

ENERGY ABSOLUTE EA TB

BUY

UNCHANGED

TARGET PRICE	THB66.00
CLOSE	THB53.25
UP/DOWNSIDE	+23.9%
PRIOR TP	THB56.00
CHANGE IN TP	17.86%

New S-curve growth in sight

NP growth from new ventures are now included

We are more positive on EA's net profit outlook in 2019-21E and now incorporate NPs from EA's new ventures (Electric Vehicle (EV) car, EV boat, Green Diesel (GD) and Phase Change Material (PCM), and EV charging stations). We believe EA's NP growth will accelerate starting 1Q19 driven by 1) Rising power earnings mainly from their new 260MW wind farm (1H19 COD), 2) the S-curve earnings growth in 2020 onward from new ventures. We believe that demand and operational risks will markedly subside in the wake of EA's successful EV car sales during the recent Thailand Motor Show last month.

Lower-risk, higher return stages for EA's new ventures

We believe EA's new S-curve growth ventures are now facing much lower demand and operational risks given 1) EA will start up its new CPO-based 130tpd GD and PCM in Sep-19, capturing the benefits of low CPO cost and rising eco-friendly GD with a NP of THB1b in 2020E, 2) its 1,000 charging stations should capitalise on its EV car and EV boat sales (THB78m NP in 2020E), 3) we estimate that EA will sell 5,000 EV cars and 50 EV boats in 2020 (NP of THB1b), 4) its 1GWh first phase battery plant will be operational (COD in 4Q19, NP THB946m in 2020E), with captive demands in 2020 from 0.15GWh of 5,000 EV cars and 0.2GWh from its EV boats.

Wind beneath its growth wings in 2019

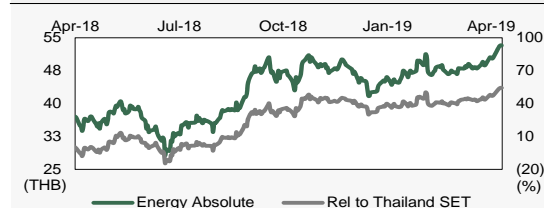
We believe NP will improve in 2019 due to better operations from its existing solar (278MW) and wind farm projects (376MW). We project that the Hanuman wind farm (260MW) will be a key earnings driver and generate a net profit of THB2b in 2019E, which should rise to THB2.5b 2020E onward, based on a high expected net profit per MW of THB15m, in our estimate.

TP lifted to THB66 on new growth engines

We maintain BUY and lift our SOTP-based TP from THB56 to THB66, incorporating values from EA's new ventures of 1) THB3.3 for EV cars and THB0.1 for EV boats based on 2020E 12x P/E, 2) THB0.3 for EV charging stations based on a DCF valuation (WACC 4%, Risk free 2.3%, Risk premium 8.5%), and 3) THB3.2 for GD and PCM based on 2020E 12x P/E. We raised our NP forecasts for 2019-21E by 2-29% to reflect our earnings from EA's new ventures.

KEY STOCK DATA

YE Dec (THB m)	2018A	2019E	2020E	2021E
Revenue	11,552	14,282	23,719	35,224
Rec. net profit	3,904	7,615	10,567	13,273
Recurring EPS (THB)	1.05	2.04	2.83	3.56
Prior rec. EPS (THB)	1.05	2.01	2.19	2.92
Chg. In EPS est. (%)	-	1.5	29.4	21.9
EPS growth (%)	2.3	95.1	38.8	25.6
Recurring P/E (x)	50.9	26.1	18.8	15.0
Dividend yield (%)	0.8	1.1	1.7	3.4
EV/EBITDA (x)	32.4	19.8	15.5	11.8
Price/book (x)	11.0	8.2	6.1	4.7
ROE (%)	23.8	35.9	37.2	35.3



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	9.8	18.3	43.9
Relative to country (%)	6.9	11.9	54.3
Next Results	May 2019		
Mkt cap (USD m)	6,241		
3m avg daily turnover (USD m)	27.6		
Free float (%)	40		
Major shareholder	Mr. Somphote Ahunai (23%)		
12m high/low (THB)	53.25/28.25		
3m historic vol. (%)	27.9		
ADR ticker	-		
ADR closing price (USD)	-		
Issued shares (m)	3,730		

Sources: FactSet Estimates; FSSIA estimates

Suwat Sinsadok *



*Not an employee of BNP Paribas. For all matters and queries relating to this report, please contact your BNP Paribas representative. Our research is available on Thomson Reuters, Bloomberg, S&P Global, FactSet, RSRCHXchange and ONEaccess.

Investment thesis

EA is Thailand's largest green energy player, operating through its three business segments of solar, wind and biodiesel, all touted to be the key pillars of Thailand's energy growth over the next 10 years. A biodiesel producer since 2012 with 800k litres per day (lpd) capacity, EA later ventured into the solar and wind businesses. We believe EA's solar farm will be a key earnings growth driver as it stands to gain from: 1) the high-margin THB6.5/kwh adder; and 2) a 40% decline in the cost of solar panels since 2010.

EA has evolved from being a pure biodiesel player to emerge as one of Thailand's key players in renewable energy. While its biodiesel segment has been struggling at a mere 50% utilisation rate due to the country's oversupply, EA's solar and wind farm businesses have benefited from high-margin electricity tariffs and the declining cost of solar panels.

Catalyst

Higher utilisation rates of power plants and rising demand for electricity in Thailand are key growth drivers.

Risk 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 demand for batteries.

Company background

Energy Absolute (EA) is a leading green energy company in Thailand with business interests in biodiesel, solar and wind energy. EA has expanded into the battery storage and electricity vehicle (EV) businesses, which will be key earnings growth drivers post 2019.

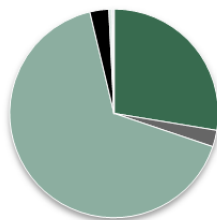
Key executives

	Age	Joined	Title
Mr. Somphote Ahunai	50	2009	Chief Executive Officer
Mr. Amorn Saphaweekul	43	2012	Chief Financial Officer

<http://www.energyabsolute.co.th>

Principal activities (revenue, 2018)

- Methyl ester Biodiesel products - 27.8%
- Pure glycerine products - 2.6%
- Electricity from solar and wind power - 66.6%
- Head office and others - 3.0%
- Consulting in the project regarding alternative electric energy - 0.4%
- Battery and EV - -0.4%



Source: Energy Absolute

Event calendar

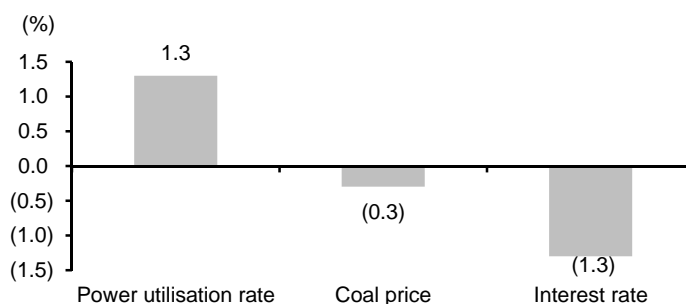
Date	Event
10 May 2019	1Q19 results announcement

Key assumptions

	2018E	2019E	2020E
Dispatched power (GWh)	8,839	9,715	9,715
Capacity factor - wind farms (pts)	26%	26%	26%
Battery sales volume (GWh)	0.0	0.9	4.6
EV car sales (car)	0	5,000	5,000
EV boat sales (boat)	0	40	50
EV charging station (station)	400	800	1,000
Green diesel & PCM (tpd)	33	130	130

Sources: Energy Absolute; FSSIA estimates

Earnings sensitivity, 2019E, to a 1% change in each metric



Sources: Energy Absolute; FSSIA estimates

- For every 1% increase in utilisation rate, we estimate earnings would rise by 1.3%, and vice versa, all else being equal.
- For every 1% increase in interest rate, we estimate earnings would decline by 1.3%, and vice versa, all else being equal.

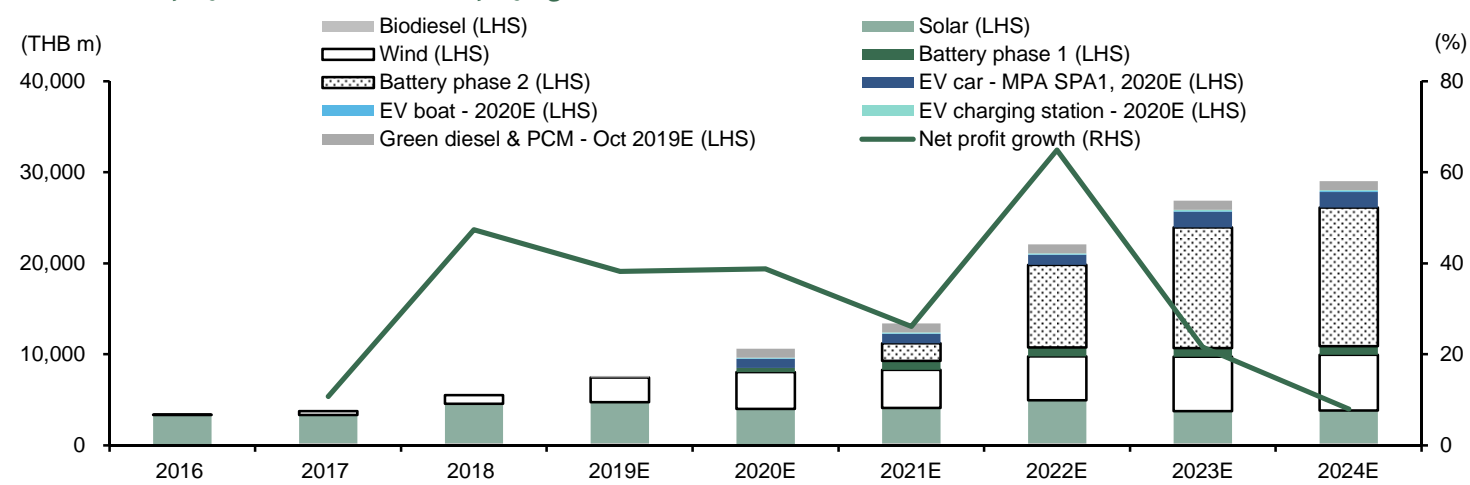
More growth from new ventures

We are more positive on EA's net profit outlook in 2019-21E and now incorporate NPs from EA's new ventures, in which we now think demand and business risks are subsiding. We have reason to believe this given the successful sales of 3,500 EV cars, the construction progress of its 1GWh battery phase 1 plant, and the on-track development of 1,000 charging stations for EV cars by end-2019.

We believe that on top of EA's existing power and biodiesel businesses, EA's NP growth will be boosted by EA's new ventures, which include 1) Electric Vehicle (EV) cars, 2) EV boats, 3) Green Diesel (GD) and Phase Change Materials (PCM), and 4) EV charging stations.

We believe EA's NP growth will accelerate starting 1Q19 driven by: 1) rising power earnings mainly from the new 260MW wind farm (1H19 COD), 2) the S-curve earnings growth in 2020 onward from new ventures in which we believe demand and operational risks have now markedly subsided following EA's successful EV car sales during the recent Thailand Motor Show last month.

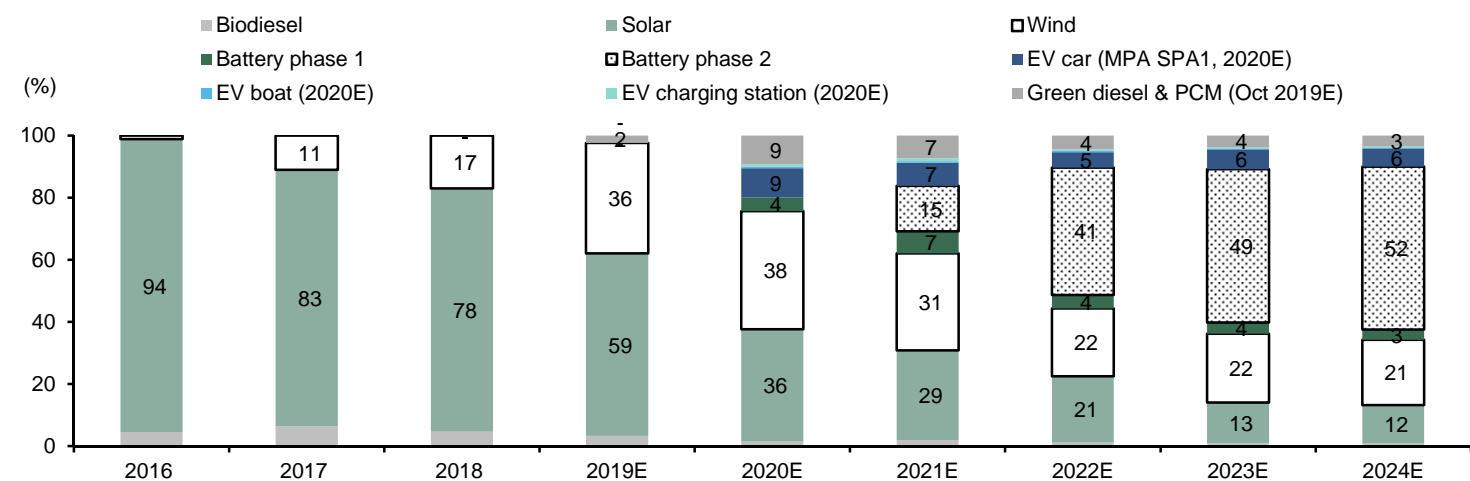
Exhibit 1: Net profit breakdown and net profit growth



Sources: EA; FSSIA estimates

Power business: We believe EA's net profit will rise in 2019 due to the improving operations of its 278MW solar farm and 376MW wind farm projects (power). EA has now fully started up its 260MW Hanuman wind farm in April and we project earnings from this wind farm to rise sequentially in 2Q19 onwards. We estimate that EA's power business will contribute THB7.2b annually to EA, comprising THB2.7b from 278MW solar farms and THB4.5b from 376MW wind farms.

Exhibit 2: Net profit breakdown by business unit



Sources: EA; FSSIA estimates

A set of new growth engines in 2019-23E

We now incorporate NPs and values from EA's new ventures into our estimates, which include 1) CPO-based GD and PCM (NP THB1b in 2020), 2) the 1,000 charging stations to capitalise on their sales of EV cars and EV boats (THB78m NP in 2020E), 3) We estimate that EA will sell 5,000 EV cars and 50 EV boats (NP of THB1b in 2020E), 4) its 1GWh first phase battery plant (COD in 4Q19, NP THB946m in 2020E) with captive demands in 2020 from 0.15GWh of 5,000 EV cars and 0.2GWh from its EV boats.

Exhibit 3: EA's new growth businesses

Net profit	Stake	EIRR	2019E	2020E	2021E	2022E	2023E	2024E	Investment
	(%)	(%)	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(THB b)
Committed growth									
Battery phase 1 (1GWh)	100	31	0	946	959	956	953	950	5
Battery phase 2 (15GWh)	50	41	0	0	2,951	9,062	15,272	15,216	15
EV car (MPA SPA1, 2020E)	100	20	0	997	997	1,099	1,712	1,713	0
EV boat (2020E)	100	17	0	51	78	78	81	84	1
EV charging station (2020E)	100	21	0	78	112	112	115	118	1
Green diesel & PCM (Oct 2019E)	100	35	183	987	987	987	987	987	1
Total			183	3,059	6,084	12,295	19,121	19,070	23
Potential growth (THB m)			2023E	2024E	2025E	2026E	2027E	2028E	Investment
Laemchabang phase 3 (2020E)	25	11	426	328	468	545	623	637	8

Sources: EA; FSSIA estimates

We believe EA's new S-curve growth ventures are now facing much lower demand and operational risks given:

Venture #1: CPO-based B100, GD and PCM business: EA will start up its new CPO-based 130tpd GD and PCM in Sep-19, 3-months earlier than its original commercial operation date (COD) in Dec 19, thanks to the pent-up demands for both GD and PCM. This new CPO-based plant will produce not only GD and PCM but also will strategically supplement EA's biodiesel B100 Methyl Ester (ME) plant with a total capacity of 1m litres per day (lpd).

B100: A potential direct winner on Thailand's current palm oversupply. While the margin of B100 is poor due to the chronic oversupply in Thailand, we think the potential increase in domestic B100 demands from the government policy to mandate B10 for passenger cars and B20 for trucks, will gradually improve the margins for B100. This will be in addition to the already existing increase in B100 demand due to the change in biodiesel from B3-B5 (3-5% B100 plus 95-97% refined diesel produced from refiners) in 2017, up to B7 in 2018 (7mlpd supply vs 4.7mlpd demand).

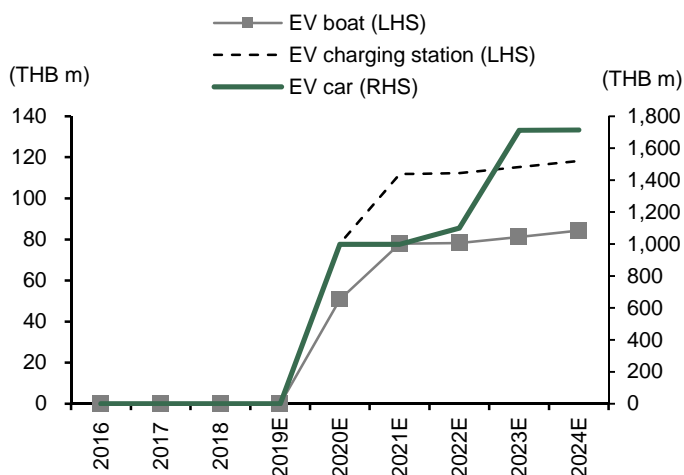
We think the start-up of EA's new 130tpd GD/PCM plant will capture the benefits of low CPO cost and the rising eco-friendly GD, and we project that this plant will generate NP of THB1b in 2020. We believe the GD with a THB3/litre higher margin than B100 at THB1/litre, will be one of the key earnings drivers for EA in 2020. EA will have an initial GD production of 90tpd (69.2% of 130tpd capacity) and will be sold to refiners in Thailand, which currently import GD at a higher price than the THB3/litre margin plus diesel price.

PCM is EA's new crown jewel: We believe PCM, while at small volume of 40tpd (30.8% of the total new plant capacity of 130tpd), should generate NP of THB0.5b annually post 2019 for EA, thanks to its low production cost of THB30-35/kg based on CPO price of THB16/kg, while its selling price is THB100/kg, resulting in a margin of over THB60/kg, based on our estimate.

What is PCM? A phase change material (PCM) is a substance with a high fusion heat, which, melting and solidifying at a certain temperature, is capable of storing and releasing large amounts of energy. Heat is absorbed or released when the

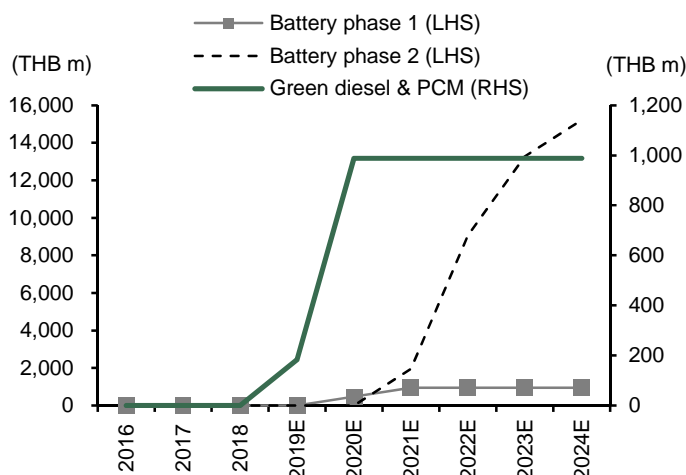
material changes from solid to liquid and vice versa; thus, PCMs are classified as latent heat storage (LHS) units.

Exhibit 4: Net profit forecasts from EV-related businesses



Sources: EA; FSSIA estimates

Exhibit 5: Battery and green diesel net profit forecast



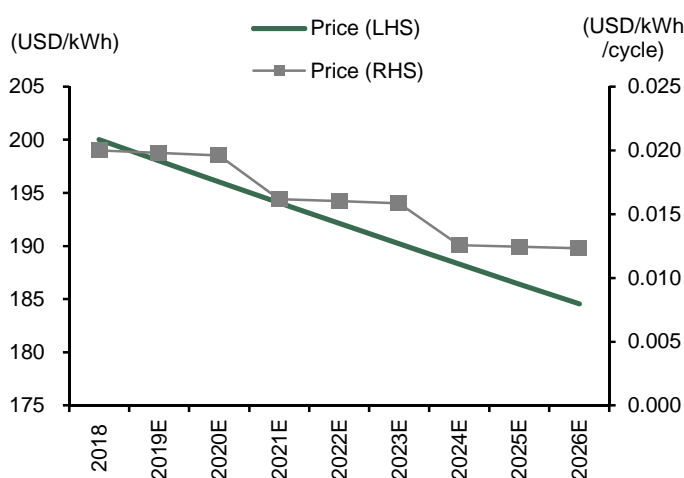
Sources: EA; FSSIA estimates

Venture #2: Battery business. We believe EA is now likely to successfully execute multiple businesses within the EV and battery value chain, which includes battery plants, EV cars, EV boats, and EV charging stations. Given that EA has successfully marketed and sold 3,500 EV cars of the MINE brand multi-purpose vehicle (MPV) SPA1 model, to the Suvarnabhumi Taxi Credit Union, and over 1,000 persons have vested their interests in purchasing EA's EV cars, we think that EA's battery and EV car business will now have much lower demand and development risks.

Battery plant phase 1 & 2: We have already incorporated NPs and values for EA's phase 1 battery plants (1GWh) and part of its phase 2 (15GWh out of 49GWh). But we are conservative by only including the battery demands for EA's captive demands from EV cars and boats and certain hybrid energy storage systems (ESS), like the solar farm power plants in Vietnam and Myanmar, currently under development.

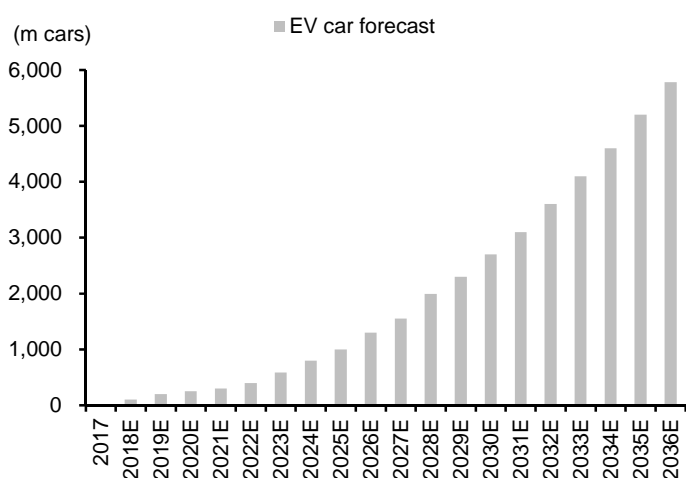
We project that battery plants will generate NPs of THB1b post 2019 for phase 1 and THB3b in 2021, rising to THB15.2b in 2023, based on 1) THB20b investment (THB5b for 100%-owned phase 1 and THB15b for a 50%-stake in phase 2) EIRR of 31-41%, 3) the USD200/KWh selling price in 2020 that is projected to gradually decline to USD195/KWh in 2021-2023 and USD190/KWh in 2024-2026.

Exhibit 6: The projected battery prices



Sources: EA; FSSIA estimates

Exhibit 7: EV car projections under PDP 2018



Source: PDP 2018

Venture #3: EV cars - a marvel venture. Only 6 months ago, we, as well as the market, remained highly suspicious that EA's EV car venture would progress evenly, as guided to start up by end-2019, let alone sell 3,500 EV cars, or 70% of EA's guided 5,000 EV car sales target.

EV cars in Thailand. According to Thailand's new PDP 2018, the country will gradually shift its focus from the current manufacturing hub for conventional internal combustion engine (ICE) cars to become a manufacturing hub for EV cars. Under PDP 2018, the Thai government projects that the country will sell 1m EV cars by 2025, up from only 100 EV cars in 2018. This would be achieved under the Thai government's Eastern Economic Corridor (EEC) investment scheme, which will focus on three provinces in the eastern part of Thailand, including Chonburi, Chachoengsao, and Rayong.

Exhibit 8: Power load forecast scenario under PDP 2018

	BAU	Base	Lower bound	New paradigm
GDP (%)	3.78	3.78	2.69	4.67
EV (m units)	1.2	1.2	0.6	3.0
Peak power demand forecasts	BAU	Base	Lower bound	
Electric vehicles (EV)	2,466	2,466	2,892	
Eastern economic corridor (EEC)	404	404	404	
High speed train (HST)	197	197	197	
Total	3,067	3,067	3,493	

Sources: PDP 2018; FSSIA estimates

We believe EA has moved in the right direction, and in a timely manner, to enter the EV car business as one of the only fully integrated EV players in Thailand, strengthening its presence in the green energy business with solar and wind farms and its multiple ventures in the EV car value chain (EV cars, EV boats, battery plants, and EV charging stations).

Exhibit 9: Excise tax for eco-cars and electric vehicles

Vehicle type	Co2 emissions (g/km)	Tax rate (effective from Sep 16, 2017) (%)	Tax rate for BOI incentives (effective until 2025) (%)	Note
Eco-car One (2007)	Below 120	14	N/A	
Eco-car Two (2013)	Below 100	12	N/A	
	Below 100 with E85	10	N/A	
Hybrid and plug-in hybrid EV	Below 100	8	4	
	101-150	16	8	
	151-200	21	10.5	
	Above 200	26	13	
Battery EV	None	8	2	Battery EV tax during 2020-22E at 0%

Source: Bangkok Post

Thailand has a range of eco-cars, which include hybrid EV (HEV), plug-in hybrid EV (PHEV) and pure EVs, including EA's battery EV (BEV) and fuel cell EV (FCEV), which generate lower carbon emissions than conventional vehicles with internal combustion engines (ICE). The Thai government has clearly promoted the EV business to capitalise on the country's current successful ICE-based automotive production hub, with a production level of over 2m cars pa, and 1m car exports annually. In 2018, most eco cars, mainly HE and PHEV, were produced by Japanese car makers at a rate of 209k eco cars, accounting for less than 10% of total car production in Thailand. However, there is only one current production plant for BEV by FOMM (Thailand), a Japanese-owned company, in Thailand, and EA's EV car plant will be the second facility dedicated to EV car production.

Exhibit 10: Eco-cars in the Thai market in 2017-2018

Brand	2017 (m cars)	2018 (m cars)	Change (%)	Share (%)
Toyota	44,200	68,804	55.67	32.84
Mazda	31,760	45,972	44.75	21.94
Nissan	33,673	42,205	25.34	20.14
Mitsubishi	22,833	25,784	12.92	12.31
Suzuki	21,300	24,625	15.61	11.75
Honda	2,473	2,132	(13.79)	1.02
Total	156,239	209,522	34.10	100.00

Source: Bangkok Post

With the Thai government's full support for EV business, reflected in tax cuts for import EV cars and batteries used for EV car assembly, and the projection of EV car sales in Thailand under the recent Power Development Plan 2018 (PDP 2018), we think EA's pioneer EV car business, as a first mover and a fully integrated player in the EV and battery value chain, will likely help EA succeed and generate strong NP growth from its EV and battery ventures post 2019.

With EA's target of 5,000 EV car sales and 50 EV boats, we estimate that EA will now have up to 0.35GWh captive demand in 2020 or 35% of its 1GWh first phase battery plant (COD in 4Q19), comprising 0.15GWh of 5,000 EV cars and 0.2GWh from its EV boats. According to management, EA will invest THB0.2b for its new EV car assembly plant and is scheduled to start up in 4Q19 to produce up to 7,000 EV cars per 12-hour working shift and 14,000 EV cars per 24-hour working shift.

Exhibit 11: EA's MINE brand EV car model MPV SPA1 shown in the recent Thailand Motor Show in Mar-Apr 2019

Source: EA

Exhibit 12: EA's MINE brand EV car model CITY, soon to be launched in 2020Source: ManagerOnline, <https://mgronline.com/motoring/detail/9620000018269>

EA has already launched its MINE brand EV car with the first model MPV SPA1 marketed in the recent Thailand Motor Show in Mar-Apr 2019. According to management, there were over 1,000 persons expressing interest in purchasing EV cars during the 2-week exhibition. EA plans to launch another smaller CITY model in 2020.

At a selling price of THB1.2m per EV car for the MPV SPA1 model, EA has successfully sold 3,500 EV cars and could secure an additional 500-800 EV car sales from the 1,000 plus interested persons from the motor show. We estimate EA to generate THB1b NP in 2020 from its EV car business, implying a THB0.2m net profit margin per car. The NP is projected to rise to THB1.7b in 2023 under our assumption that EA will sell over 8,000 EV cars in 2023.

MINE vs competitors. We believe EA's MPV SPA1 EV car model, priced at THB1.2m a car, is competitive vs other current competitors who produce EV cars for sale in Thailand.

Local producers MINE vs FOMM: We think EA's MINE is a much more attractive choice for EV cars for consumers than FOMM. While the selling price of THB1.2m for MINE SPA1 is higher than the THB0.6m for FOMM, we believe consumers find that there is more value-for-money for EA's MINE EV car, given the larger build and superior quality with higher speed, longer distance per charge, and higher horse power.

Local MINE vs Imported NISSAN Leaf, TESLA Model 3, and AUDI E-TRON: We believe EA's MINE is more attractive than other imported EV cars, including TESLA's Model 3, AUDI's e-tron, and NISSAN's Leaf, given MINE's lower inclusive selling price per car of THB1.2m to end-consumers vs THB1.2m to 2.4m per car for other brands, which still exclude any import tax expenses.

Exhibit 13: Comparisons of key EV car models

Brand	Unit	MINE (EA)	FOMM	Audi**	Tesla**	Nissan**
Model		SPA1	FOMM ONE	e-tron 55 Quattro	Model 3	Leaf
Type		MPV	L 7e	SUV	Sedan	Compact car
Battery	kWh	30	10	95	75	40
Distance	km/charge	200	160	414	500	311
Price tag	THB m	1.2	0.7	2.4*	1.5*	1.2*
Cost/km	THB/km	0.7				
Speed max	km/hr	140	80	200	225	150
Horsepower (HP)	kW/HP	95	13.4	402	283	148
Normal charging time	hours	3	6	9	7.1	12
Super charging time	minutes	12	NA	36	55	6
Battery warranty		180k km	Unlimited	8 years/160k km	4 years/120k km	8 years/160k km

Note 1: *These prices exclude import, excise, and other duty taxes that may be imposed on the imported EV cars; Note 2: **These brands are imported EV cars
Sources: Companies; FSSIA estimates

Key rivals in Thailand's EV car market. Banpu has invested a total of USD133m in three companies in the EV car value chain in two countries—Japan and Singapore. In Thailand, FOMM Asia is a Thai-Japanese joint venture company established in Feb-2016 to tailor existing automotive technology to the Thai market. FOMM Asia is the first carmaker to invest THB716m under the Thai government's promotion for its EV car scheme, securing tax privilege incentives from the Board of Investment (BOI) to manufacture battery-operated EV cars in Thailand under the EEC investment scheme.

FOMM Asia will complete the construction of its manufacturing plant to produce 10,000 EV cars annually at Amata City Industrial Estate (IE) in Chonburi province in eastern Thailand. It started operating in Jan-2019 and FOMM Asia plans to sell 2,500 EV cars in 2019, reaching 10,000 EV cars by 2021, based on FOMM's estimate.

We think Banpu's investment in the EV car value chain will start to materialise and become profitable by 2023, thanks to the projected sharp rise in demand for EV cars and ESS in Thailand and across Asia.

Exhibit 14: FOMM's EV car



Source: FOMM, <https://www.fomm.co.jp/research-en>

Exhibit 15: AUDI's premium e-tron EV car model



Source: <https://www.audiusa.com/technology/efficiency/e-tron>

EV car development in China. We believe EA still faces no threat from Chinese EV car producers in 2019-22, given 1) the imported EV car price at over THB1.5-2.0m per car remains higher than EA's MINE, 2) the fast growing EV car sales in China, given that the EV car industry is one of the Chinese government's 10 targeted industries that will spearhead China into its "Made in China 2025" vision—according to MIT Technology Review magazine, dated Feb 2019. In 2018, China sold over 1m EV cars and China has over 1,000 start-up companies related to EV car businesses in 2018.

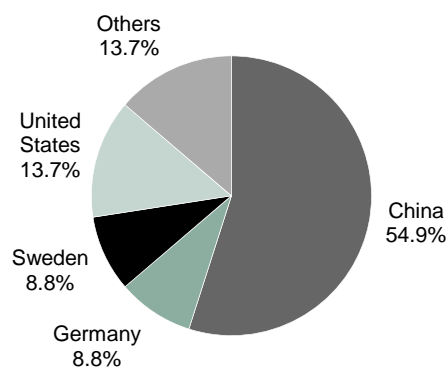
This should continue to curb China's EV car exports to serve its domestic fast growing EV car demands, thanks to the Chinese government subsidy policies including 1) restricting the number of ICE cars in many major cities with the wide selling price gap between ICE and EV cars in China at over 20%, 2) the higher registration tag for ICE vehicles vs zero tax for EV car tags. China now consumes around 55% of the global demand for Lithium-ion batteries, thanks to its fast growing EV car sales.

Exhibit 16: EV cars

Brand	Country	Cars
Tesla	United States	154,123
BYD	China	137,436
Renault-Nissan-Mitsubishi	Japan	131,606
BMW Group	Germany	96,513
BAIC Group	China	91,029
SAIC Group	China	88,555
Geely Group	China	77,997
Volkswagen Group	Germany	61,277
Hyundai-Kisa	Korea	52,477
Cheley	China	44,091

Source: Post Today

Exhibit 17: Market share of lithium-ion batteries



Source: Post Today

Venture #4: EV boats (EB) - a strategic EV business. EA plans to invest about THB1b in making EBs for passenger transport services on the Chaophraya River, starting with 40 EBs in 2020E and increasing to 50 EBs by 2021E. The EB has a 20-seat capacity and could cover 80kms per one battery charge. EA aims to set up joint ventures or directly sell EBs to existing river boat operators by 2020.

While the EB projects will likely generate a net profit of only THB0.1b annually for EA in 2020-23, based on our estimates, we believe that the EB business is a more strategic business for EA, given that EBs will create a high battery demand, which we estimate at 0.2GWh or 20% of EA's 1GWh capacity, and will reduce EA's demand risk for its 1GWh phase-1 battery plant project, scheduled to start up in 4Q19.

Exhibit 18: EA's electric boat design



Source: EA

Exhibit 19: EA's EB with 20-seat capacity



Source: Post Today

Valuation

We raised our EPS forecasts for FY19-21E, which is on top of our previous earnings forecasts that include earnings from solar farms (278MW), wind farms (386MW), biodiesel (0.8m litres per day capacity) and battery first (1GWh) and second (15GWh) phases. We exclude the value of EA's remaining 34GWh battery second phase, as we think demand and price risks remain high compared to the 16GWh battery capacity that we include, as we expect to see lower demand risk due to EA's internal demands for EV cars and power plants.

Our earnings upgrades for 2019-21E increase by 2-29% to reflect:

1. New CPO-based 130tpd GD and PCM (COD in Sep 19) with NP of THB183m in 2019 and THB1b in 2020.
2. 1,000 charging stations with THB78m/112m NPs in 2020-21E.
3. 5,000 EV cars with NP of THB1b in 2020-21E.
4. 40 EV boat sales in 2019 and 50 in 2020 with NP of THB51m/78m in 2020-21E.

Exhibit 20: Changes in key assumptions

	Current			Previous			Change		
	2019E (THB m)	2020E (THB m)	2021E (THB m)	2019E (THB m)	2020E (THB m)	2021E (THB m)	2019E (%)	2020E (%)	2021E (%)
Revenue	14,282	23,719	35,224	13,932	17,563	28,839	3	35	22
Gross profit	9,826	13,254	16,650	9,352	10,524	13,246	5	26	26
Operating profit	8,826	11,594	14,185	8,515	9,383	11,772	4	24	20
Net profit	7,615	10,567	13,273	7,500	8,167	10,893	2	29	22
EPS (THB/shr)	2.0	2.8	3.6	2.0	2.2	2.9	2	29	22
Key assumptions									
Dispatched power (GWh)	8,839	9,715	9,715	8,839	9,715	9,715	0	0	0
Capacity factor - wind farms (%)	26	26	26	26	26	26	0	0	0
Battery sales volume (GWh)	0.0	0.9	4.6	0.0	0.9	4.6	nm	0	0
EV car sales (car)	0	5,000	5,000	0.0	0.0	0.0	nm	nm	nm
EV boat sales (boat)	0	40	50	0.0	0.0	0.0	nm	nm	nm
EV charging stations (station)	400	800	1,000	0.0	0.0	0.0	nm	nm	nm
Green diesel & PCM (tpd)	33	130	130	0.0	0.0	0.0	nm	nm	nm

Sources: EA; FSSIA estimates

Exhibit 21: EA's SOTP, DCF-based valuation

Cost of equity assumptions	(%)	Cost of debt assumptions	(%)
Risk free rate	2.3	Pre-tax cost of debt	4.6
Market risk premium	8.5	Marginal tax rate	20.0
Stock beta	0.40		
DCF assumptions			
Cost of equity, Ke	5.7	Net cost of debt, Kd	3.4
Weight applied	25.0	Weight applied	75.0
WACC	4.0		

SOTP valuation estimate	(THB m)	(THB/share)	Valuation methodology
Biodiesel	3,891	1.0	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Solar			
Lop buri	1,383	0.4	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Nakornsawun	12,779	3.4	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Lumpang	20,831	6.3	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Pitsanulok	22,863	6.1	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Total solar	57,856	16.2	
Wind			
Southern (COD 2017)			
Had Gunghun 1	4,407	1.2	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Had Gunghun 2	5,334	1.4	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Had Gunghun 3	5,393	1.4	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Had Gunghun 4	6,623	1.8	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Total wind farm Southern	15,134	5.8	
Northeastern (COD 2018-19)			
Hanuman 1	8,644	2.3	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Hanuman 5	9,198	2.5	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Hanuman 8	8,623	2.3	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Hanuman 9	8,048	2.2	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Hanuman 10	15,367	4.1	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Total wind farms Northeastern	49,880	13.4	
Battery phase 1 (1GWh)	9,499	2.5	DCF with WACC 7%, Risk free rate 5.3%, Risk premium 8.5%
Battery phase 2 (15GWh)	99,362	26.6	DCF with WACC 7%, Risk free rate 5.3%, Risk premium 8.5%
EV car (MPA SPA1, 2020E)	11,961	3.3	FY20E P/E at 12x
EV boat (2020E)	507	0.1	FY20E P/E at 12x
EV charging station (2020E)	1,210	0.3	DCF with WACC 4.0%, Risk free rate 2.3%, Risk premium 8.5%
Total EV and battery	122,539	32.9	
Green diesel & PCM (Oct 2019E)	2,197	3.2	FY20E P/E at 12x
Net debt	(19,806)	(6.0)	
Minorities	(1,709)	(0.6)	
Residual ordinary equity	229,981	66.0	

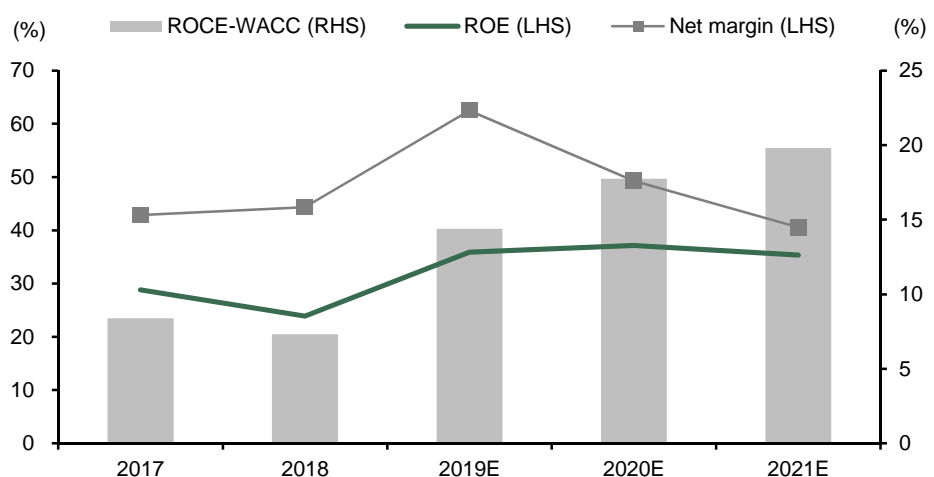
Sources: EA; FSSIA estimates

CAPEX in 2019 will be around THB10b, including THB5b for battery plants, THB1b for bio-diesel, PCM, and GD plants, THB0.5b for EV cars, THB1b for EV boats, THB0.5b for EV charging stations and THB1b for hybrid power plants in Myanmar and Vietnam.

Attractive valuation of 15-18x FY20-24E forward P/E without battery, EV businesses, and GD & PCM. We project EA's forward P/E with earnings generated only from EA's existing power and biodiesel businesses, to decline from 26x 2019E to 18x FY21E, and then sharply to 15-16x FY22-24E P/E. At 15-18x 2021-24E P/E, we think EA's valuation is still attractive, supported by superb shareholder value

creation, reflected in its high ROE of over 30-35% in 2019-21E. The high ROE will be supported by the superior operating performance of its solar and wind farms.

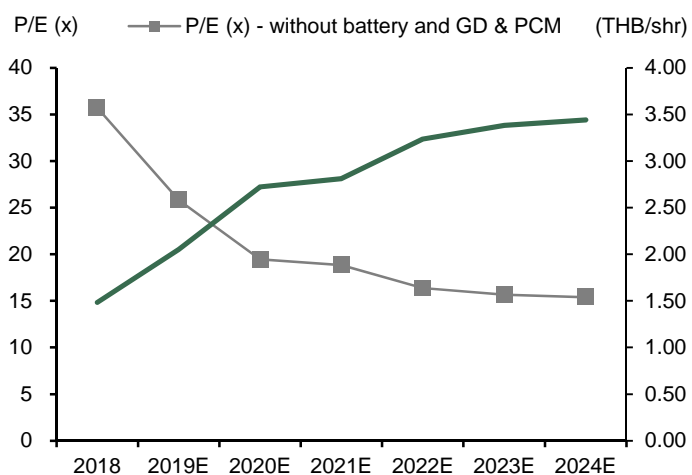
Exhibit 22: ROE, ROCE vs WACC, and net margin



Sources: EA; FSSIA estimates

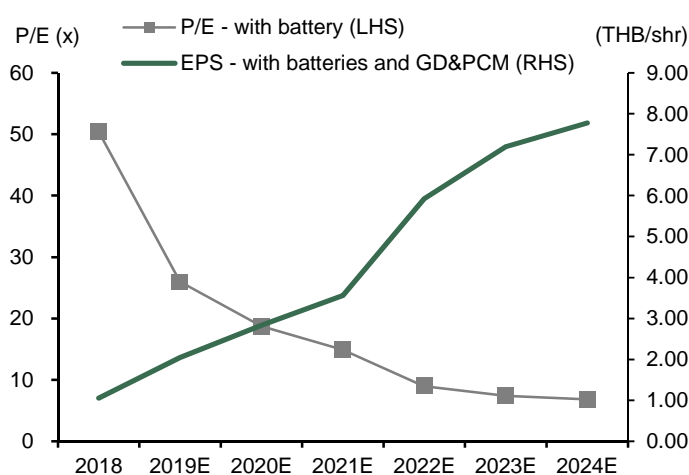
If we include earnings from EA's new ventures, we project EA's forward P/E for FY19-24E to decline from the current 25x in 2019E P/E to only 5x P/E for FY23-24E under the scenario that EA will complete and successfully sell the batteries produced at its 50GWh plant, assuming that its cost structure and selling price will be competitive. This is in addition to the earnings growth from EA's new growth ventures (EV cars, EV boats, EV charging stations, GD and PCM), scheduled to start up in 4Q19E.

Exhibit 23: Projected forward P/E and EPS excludes earnings from batteries, EV cars, EV boats, EV charging stations, and GD & PCM



Sources: EA; FSSIA estimates

Exhibit 24: Projected forward P/E and EPS includes earnings from batteries, EV cars, EV boats, EV charging stations, and GD & PCM



Sources: EA; FSSIA estimates

Financial statements

Energy Absolute

Profit and Loss (THB m) Year Ending Dec	2017A	2018A	2019E	2020E	2021E
Revenue	11,580	11,552	14,282	23,719	35,224
Cost of goods sold	(4,518)	(3,835)	(2,149)	(8,006)	(14,916)
Gross profit	7,062	7,717	12,132	15,713	20,309
Other operating income	-	-	-	-	-
Operating costs	(667)	(805)	(1,000)	(1,660)	(2,466)
Operating EBITDA	6,395	6,912	11,133	14,052	17,843
Depreciation	(1,528)	(1,833)	(2,306)	(2,458)	(3,658)
Goodwill amortisation	0	0	0	0	0
Operating EBIT	4,867	5,079	8,826	11,594	14,185
Net financing costs	(1,123)	(920)	(981)	(782)	(601)
Associates	(62)	(6)	0	0	0
Recurring non operating income	32	(140)	100	100	101
Non recurring items	0	1,072	0	0	0
Profit before tax	3,775	5,091	7,945	10,912	13,685
Tax	42	(29)	0	(6)	(63)
Profit after tax	3,817	5,061	7,945	10,906	13,621
Minority interests	0	(86)	(330)	(339)	(348)
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
Reported net profit	3,817	4,975	7,615	10,567	13,273
Non recurring items & goodwill (net)	0	(1,072)	0	0	0
Recurring net profit	3,817	3,904	7,615	10,567	13,273
Per share (THB)					
Recurring EPS *	1.02	1.05	2.04	2.83	3.56
Reported EPS	1.02	1.33	2.04	2.83	3.56
DPS	0.20	0.40	0.60	0.90	1.80
Diluted shares (used to calculate per share data)	3,730	3,730	3,730	3,730	3,730
Growth					
Revenue (%)	11.4	(0.2)	23.6	66.1	48.5
Operating EBITDA (%)	18.1	8.1	61.1	26.2	27.0
Operating EBIT (%)	13.3	4.4	73.8	31.4	22.3
Recurring EPS (%)	17.4	2.3	95.1	38.8	25.6
Reported EPS (%)	17.4	30.3	53.0	38.8	25.6
Operating performance					
Gross margin (%)	61.0	66.8	84.9	66.2	57.7
Operating EBITDA margin (%)	55.2	59.8	77.9	59.2	50.7
Operating EBIT margin (%)	42.0	44.0	61.8	48.9	40.3
Net margin (%)	33.0	33.8	53.3	44.6	37.7
Effective tax rate (%)	(1.1)	0.6	0.0	0.1	0.5
Dividend payout on recurring profit (%)	19.5	38.2	29.4	31.8	50.6
Interest cover (x)	4.4	5.4	9.1	15.0	23.8
Inventory days	12.7	21.8	43.7	19.9	24.1
Debtor days	67.6	74.0	66.0	51.4	46.8
Creditor days	40.5	56.8	80.9	36.9	44.7
Operating ROIC (%)	11.0	10.5	16.8	20.0	n/a
ROIC (%)	10.4	9.5	15.7	18.8	n/a
ROE (%)	29.3	23.8	35.9	37.2	35.3
ROA (%)	11.0	9.1	14.6	17.2	16.7
*Pre exceptional pre-goodwill and fully diluted					
Revenue By Division (THB m)					
Methyl ester Biodiesel products	4,219	3,213	6,570	6,570	6,570
Pure glycerine products	267	298	350	360	361
Electricity from solar and wind power	7,093	7,692	6,805	7,151	18,294
Head office and others	95	341	100	100	101
Consulting in the project regarding alternative electric energy	0	50	(90)	(90)	(89)
Battery and EV	(94)	(42)	547	9,627	9,987

Sources: Energy Absolute; FSSIA estimates

Financial statements

Energy Absolute

Cash Flow (THB m) Year Ending Dec	2017A	2018A	2019E	2020E	2021E
Recurring net profit	3,817	3,904	7,615	10,567	13,273
Depreciation	1,528	1,833	2,306	2,458	3,658
Associates & minorities	(62)	(6)	0	0	0
Other non-cash items	-	-	-	-	-
Change in working capital	(89)	7,992	1,376	6,639	7,826
Cash flow from operations	5,194	13,722	11,297	19,664	24,757
Capex - maintenance	(1,528)	(1,833)	(2,306)	(2,458)	(3,658)
Capex - new investment	(1,734)	(12,368)	(3,894)	(12,642)	(11,342)
Net acquisitions & disposals	(922)	922	0	0	0
Other investments (net)	478	(984)	0	0	0
Cash flow from Investing	(3,706)	(14,263)	(6,200)	(15,100)	(15,000)
Dividends paid	(560)	(746)	(1,492)	(2,238)	(3,357)
Equity finance	0	0	0	0	0
Debt finance	682	(1,525)	7,024	3,431	6,054
Other financing cash flows	(1,143)	3,784	(13,717)	(6,523)	(11,759)
Cash flow from Financing	(1,021)	1,513	(8,185)	(5,330)	(9,062)
Non recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
Net other adjustments	0	0	0	0	0
Movement in cash	467	973	(3,088)	(766)	695
Free cash flow to firm (FCFF)	2,672.10	545.96	6,078.38	5,345.85	10,357.77
Free cash flow to equity (FCFE)	1,026.67	1,718.53	(1,596.11)	1,472.07	4,051.83

Per share (THB)					
FCFF per share	0.72	0.15	1.63	1.43	2.78
FCFE per share	0.28	0.46	(0.43)	0.39	1.09
Recurring cash flow per share	1.42	1.54	2.66	3.49	4.54

Balance Sheet (THB m) Year Ending Dec	2017A	2018A	2019E	2020E	2021E
Tangible fixed assets (gross)	39,250	53,646	59,846	74,946	89,946
Less: Accumulated depreciation	(4,031)	(6,059)	(8,365)	(10,824)	(14,482)
Tangible fixed assets (Net)	35,220	47,587	51,481	64,123	75,465
Intangible fixed assets (Net)	977	937	937	937	937
Long-term financial assets	-	-	-	-	-
Invest. in associates & subsidiaries	955	33	33	33	33
Cash & equivalents	4,506	5,479	2,390	1,625	2,319
A/C receivable	2,386	2,295	2,866	3,815	5,224
Inventories	128	330	185	689	1,283
Other current assets	2	47	58	96	142
Current assets	7,022	8,150	5,499	6,224	8,969
Other assets	357	2,501	2,501	2,501	2,501
Total assets	44,530	59,208	60,450	73,817	87,903
Common equity	14,668	18,139	24,261	32,590	42,506
Minorities etc	76	1,379	1,709	2,049	2,397
Total Shareholders' equity	14,744	19,518	25,970	34,638	44,903
Long term debt	26,383	26,139	21,196	17,766	11,712
Other long-term liabilities	817	1,049	1,049	1,049	1,049
Long-term liabilities	27,200	27,187	22,245	18,814	12,761
A/C payable	583	611	342	1,275	2,375
Short term debt	1,313	3,081	1,000	1,000	1,000
Other current liabilities	691	8,810	10,892	18,090	26,865
Current liabilities	2,587	12,503	12,235	20,364	30,240
Total liabilities	44,530	59,208	60,450	73,817	87,903
Net working capital	1,242	(6,750)	(8,126)	(14,765)	(22,590)
Invested capital	38,750	44,308	46,826	52,828	56,344

* includes convertibles and preferred stock which is being treated as debt

Per share (THB)					
Book value per share	3.93	4.86	6.50	8.74	11.40
Tangible book value per share	3.67	4.61	6.25	8.49	11.14
Financial strength					
Net debt/Equity (%)	157.3	121.6	76.3	49.5	23.1
Net debt/total assets (%)	52.1	40.1	32.8	23.2	11.8
Current ratio (x)	2.7	0.7	0.4	0.3	0.3
CF interest cover (x)	3.5	16.3	3.3	19.1	26.6

Valuation	2017A	2018A	2019E	2020E	2021E
Recurring P/E (x) *	52.0	50.9	26.1	18.8	15.0
Recurring P/E @ target price (x) *	64.5	63.1	32.3	23.3	18.5
Reported P/E (x)	52.0	39.9	26.1	18.8	15.0
Dividend yield (%)	0.4	0.8	1.1	1.7	3.4
P/CF (x)	37.6	34.7	20.0	15.2	11.7
P/FCF (x)	n/a	n/a	n/a	n/a	49.0
Price/book (x)	13.5	11.0	8.2	6.1	4.7
Price/tangible book (x)	14.5	11.5	8.5	6.3	4.8
EV/EBITDA (x) **	34.7	32.4	19.8	15.5	11.8
EV/EBITDA @ target price (x) **	42.1	39.2	24.0	18.9	14.5
EV/invested capital (x)	5.7	5.0	4.7	4.1	3.8

* Pre exceptional & pre-goodwill and fully diluted

** EBITDA includes associate income and recurring non operating income

Sources: Energy Absolute; FSSIA estimates

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APPENDIX

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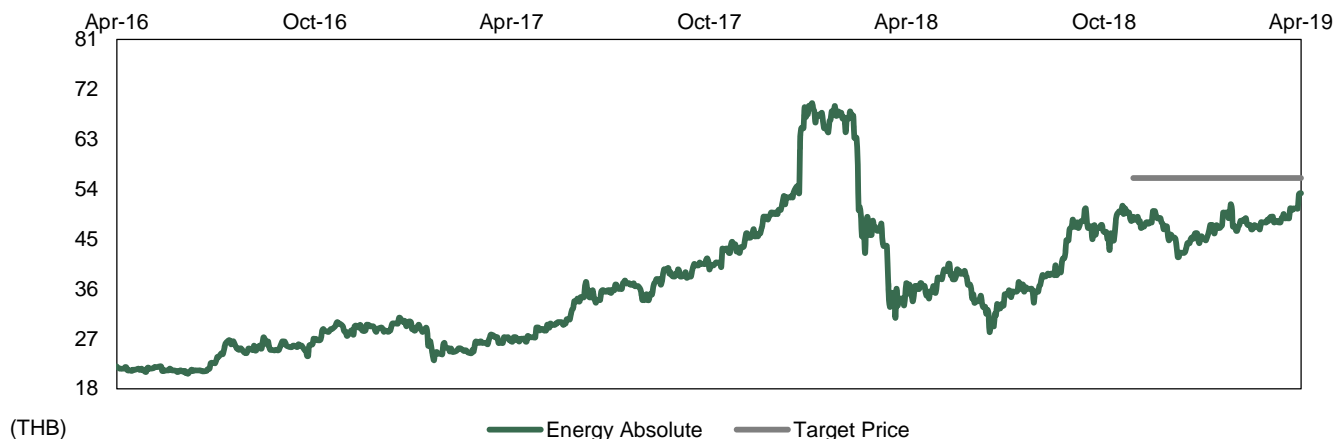
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History of change in investment rating and/or target price

Energy Absolute (EA TB)



Date	Rating	Target price
15-Nov-18	Buy	56.00

Suwat Sinsadok started covering this stock from 15 Nov 2018

Price and TP are in local currency

Sources: FactSet; BNP Paribas

Company	Ticker	Price	Rating	Valuation & Risks
Energy Absolute	EA TB	THB 53.25	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 demand for batteries.

Sources: Factset, BNP Paribas

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