

16 DECEMBER 2021

THAILAND / UTILITIES - RENEWABLES

EARTH TECH ENVIRONMENT

ETC TB

BUY

FROM HOLD

TARGET PRICE	THB3.80
CLOSE	THB3.26
UP/DOWNSIDE	+16.6%
PRIOR TP	THB2.10
CHANGE IN TP	+81.0%
TP vs CONSENSUS	+81.0%

นักสร้างมูลค่าจากขยะอุตสาหกรรม

ผู้ชนะหลักจากเป้าการปล่อยคาร์บอนเป็นศูนย์ของไทย

เราหันมามองแนวโน้มการเติบโตของกำไรสุทธิของ ETC ในปี 2021-23 เป็นบวกมากขึ้นจากอัตรากำไรและปริมาณขายที่สูงเกินคาดของ 3 โรงผลิตไฟฟ้าจากขยะที่ดำเนินงานอยู่ด้วยกำลังการผลิตตามส่วนการลงทุนรวม 16.5MW ซึ่งปัจจุบันเราคาดว่าจะสร้างกำไร 255 ลบ. ในปี 2021 เพิ่มขึ้นจาก 194 ลบ. ในปี 2020 จากข้อมูลของผู้บริหาร เราคาดว่ากำไรสุทธิของ ETC จากโรงไฟฟ้าที่มีอยู่ทั้ง 3 แห่งจะปรับตัวดีขึ้นต่อเนื่องในปี 2022-23 จากอัตราการใช้กำลังการผลิตที่สูงกว่า 90% ซึ่งเป็นค่าเฉลี่ยในปี 2020-21 และ EBITDA margin ที่สูงขึ้นเป็น 60-65% จากต้นทุนวัตถุดิบขยะอุตสาหกรรม (IW) ที่ลดลงจาก Better World Green (BWG TB, NR)

เพิ่มกำลังการผลิตใหม่ 5MW ในสมมติฐานการเติบโตของกำลังการผลิต

ในขณะที่เราคาดการณ์การเติบโตของกำไรจากโรงผลิตไฟฟ้าจากขยะที่มีอยู่ทั้ง 3 แห่งในปี 2022-23 เราเชื่อว่าปัจจัยหนุนกำไรสุทธิที่เกี่ยวข้องมากกว่าสำหรับ ETC ในอีก 4 ปีข้างหน้าจะมาจากกำลังการผลิตที่อาจได้จากแผนของรัฐบาลในการเพิ่มกำลังการผลิตของโรงผลิตไฟฟ้าจากขยะอุตสาหกรรม โดยเรามีสมมติฐานว่า ETC จะได้กำลังการผลิตไฟฟ้าจาก IW ใหม่เพียง 5MW ในปี 2022-23 ซึ่งจะเพิ่มกำลังการผลิตตามส่วนรวมเป็น 21.5MW จากวัตถุดิบ IW ที่ไม่เพียงพอที่มีอยู่เป็นจำนวนมากสำหรับโรงผลิตไฟฟ้า WTE จาก IW ใหม่ ซึ่งเราคิดว่าจะเป็นปัจจัยที่สำคัญที่สุดและเป็นอุปสรรคสำหรับผู้เสนอใหม่ในการเข้าสู่ธุรกิจโรงผลิตไฟฟ้าจาก IW

การประมูลกำลังการผลิตไฟฟ้าจากขยะ 300MW ในปี 2022

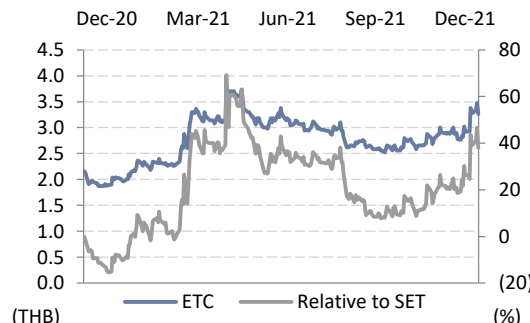
เมื่อวันที่ 14 ธ.ค. 2021 กระทรวงพลังงานได้ประกาศว่ากระทรวงฯ กำลังจัดเตรียมแผนในการซื้อกำลังการผลิตไฟฟ้าพลังงานหมุนเวียน (RE) ใหม่จำนวน 840MW ในกลางปี 2022 ประกอบด้วยไฟฟ้าที่ผลิตจากพลังแสงอาทิตย์ 200MW ในปี 2023, ลม 200MW ในปี 2024, ชีวมวลและก๊าซชีวภาพ 140MW ในปี 2023, และขยะ (WTE) 300MW ในปี 2022 กระทรวงฯ จะส่งข้อเสนอดังกล่าวไปให้ กรม. พิจารณาใน 1Q22 และคณะกรรมการกำกับกิจการพลังงาน (ERC) จะเปิดประมูลเพื่อซื้อกำลังการผลิตจากพลังงานหมุนเวียนจำนวน 840 MW ภายในกลางปี 2022 เราเชื่อว่า ETC เป็นหนึ่งในผู้เสนอที่ดีที่สุดที่จะได้บางส่วนของกำลังการผลิตไฟฟ้าจากขยะจำนวน 300MW ในปี 2022

ปรับคำแนะนำขึ้นเป็นซื้อที่ราคาเป้าหมาย 3.8 บาท

เราปรับเพิ่มคำแนะนำ ETC เป็นซื้อจากถือหลังปรับเพิ่มราคาเป้าหมายเป็น 3.8 บาท (SoTP) ซึ่งประกอบด้วย 1) มูลค่า 0.9 บาท/หุ้นจากกำลังการผลิตไฟฟ้าจาก IW ใหม่ขนาด 5MW ในปี 2023; และ 2) การปรับเพิ่มประมาณการกำไรต่อหุ้นจากอัตราการใช้กำลังการผลิตที่สูงขึ้น ซึ่งเพิ่มประมาณการผลิตไฟฟ้าในปี 2021 อีก 2.3% อย่างไรก็ตามเราปรับลดประมาณการกำไรต่อหุ้นในปี 2021 ลง 20.6% จากต้นทุนวัตถุดิบและพลังงานที่สูงขึ้น

KEY STOCK DATA

YE Dec (THB m)	2020	2021E	2022E	2023E
Revenue	671	804	820	852
Net profit	194	255	331	358
EPS (THB)	0.09	0.11	0.15	0.16
vs Consensus (%)	-	-	-	-
EBITDA	341	410	488	507
Core net profit	194	255	331	358
Core EPS (THB)	0.09	0.11	0.15	0.16
Chg. In EPS est. (%)	nm	(19.7)	0.5	nm
EPS growth (%)	153.6	31.4	29.7	8.2
Core P/E (x)	37.6	28.6	22.1	20.4
Dividend yield (%)	-	1.4	1.8	2.0
EV/EBITDA (x)	21.2	17.2	14.2	13.4
Price/book (x)	2.9	2.6	2.4	2.2
Net debt/Equity (%)	(3.2)	(9.2)	(12.9)	(16.2)
ROE (%)	11.3	9.5	11.3	11.4



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	12.4	25.4	56.7
Relative to country (%)	13.5	25.7	42.6
Mkt cap (USD m)	218		
3m avg. daily turnover (USD m)	3.0		
Free float (%)	40		
Major shareholder	Better World Green (BWG) (44%)		
12m high/low (THB)	3.84/1.80		
Issued shares (m)	2,240.00		

Sources: Bloomberg consensus; FSSIA estimates



Suwat Sinsadok

suwat.sin@fssia.com
+66 2611 3558

Siriluck Pinthusoonthorn

siriluck.pin@fssia.com
+66 2611 3562

PREPARED BY FSS INTERNATIONAL INVESTMENT ADVISORY SECURITIES CO LTD (FSSIA). ANALYST CERTIFICATION AND IMPORTANT DISCLOSURES CAN BE FOUND AT THE END OF THIS REPORT

บทวิเคราะห์ฉบับนี้แปลมาจากบทวิเคราะห์ของ FSSIA ฉบับวันที่ 16 ธันวาคม 2021

Investment thesis

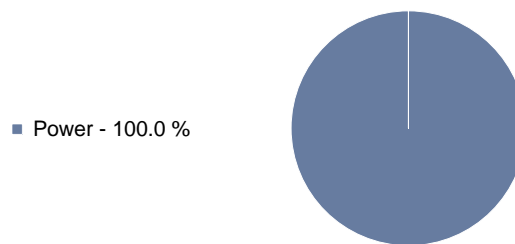
We believe ETC could win up to 20-40MW of industrial waste WTE capacity in 2022-23, standing as one of the most likely winners for the upcoming 44MW capacity available for bidding for industrial waste WTE power plants, scheduled to start within 2H22, according to the announcement from the Energy Regulatory Commission (ERC). Three key factors support our conviction. First, ETC has a highly secured and abundant industrial waste feedstock from BWG. Second, ETC has a proven track record of high-efficiency operations for its three industrial WTE power plants. Finally, ETC has a strong financial capability after its IPO in 3Q20.

Company profile

Earth Tech Environment (ETC) is a leading green energy company in Thailand with business interests in the industrial waste power plant segment. ETC is a subsidiary of Better World Green (BWG TB, not rated), Thailand's leading company for industrial waste management.

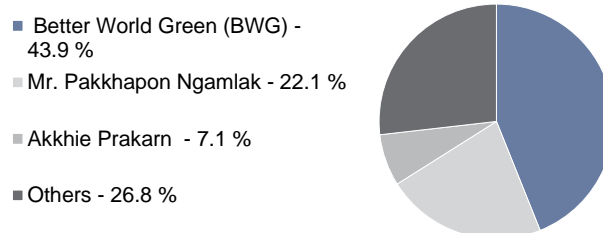
www.etcenvi.com

Principal activities (revenue, 2020)



Source: Earth Tech Environment

Major shareholders



Source: Earth Tech Environment

Catalysts

A higher gross margin from improving operational efficiency and potential new capacity are two catalysts that could drive ETC's share price.

Risks to our call

Downside risks to our SoTP-based TP include: 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price; and 3) lower-than-expected industrial waste volumes. Upside risks are the faster and larger-than-expected new capacity won by ETC in 2021.

Event calendar

Date	Event
Feb 2022	4Q21/2021 results announcement

Key assumptions

	2020E	2021E	2022E
Electricity output (MWh)	129,376	129,376	132,251

Source: FSSIA estimates

Earnings sensitivity

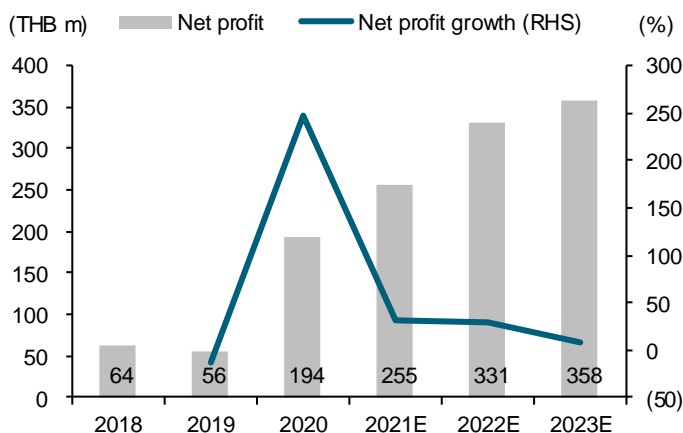
- For every 1% increase in gas price, we estimate 2022 earnings will decline 1.1%, and vice versa, all else being equal.
- For every 1% increase in utilisation rate, we estimate 2022 earnings will decline 2.2%, and vice versa, all else being equal.

Source: FSSIA estimates

Thailand's value creation king for industrial waste

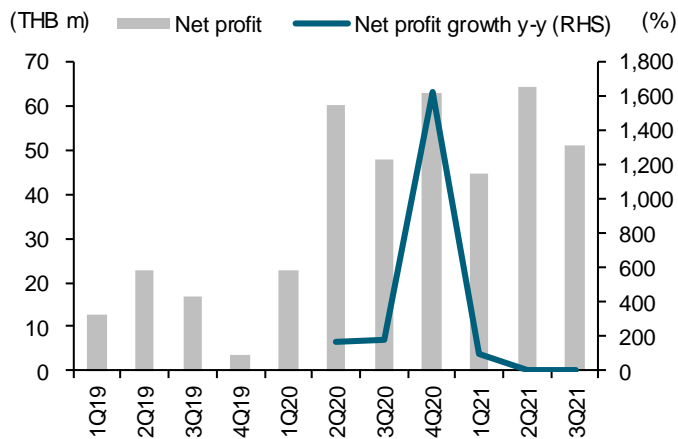
We turn more positive on ETC's net profit growth outlook in 2021-23, given the higher-than-expected margins and sales volumes of its three operating WTE power plants with a total equity capacity of 16.5MW, which we now project to generate a profit of THB255m in 2021, up from THB194m in 2020.

Exhibit 1: Annual net profit vs net profit growth



Sources: ETC; FSSIA estimates

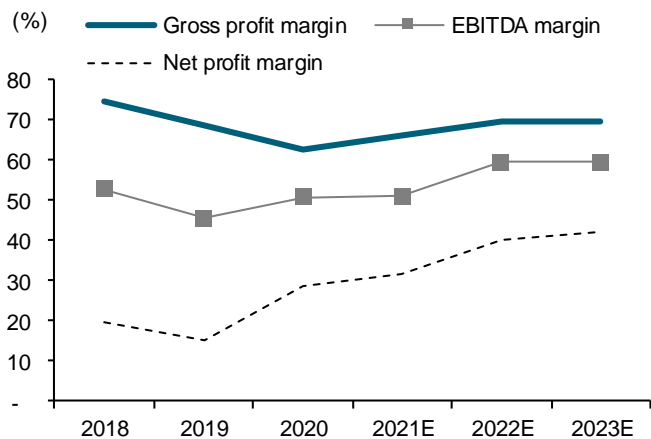
Exhibit 2: Quarterly net profit and net profit growth



Sources: ETC

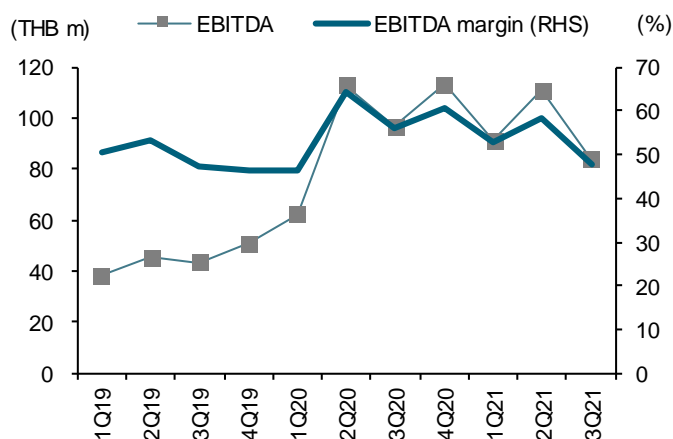
In 9M21, ETC earned THB160m, up 22% y-y, driven by improving sales volumes on higher utilisation rates, even with a relatively stable y-y EBITDA margin in the range of 50-60%, which was an improvement from its 40-50% EBITDA margin range in 2019. This was thanks to the much higher operational reliability and consistently available industrial waste feedstocks supplied from its parent company BWG, one of Thailand's leading IW management companies.

Exhibit 3: Annual gross margin, EBITDA margin, and net profit margin



Sources: ETC; FSSIA estimates

Exhibit 4: Quarterly EBITDA and EBITDA margin



Source: ETC

We expect ETC's net profit from its three existing power plants to continue to improve in 2022-23, backed by a high utilisation rate of over 90% – the average level seen in 2020-21 – and a higher EBITDA margin of 60-65% as a result of the lower IW feedstock cost sourced by BWG, according to management.

Capacity growth potential is key. While we project earnings growth from its three existing WTE power plants in 2022-23, we believe that the more relevant net profit driver for ETC in the next four years will come its potential capacity growth from the government's plan to increase the capacity of IW power plants from 44MW to over 150MW. However, we conservatively assume that ETC will secure only 5MW of new IW WTE capacity in 2023, which would boost ETC's total equity capacity to 21.5MW.

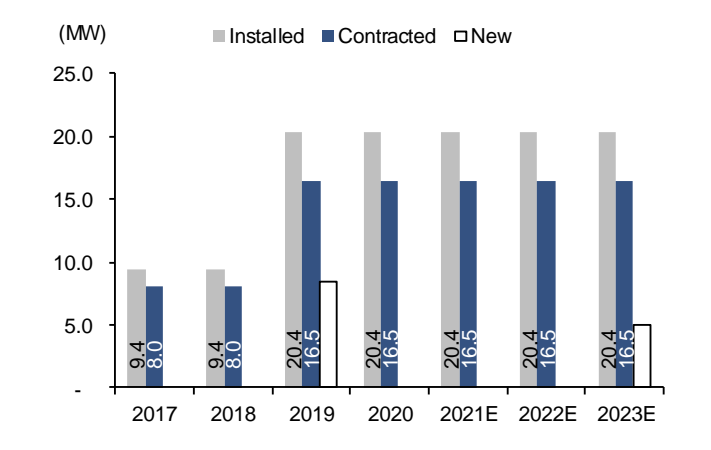
Exhibit 5: Three existing IW WTE power plants

Plant	Installed capacity (MW)	Contracted capacity (MW)	COD	----- FiT (THB/kWh) -----				PPA life (year)	Feedstock	Location
				Fixed FiT	Variable FiT	Adder for IW	Total			
ETC	9.4	8.0	Mar-17	2.39	2.74	0.70	5.83	20	MSW/non-toxic IW	Sraraburi
AVA	7.0	5.5	Sep-19	3.39	2.74	0.70	6.83	20	Non-toxic IW	Phranakornsriayudhaya
RH	4.0	3.0	Dec-19	3.39	2.74	0.70	6.83	20	Non-toxic IW	Phichit

Source: ETC

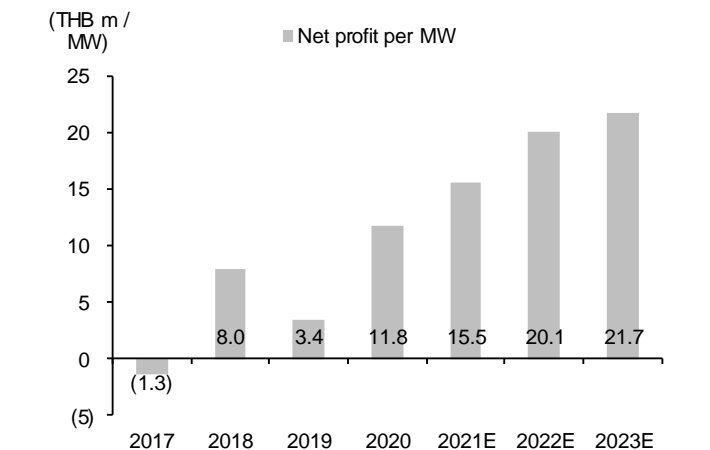
Meanwhile, we think ETC's annual net profit per MW will improve from THB11.8m/MW in 2020 to THB15.5m/MW in 2021 (vs THB13m/MW in 9M21) as a result of the improving utilisation rate and lower feedstock cost. Net profit per MW could rise further to THB20.1m/MW in 2022 and THB21.7m/MW in 2023 as we expect ETC to run its power plants at 95-97% utilisation rates.

Exhibit 6: Installed, equity, and new capacity



Sources: ETC; FSSIA estimates

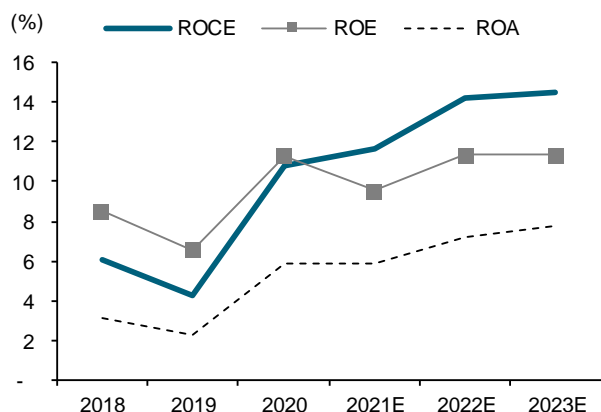
Exhibit 7: Net profit per MW



Sources: ETC; FSSIA estimates

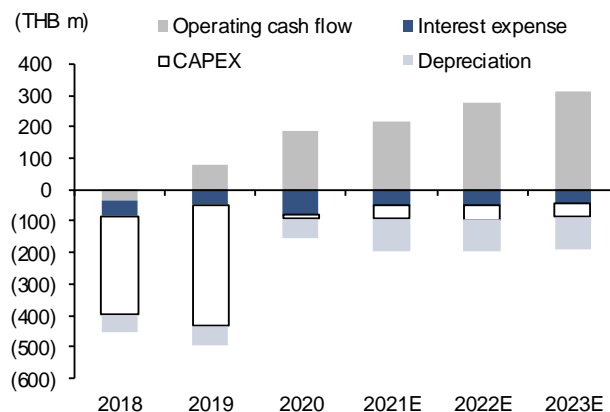
Returns are on the uptrend. Thanks to the projected operational improvement, we expect ETC's ROCE, ROE, and ROA to rise gradually in 2021-23, as its three power plants should reach maximum operational efficiency in terms of utilisation rates, feedstock cost optimisation, and normalised interest expenses and capex.

Exhibit 8: ROCE, ROE, and ROA



Sources: ETC; FSSIA estimates

Exhibit 9: Operating cash flow, interest expense, capex, and depreciation expense



Sources: ETC; FSSIA estimates

While management expects to win 44MW of the available IW WTE capacity for bidding, we think ETC could at least win 5MW to up to 20MW out of the 300MW IW WTE power plant capacity in 2022-23, given its superior and proven track record of IW WTE operations in Thailand and its abundant non-toxic IW feedstock for its new IW WTE power plants, which we think is the most crucial factor and is a clear entry barrier for any newcomers to the IW WTE power plant segment.

EPS and TP revisions – more growth opportunities lying ahead in 2022

We believe ETC is well positioned to secure a large portion of new IW WTE capacity available for bidding in 1Q22, which we think could provide a much higher earnings upside to our current assumptions.

Exhibit 10: Key assumptions and EPS revisions

	Current			Previous			Change		
	2021E	2022E	2023E	2021E	2022E	2023E	2021E	2022E	2023E
	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(%)	(%)	(%)
Revenue	804	820	852	814	817	840	(1.2)	0.4	1.5
Gross profit	531	570	592	566	568	584	(6.1)	0.4	1.5
Operating profit	306	384	403	380	382	395	(19.5)	0.5	1.9
Net profit	255	331	358	321	322	344	(20.6)	3.0	4.0
EPS	0.11	0.15	0.16	0.1	0.1	0.2	(20.6)	3.0	4.0
Key assumptions									
Electricity output (MWh)	129,376	129,376	132,251	126,501	126,501	129,376	2.3	2.3	2.2

Sources: ETC; FSSIA estimates

However, we conservatively assume that ETC will win only 5MW of new IW WTE capacity in 2022, commencing the commercial operation dates in 2023. We assign a THB0.9/share value for our 5MW capacity assumption and raise our SoTP target price to THB3.8 to reflect the value of the 5MW of new growth capacity and our EPS upgrades from the higher utilisation rate which increases our 2021E electricity output by 2.3%. However, we trim our 2021E EPS by 20.6% due to the higher feedstock and energy costs.

Exhibit 11: SOTP target price

Cost of equity assumptions				(%)	Cost of debt assumptions				(%)
Risk free rate				2.3	Pretax cost of debt				3.1
Market risk premium				8.0	Marginal tax rate				20.0
Stock beta				0.40					
Cost of equity, Ke				5.5	Net cost of debt, Kd				2.5
Weight applied				20.0	Weight applied				80.0

WACC (%)				3.3		
DCF valuation estimate	Contracted capacity	Stake	Equity capacity	(THB m)	(THB/share)	Comments
	(MW)	(%)	(MW)			
ETC	8.0	100	8.0	2,587	1.2	Risk free 2.3%, Risk premium 8%, WACC 3.3%, zero terminal growth
RH	5.5	100	5.5	2,063	0.9	Risk free 2.3%, Risk premium 8%, WACC 3.3%, zero terminal growth
AVA	3.0	97	2.9	1,088	0.5	Risk free 2.3%, Risk premium 8%, WACC 3.3%, zero terminal growth
Net cash				694	0.3	At end-2022E
Minorities				21	0.0	At end-2022E
Value of operating power plants	16.5		16.4	6,453	2.9	
Potential new WTE capacity	5.0	100	5.0	2,063	0.9	
Target price					3.8	

Sources: ETC; FSSIA estimates

Financial Statements

Earth Tech Environment

Profit and Loss (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Revenue	362	671	804	820	852
Cost of goods sold	(114)	(251)	(273)	(250)	(260)
Gross profit	248	419	531	570	592
Other operating income	-	-	-	-	-
Operating costs	(83)	(78)	(121)	(82)	(85)
Operating EBITDA	165	341	410	488	507
Depreciation	(63)	(62)	(104)	(104)	(104)
Goodwill amortisation	0	0	0	0	0
Operating EBIT	102	279	306	384	403
Net financing costs	(48)	(80)	(51)	(52)	(44)
Associates	0	0	0	0	0
Recurring non-operating income	8	3	3	3	3
Non-recurring items	0	0	0	0	0
Profit before tax	63	202	258	334	361
Tax	(6)	(1)	(1)	(1)	(1)
Profit after tax	57	201	257	333	360
Minority interests	(1)	(7)	(2)	(2)	(2)
Preferred dividends	-	-	-	-	-
Other items	-	-	-	-	-
Reported net profit	56	194	255	331	358
Non-recurring items & goodwill (net)	0	0	0	0	0
Recurring net profit	56	194	255	331	358
Per share (THB)					
Recurring EPS *	0.03	0.09	0.11	0.15	0.16
Reported EPS	0.03	0.09	0.11	0.15	0.16
DPS	0.00	0.00	0.05	0.06	0.06
Diluted shares (used to calculate per share data)	1,640	2,240	2,240	2,240	2,240
Growth					
Revenue (%)	11.4	85.0	19.9	2.0	3.8
Operating EBITDA (%)	(3.9)	106.5	20.4	19.0	3.9
Operating EBIT (%)	(9.4)	172.4	9.6	25.4	4.9
Recurring EPS (%)	(12.1)	153.6	31.4	29.7	8.2
Reported EPS (%)	(12.1)	153.6	31.4	29.7	8.2
Operating performance					
Gross margin inc. depreciation (%)	51.2	53.3	53.1	56.8	57.3
Gross margin of key business (%)	-	-	-	-	-
Operating EBITDA margin (%)	45.5	50.8	51.0	59.5	59.5
Operating EBIT margin (%)	28.3	41.6	38.1	46.8	47.3
Net margin (%)	15.5	29.0	31.7	40.4	42.0
Effective tax rate (%)	20.0	20.0	20.0	20.0	20.0
Dividend payout on recurring profit (%)	-	-	40.0	40.0	40.0
Interest cover (X)	2.3	3.5	6.1	7.4	9.2
Inventory days	2.2	2.1	3.0	3.3	3.1
Debtor days	83.9	89.2	135.0	197.8	255.3
Creditor days	512.2	183.7	155.4	169.3	158.9
Operating ROIC (%)	4.1	10.1	10.9	13.1	13.2
ROIC (%)	4.0	9.1	9.5	11.5	11.7
ROE (%)	6.6	11.3	9.5	11.3	11.4
ROA (%)	3.8	8.0	6.9	8.1	8.6
* Pre-exceptional, pre-goodwill and fully diluted					
Revenue by Division (THB m)					
Power	362	671	804	820	852

Sources: Earth Tech Environment; FSSIA estimates

Financial Statements

Earth Tech Environment

Cash Flow (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Recurring net profit	56	194	255	331	358
Depreciation	63	62	104	104	104
Associates & minorities	0	0	0	0	0
Other non-cash items	-	-	-	-	-
Change in working capital	(37)	(68)	(141)	(159)	(151)
Cash flow from operations	82	188	219	276	311
Capex - maintenance	(5)	(5)	(5)	(5)	(5)
Capex - new investment	(382)	(8)	(38)	(38)	(38)
Net acquisitions & disposals	0	0	0	0	0
Other investments (net)	(14)	(60)	0	0	0
Cash flow from investing	(402)	(73)	(43)	(43)	(43)
Dividends paid	0	0	0	(102)	(132)
Equity finance	1,474	0	0	0	0
Debt finance	233	(271)	334	(239)	(239)
Other financing cash flows	(1,474)	1,480	2	2	2
Cash flow from financing	233	1,209	337	(338)	(369)
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
Net other adjustments	0	0	0	0	0
Movement in cash	(87)	1,324	513	(105)	(101)
Free cash flow to firm (FCFF)	(272.15)	194.97	226.73	285.69	312.35
Free cash flow to equity (FCFE)	(1,560.84)	1,324.17	512.76	(2.61)	31.72
Per share (THB)					
FCFF per share	(0.12)	0.09	0.10	0.13	0.14
FCFE per share	(0.70)	0.59	0.23	0.00	0.01
Recurring cash flow per share	0.07	0.11	0.16	0.19	0.21
Balance Sheet (THB m) Year Ending Dec					
Tangible fixed assets (gross)	2,277	2,290	2,290	2,290	2,290
Less: Accumulated depreciation	(155)	(217)	(278)	(340)	(401)
Tangible fixed assets (net)	2,122	2,074	2,012	1,951	1,889
Intangible fixed assets (net)	0	0	0	0	0
Long-term financial assets	-	-	-	-	-
Invest. in associates & subsidiaries	0	0	0	0	0
Cash & equivalents	34	1,358	1,871	1,766	1,666
A/C receivable	103	225	370	519	673
Inventories	1	2	2	2	2
Other current assets	107	24	28	29	30
Current assets	245	1,609	2,272	2,316	2,371
Other assets	233	343	343	343	343
Total assets	2,600	4,025	4,627	4,610	4,603
Common equity	883	2,552	2,807	3,036	3,262
Minorities etc.	11	17	19	21	23
Total shareholders' equity	894	2,569	2,826	3,057	3,285
Long term debt	1,259	976	1,310	1,072	833
Other long-term liabilities	17	67	67	67	67
Long-term liabilities	1,276	1,042	1,377	1,138	900
A/C payable	142	111	121	111	115
Short term debt	288	301	301	301	301
Other current liabilities	0	2	2	2	2
Current liabilities	430	414	424	414	418
Total liabilities and shareholders' equity	2,600	4,025	4,627	4,609	4,603
Net working capital	70	137	278	437	588
Invested capital	2,425	2,554	2,633	2,731	2,820
* Includes convertibles and preferred stock which is being treated as debt					
Per share (THB)					
Book value per share	0.54	1.14	1.25	1.36	1.46
Tangible book value per share	0.54	1.14	1.25	1.36	1.46
Financial strength					
Net debt/equity (%)	169.4	(3.2)	(9.2)	(12.9)	(16.2)
Net debt/total assets (%)	58.2	(2.0)	(5.6)	(8.5)	(11.5)
Current ratio (x)	0.6	3.9	5.4	5.6	5.7
CF interest cover (x)	(23.7)	17.7	11.9	1.7	2.6
Valuation					
Recurring P/E (x) *	95.4	37.6	28.6	22.1	20.4
Recurring P/E @ target price (x) *	111.2	43.8	33.4	25.7	23.8
Reported P/E (x)	95.4	37.6	28.6	22.1	20.4
Dividend yield (%)	-	-	1.4	1.8	2.0
Price/book (x)	6.1	2.9	2.6	2.4	2.2
Price/tangible book (x)	6.1	2.9	2.6	2.4	2.2
EV/EBITDA (x) **	41.6	21.2	17.2	14.2	13.4
EV/EBITDA @ target price (x) **	47.0	24.8	20.2	16.7	15.8
EV/invested capital (x)	2.8	2.8	2.7	2.5	2.4
* Pre-exceptional, pre-goodwill and fully diluted ** EBITDA includes associate income and recurring non-operating income					

Sources: Earth Tech Environment; FSSIA estimates

Corporate Governance report of Thai listed companies 2020

EXCELLENT LEVEL										
AAV	ADVANC	AF	AIRA	AKP	AKR	ALT	AMA	AMATA	AMATAV	ANAN
AOT	AP	ARIP	ARROW	ASP	BAFS	BANPU	BAY	BCP	BCPG	BDMS
BEC	BEM	BGRIM	BIZ	BKI	BLA	BOL	BPP	BRR	BTS	BWG
CENTEL	CFRESH	CHEWA	CHO	CIMBT	CK	CKP	CM	CNT	COL	COMAN
COTTO	CPALL	CPF	CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC
DV8	EA	EASTW	ECF	ECL	EGCO	EPG	ETE	FNS	FPI	FPT
FSMART	GBX	GC	GCAP	GEL	GFPT	GGC	GPSC	GRAMMY	GUNKUL	HANA
HARN	HMPRO	ICC	ICI	III	ILINK	INTUCH	IRPC	IVL	JKN	JSP
JWD	K	KBANK	KCE	KKP	KSL	KTB	KTC	LANNA	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	METCO	MFEC	MINT
MONO	MOONG	MSC	MTC	NCH	NCL	NEP	NKI	NOBLE	NSI	NVD
NYT	OISHI	ORI	OTO	PAP	PAP	PCSGH	PDJ	PG	PHOL	PLANB
PLAT	PORT	PPS	PR9	PREB	PRG	PRM	PSH	PSL	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QTC	RATCH	RS	S	S & J	SAAM
SABINA	SAMART	SAMTEL	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SDC
SEAFCO	SEOIL	SE-ED	SELIC	SENA	SIRI	SIS	SITHAI	SMK	SMPC	SNC
SONIC	SORKON	SPALI	SPI	SPRC	SPVI	SSSC	SST	STA	SUSCO	SUTHA
SVI	SYMC	SYNTEC	TACC	TASCO	TCAP	TFMAMA	THANA	THANI	THCOM	THG
THIP	THRE	THREL	TIP	TIPCO	TISCO	TK	TKT	TTB	TMILL	TNDT
TNL	TOA	TOP	TPBI	TQM	TRC	TSC	TSR	TSTE	TSTH	TTA
TTCL	TTW	TU	TVD	TVI	TVO	TWPC	U	UAC	UBIS	UV
VGI	VIH	WACOAL	WAVE	WHA	WHAUP	WICE	WINNER	TRUE		

VERY GOOD LEVEL										
2S	ABM	ACE	ACG	ADB	AEC	AEONTS	AGE	AH	AHC	AIT
ALLA	AMANAHA	AMARIN	APCO	APCS	APURE	AQUA	ASAP	ASEFA	ASIA	ASIAN
ASIMAR	ASK	ASN	ATP30	AUCT	AWC	AYUD	B	BA	BAM	BBL
BFIT	BGC	BJC	BJCHI	BROOK	BTW	CBG	CEN	CGH	CHARAN	CHAYO
CHG	CHOTI	CHOW	CI	CIG	CMC	COLOR	COM7	CPL	CRC	CRD
CSC	CSP	CWT	DCC	DCON	DDD	DOD	DOHOME	EASON	EE	ERW
ESTAR	FE	FLOYD	FN	FORTH	FSS	FTE	FVC	GENCO	GJS	GL
GLAND	GLOBAL	GLOCON	GPI	GULF	GYT	HPT	HTC	ICN	IFS	ILM
IMH	INET	INSURE	IRC	IRCP	IT	ITD	ITEL	J	JAS	JCK
JCKH	JMART	JMT	KBS	KCAR	KGI	KIAT	KOOL	KTIS	KWC	KWM
L&E	LALIN	LDC	LHK	LOXLEY	LPH	LRH	LST	M	MACO	MAJOR
MBAX	MEGA	META	MFC	MGT	MILL	MITSIB	MK	MODERN	MTI	MVP
NETBAY	NEX	NINE	NTV	NWR	OCC	OGC	OSP	PATO	PB	PDG
PDI	PICO	PIMO	PJW	PL	PM	PPP	PRIN	PRINC	PSTC	PT
QLT	RCL	RICHY	RML	RPC	RWI	S11	SALEE	SAMCO	SANKO	SAPPE
SAWAD	SCI	SCP	SE	SEG	SFP	SGF	SHR	SIAM	SINGER	SKE
SKR	SKY	SMIT	SMT	SNP	SPA	SPC	SPCG	SR	SRICHA	SSC
SSF	STANLY	STI	STPI	SUC	SUN	SYNEX	T	TAE	TAKUNI	TBSP
TCC	TCMC	TEAM	TEAMG	TFG	TIGER	TITLE	TKN	TKS	TM	TMC
TMD	TMI	TMT	TNITY	TNP	TNR	TOG	TPA	TPAC	TPCORP	TPOLY
TPS	TRITN	TRT	TRU	TSE	TVT	TWP	UEC	UMI	UOBKH	UP
UPF	UPOIC	UT	UTP	UWC	VL	VNT	VPO	WIJK	WP	XO
YUASA	ZEN	ZIGA	ZMICO							

GOOD LEVEL										
7UP	A	ABICO	AJ	ALL	ALUCON	AMC	APP	ARIN	AS	AU
B52	BC	BCH	BEAUTY	BGT	BH	BIG	BKD	BLAND	BM	BR
BROCK	BSBM	BSM	BTNC	CAZ	CCP	CGD	CITY	CMAN	CMO	CMR
CPT	CPW	CRANE	CSR	D	EKH	EP	ESSO	FMT	GIFT	GREEN
GSC	GTB	HTECH	HUMAN	IHL	INOX	INSET	IP	JTS	JUBILE	KASET
KCM	KKC	KUMWEL	KUN	KWG	KYE	LEE	MATCH	MATI	M-CHAI	MCS
MDX	MJD	MM	MORE	NC	NDR	NER	NFC	NNCL	NPK	NUSA
OCEAN	PAF	PF	PK	PLE	PMTA	POST	PPM	PRAKIT	PRECHA	PRIME
PROUD	PTL	RBF	RCI	RJH	ROJNA	RP	RPH	RSP	SF	SFLEX
SGP	SISB	SKN	SLP	SMART	SOLAR	SPG	SQ	SSP	STARK	STC
SUPER	SVOA	TC	TCCC	THMUI	TIW	TNH	TOPP	TPCH	TIPIP	TPLAS
TTI	TYCN	UKEM	UMS	VCOM	VRANDA	WIN	WORK	WPH		

Description

Score Range

Excellent

90-100

Very Good

80-89

Good

70-79

Disclaimer:

The disclosure of the survey results 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 results may be changed after that date. FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; ** delisted

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

Anti-corruption Progress Indicator 2020

CERTIFIED										
2S	ADVANC	AI	AIE	AIRA	AKP	AMA	AMANAHA	AP	AQUA	ARROW
ASK	ASP	AYUD	B	BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG
BGC	BGRIM	BJCHI	BKI	BLA	BPP	BROOK	BRR	BSBM	BTS	BWG
CEN	CENTEL	CFRESH	CGH	CHEWA	CHOTI	CHOW	CIG	CIMBT	CM	CMC
COL	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DELTA	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FPI	FPT	FSS
FTE	GBX	GC	GCAP	GEL	GFPT	GGC	GJS	GPSC	GSTEEL	GUNKUL
HANA	HARN	HMPRO	HTC	ICC	ICHI	IFS	INET	INSURE	INTUCH	IRPC
ITEL	IVL	K	KASET	KBANK	KBS	KCAR	KCE	KGI	KKP	KSL
KTB	KTC	KWC	L&E	LANNA	LHFG	LHK	LPN	LRH	M	MAKRO
MALEE	MBAX	MBK	MBKET	MC	MCOT	MFC	MFEC	MINT	MONO	MOONG
MPG	MSC	MTC	MTI	NBC	NEP	NINE	NKI	NMG	NNCL	NSI
NWR	OCC	OCEAN	OGC	ORI	PAP	PATO	PB	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPPM
PPS	PREB	PRG	PRINC	PRM	PSH	PSL	PSTC	PT	PTG	PTT
PTTEP	PTTGC	PYLON	Q-CON	QH	QLT	QTC	RATCH	RML	RWI	S & J
SABINA	SAT	SC	SCB	SCC	SCCC	SCG	SCN	SEAOIL	SE-ED	SELIC
SENA	SGP	SIRI	SITHAI	SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK
SPC	SPI	SPRC	SRICHA	SSF	SSSC	SST	STA	SUSCO	SVI	SYNTEC
TAE	TAKUNI	TASCO	TBSP	TCAP	TCMC	TFG	TFI	TFMAMA	THANI	THCOM
THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT	TTB	TMD	TMILL	TMT
TNITY	TNL	TNP	TNR	TOG	TOP	TPA	TPCORP	TPP	TRU	TSC
TSTH	TTCL	TU	TVD	TVI	TVO	TWPC	U	UBIS	UEC	UKEM
UOBKH	UWC	VGI	VIH	VNT	WACOAL	WHA	WHAUP	WICE	WIJK	XO
ZEN	TRUE									

DECLARED										
7UP	ABICO	AF	ALT	AMARIN	AMATA	AMATAV	ANAN	APURE	B52	BKD
BM	BROCK	BUI	CHO	CI	COTTO	DDD	EA	EFORL	EP	ERW
ESTAR	ETE	EVER	FSMART	GPI	ILINK	IRC	J	JKN	JMART	JMT
JSP	JTS	KWG	LDC	MAJOR	META	NCL	NOBLE	NOK	PK	PLE
ROJNA	SAAM	SAPPE	SCI	SE	SHANG	SINGER	SKR	SPALI	SSP	STANLY
SUPER	SYNEX	THAI	TKS	TOPP	TRITN	TTA	UPF	UV	WIN	ZIGA

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

Disclaimer:

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; * FSSIA's compilation

GENERAL DISCLAIMER

ANALYST(S) CERTIFICATION

Suwat Sinsadok FSS International Investment Advisory Securities Co., Ltd

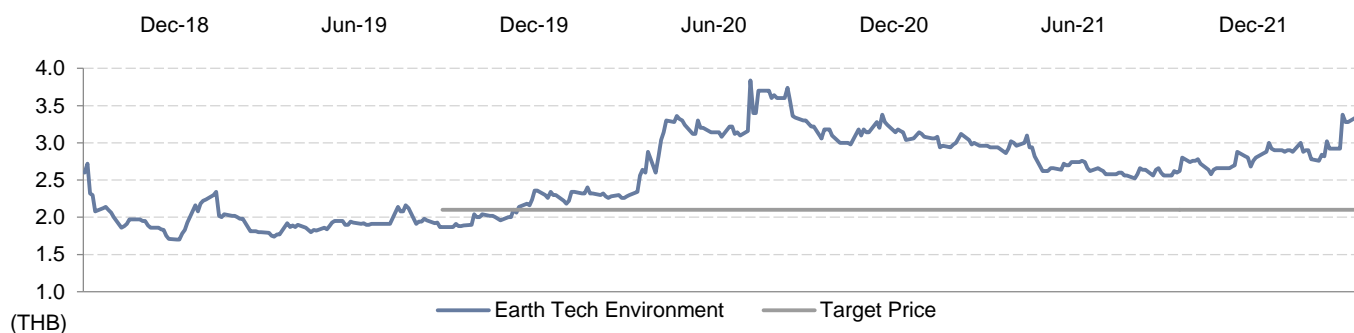
The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s) was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed herein.

This report has been prepared by FSS International Investment Advisory Company Limited (FSSIA). The information herein has been obtained from sources believed to be reliable and accurate; however FSS makes no representation as to the accuracy and completeness of such information. Information and opinions expressed herein are subject to change without notice. FSS has no intention to solicit investors to buy or sell any security in this report. In addition, FSS does not guarantee returns nor price of the securities described in the report nor accept any liability for any loss or damage of any kind arising out of the use of such information or opinions in this report. Investors should study this report carefully in making investment decisions. All rights are reserved.

This report may not be reproduced, distributed or published by any person in any manner for any purpose without permission of FSSIA. Investment in securities has risks. Investors are advised to consider carefully before making investment decisions.

History of change in investment rating and/or target price

Earth Tech Environment (ETC TB)



Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
30-Dec-2020	HOLD	2.10	-	-	-	-	-	-

Suwat Sinsadok started covering this stock from 30-Dec-2020

Price and TP are in local currency

Source: FSSIA estimates

Company	Ticker	Price	Rating	Valuation & Risks
Earth Tech Environment	ETC TB	THB 3.26	BUY	Downside risks to our SoTP-based TP include: 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price; and 3) lower-than-expected industrial waste volumes. Upside risks are the faster and larger-than-expected new capacity won by ETC in 2021.

Source: FSSIA estimates

Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

FSSIA may incorporate the recommendations and target prices of companies currently covered by FSS Research into equity research reports, denoted by an 'FSS' before the recommendation. FSS Research is part of Finansia Syrus Securities Public Company Limited, which is the parent company of FSSIA.

All share prices are as at market close on 15-Dec-2021 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as $(\text{target price}^* - \text{current price}) / \text{current price}$.

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Industry Recommendations

Overweight. The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

Neutral. The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

Underweight. The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

Country (Strategy) Recommendations

Overweight (O). Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral (N). Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight (U). Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.