดเผยต่อสาธารณะและเป็นข้อมูลที่ผู้ลงทุนทั่วไปสามารถเข้าถึงได้ ดังนั้นผลสำรวจดังกล่าวจึงเป็นการนำเสนอในมุมมองของบุคคลภายนอกโดยไม่ได้เป็นการประเมินการปฏิบัติและไม่ได้มีการใช้ข้อมูลภายในในการประเมิน

อนึ่งผลการสำรวจดังกล่าวเป็นผลการสำรวจ ณ วันที่ปรากฏในรายงานภาพกำกับดูแลกิจการบริษัทจดทะเบียนไทยเท่านั้น ดังนั้นผลการสำรวจจึงอาจเปลี่ยนแปลงได้ภายหลังวันดังกล่าว ทั้งนี้ บริษัทหลักทรัพย์ อาร์เอชบี จำกัด (มหาชน) มิได้ยืนยันหรือรับรองถึงความถูกต้องของผลการสำรวจดังกล่าวแต่อย่างใด

Score Range	Number of Logo	Description
Less than 50	No logo given	-
50-59		Pass
60-69		Satisfactory
70-79		Good
80-89		Very Good
90-100		Excellent

Source : <http://www.thai-iod.com/th/projects-2.asp>

Anti-Corruption Progress Indicator (as of 30 Dec 2021)

ได้รับการรับรอง CAC

2S	BAM	CGH	EA	GJS	JKN	MAKRO	NOBLE	PM	RATCH	SKR	SYNTEC	TMILL	TVO
ADVANC	BANPU	CHEWA	EASTW	GPI	K	MALEE	NOK	PPP	RML	SMIT	TAE	TMT	TWPC
AF	BAY	CHOTI	ECL	GPSC	KASET	MBAX	NSI	PPPM	RWI	SMK	TAKUNI	TNITY	U
AI	BBL	CHOW	EGCO	GSTEEL	KBANK	MBK	NWR	PPS	S & J	SMPC	TASCO	TNL	UBE
AIE	BCH	CIG	EP	GUNKUL	KBS	MC	OCC	PREB	SAAM	SNC	TBSP	TNP	UBIS
AIRA	BCP	CIMBT	EPG	HANA	KCAR	MCOT	OCEAN	PRG	SABINA	SNP	TCAP	TNR	UEC
AKP	BCPG	CM	ERW	HARN	KCE	META	OGC	PRINC	SAPPE	SORKON	TCMC	TOG	UKEM
AMA	BEYOND	CMC	ESTAR	HEMP	KGI	MFC	ORI	PRM	SAT	SPACK	TFG	TOP	UOBKH
AMANAH	BGC	COM7	ETE	HMPRO	KKP	MFEC	PAP	PROS	SC	SPALI	TFI	TOPP	UPF
AMATA	BGRIM	COTTO	FE	HTC	KSL	MINT	PATO	PSH	SCB	SPC	TFMAMA	TPA	UV
AMATAV	BJCHI	CPALL	FNS	ICC	KTB	MONO	PB	PSL	SCC	SPI	TGH	TPP	VGI
AP	BKI	CPF	FPI	ICHI	KTC	MOONG	PCSGH	PSTC	SCCC	SPRC	THANI	TRU	VIH
APCS	BLA	CPI	FPT	IFEC	KWC	MSC	PDG	PT	SCG	SRICHA	THCOM	TRUE	VNT
AQUA	BPP	CPN	FSMART	IFS	KWI	MST	PDJ	PTG	SCN	SSF	THIP	TSC	WACOAL
ARROW	BROOK	CSC	FSS	ILINK	L&E	MTC	PE	PTT	SEAOIL	SSP	THRE	TSTE	WHA
ASIAN	BRR	DCC	FTE	INET	LANNA	MTI	PG	PTTEP	SE-ED	SSSC	THREL	TSTH	WHAUP
ASK	BSBM	DELTA	GBX	INSURE	LH	NBC	PHOL	PTTGC	SELIC	SST	TIDLOR	TTA	WICE
ASP	BTS	DEMCO	GC	INTUCH	LHFG	NEP	PK	PYLON	SENA	STA	TIPCO	TTB	WIK
AWC	BWG	DIMET	GCAP	IRC	LHK	NINE	PL	Q-CON	SGP	STOWER	TISCO	TTCL	XO
AYUD	CEN	DRT	GEL	IRPC	LPN	NKI	PLANB	QH	SINGER	SUSCO	TKS	TU	ZEN

ได้ประกาศเจตนารมณ์เข้าร่วม CAC

7UP	AS	CPR	DOHOME	GULF	JMT	MAJOR	NRF	SAK	STECH	VCOM
ABICO	BEC	CPW	ECF	III	JR	MATCH	NUSA	SCGP	STGT	VIBHA
AJ	BKD	CRC	EKH	INOX	KEX	MILL	PIMO	SCM	SUPER	WIN
ALT	CHG	DDD	ETC	J	KUMWEL	NCL	PR9	SIS	TOM	YUASA
APCO	CPL	DHOUSE	EVER	JMART	LDC	NOVA	RS	STAR	TSI	ZIGA

ข้อมูล Anti-Corruption Progress Indicator

การเปิดเผยการประเมินดัชนีชี้วัดความคืบหน้าการป้องกันกรมีส่วนเกี่ยวข้องกับการทุจริตคอร์รัปชัน (Anti-corruption Progress Indicators) ของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยที่จัดทำโดยสถาบันที่เกี่ยวข้องซึ่งมีการเปิดเผยโดยสำนักงาน คณะกรรมการกำกับหลักทรัพย์ และตลาดหลักทรัพย์นี้ เป็นการดำเนินการตามนโยบาย และตามแผนพัฒนาความยั่งยืนสำหรับบริษัทจดทะเบียนโดยผลการประเมินดังกล่าว สถาบันที่เกี่ยวข้องอาศัยข้อมูลที่ได้รับจากบริษัทจดทะเบียนตามบริษัทจดทะเบียนได้ระบุในแบบแสดงข้อมูลเพื่อการประเมิน Anti-Corruption ซึ่งอ้างอิงข้อมูลมาจากแบบแสดงรายการข้อมูลประจำปี แบบ (56-1) รายงานประจำปี แบบ (56-2) หรือในเอกสารหรือรายงานอื่นที่เกี่ยวข้องของบริษัทจดทะเบียนนั้น แล้วแต่กรณี ดังนั้น ผลการประเมินดังกล่าวจึงเป็นการนำเสนอในมุมมอง ของสถาบันที่เกี่ยวข้องซึ่งเป็นบุคคลภายนอก โดยมิได้เป็นการประเมินการปฏิบัติของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทย และมีได้ใช้ข้อมูลภายในเพื่อการประเมิน

เนื่องจากผลการประเมินดังกล่าวเป็นเพียงผลการประเมิน ณ วันที่ปรากฏในผลการประเมินเท่านั้น ดังนั้น ผลการประเมินจึงอาจเปลี่ยนแปลง

ได้ภายหลังวันดังกล่าว หรือรับรองความถูกต้องครบถ้วนของผลประเมินดังกล่าวแต่อย่างใด ทั้งนี้บริษัทหลักทรัพย์ อาร์เอชบี จำกัด (มหาชน) มิได้

ยืนยันตรวจสอบหรือรับรองความถูกต้องของผลการสำรวจ