

10 NOVEMBER 2021

Thailand Utilities

Cost headwinds overshadowed by growth tailwinds

Higher-than-expected gas price in 4Q21 may lead to share price plunge for SPPs

We believe the share price weakness of Thai power sector companies, particularly small power producer (SPP)-driven companies like BGRIM, GULF, and GPSC, has been caused by investors' grave concerns over the potential earnings downsides in 3Q21 and 4Q21 as a result of the high gas cost that we expect to rise by USD2/mmbtu q-q in 4Q21, or +25% q-q. The high gas price could be driven by the higher price of imported LNG (21% of total gas supply in 3Q21) and the gas price adjustment of Bongkot and Arthit (1/3 of total gas supply) to reflect the higher fuel oil price in the past 6 months.

Gas cost downsides to earnings should be short-lived in 2H21

We estimate that the 25% higher gas price – the electricity tariff could be stagnant as a result of the government's subsidies – could lead to earnings downsides of 10% for BGRIM, 8% for GPSC, 3% for GULF, and 1-2% for RATCH and EGCO (independent power producer (IPPs)) in 4Q21. However, the high gas cost impact should significantly subside in 1Q22 onward as 1) BGRIM and GULF will start to import LNG at lower contract prices than USD1/mmbtu (all-inclusive cost); and 2) we project the gas price to be relatively flat y-y, as the LNG and fuel oil prices are likely to soften by 2Q22 after the peak winter season.

Securing electricity from three hydropower plants in Laos

On 8 November 2021, the Energy Regulatory Commission (ERC) approved electricity tariffs for three hydropower plants in Laos – NN3, Pak Beng, and Pak Lay (collectively 'NPP') – that will sell most of the electricity produced to Thailand under long-term power purchase agreements (PPAs) under a memorandum of understanding (MOU) between Thailand and Laos to purchase up to 10,500MW of power from Laos, up from 9,000MW previously. Given that all NPP projects have been developed and are owned by Chinese developers with strong business relationships with GULF, we believe NPP will be GULF's next key growth driver in 2028 onward. With a potential 30% stake in Pak Beng and Pak Lay and a potential 20% stake in NN3, we think that GULF could secure up to 1.1GW of capacity growth, representing 15% of its total equity capacity that we estimate at 7GW in 2025. We expect NPP to start selling electricity to Thailand under PPAs in 2026 (NN3), 2028 (Pak Beng), and 2032 (Pak Lay), based on the current Power Development Plan 2018 Revision 1 (PDPR1).

BGRIM and GULF: near-term losers but long-term winners

We think BGRIM will be the largest beneficiary among seven licenced firms from LNG imports under its 1.2mt quota in 2022, thanks to its eight SPPs starting up in 2022-23 and the currently high gas costs for its operating SPPs. Meanwhile, GULF might see its net profit growth more than double y-y in 2022, driven by capacity growth, a THB4b dividend from INTUCH, and the benefits from the lower gas cost on its LNG imports.



Suwat Sinsadok
 suwat.sin@fssia.com
 +66 2611 3558

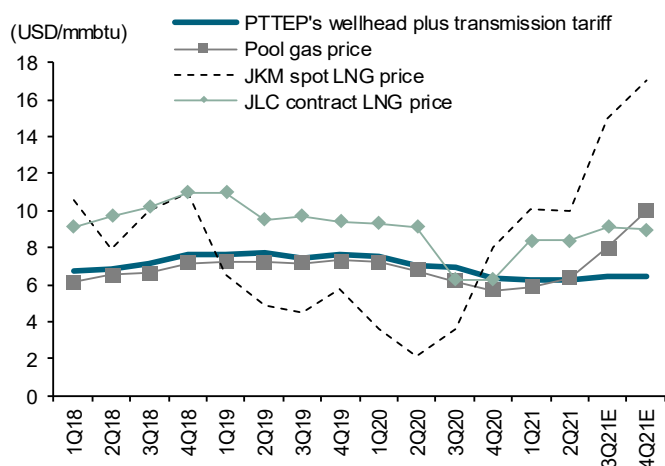
Siriluck Pinthusoonthorn
 siriluck.pin@fssia.com
 +66 2611 3562

Concerns over SPP margin squeeze led to share sell-off

Thai power sector companies' share prices plunged by 1-4% on 8 November 2021 due to investors' grave concerns over the potential margin squeeze for SPPs following the announcement of the disappointing 3Q21 results by GPSC on 7 November 2021, which, among many reasons, was caused by the higher-than-expected gas cost in 3Q21, which is likely to rise further in 4Q21.

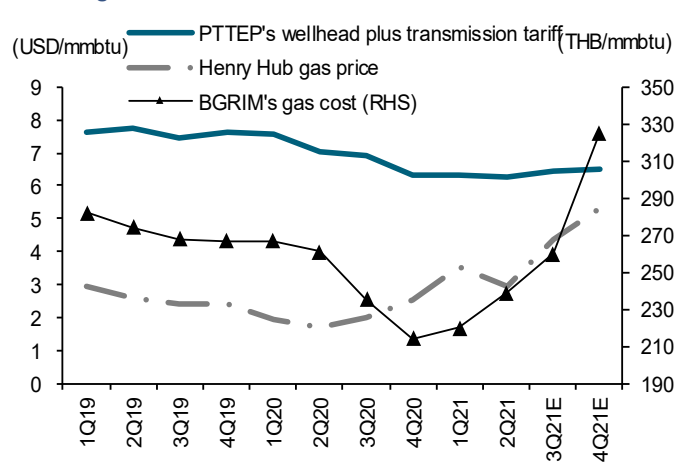
Using the gas cost disclosed by BGRIM as a proxy for the gas cost for Thai power companies, we estimate that, since hitting the bottom price of THB210/mmbtu in 4Q20, the gas price paid by SPPs has risen sharply to hit 260/mmbtu in 3Q21 and is likely to jump to THB320/mmbtu in 4Q21, driven by the higher gas price of LNG imports and the blended price for gas produced in the Gulf of Thailand, mainly from two gas fields, Bongkot and Arthit.

Exhibit 1: PTTEP's wellhead average gas price, Thailand's pool gas price, JKM spot LNG price, and JLC contract LNG price



Sources: PTT; Bloomberg; PTTEP

Exhibit 2: PTTEP's gas average selling price plus transmission tariff, US Henry Hub gas price index, and BGRIM's gas cost



Sources: PTTEP, BGRIM, Bloomberg

As a result, we believe three reasons have resulted in the margin squeeze for SPPs in 3Q-4Q21.

Higher gas price on higher imported piped gas price from Myanmar and LNG

In 3Q21, the gas cost for SPPs purchasing from PTT (PTT TB, BUY, TP THB60) rose to THB260/mmbtu, driven by the higher import LNG price of USD9.8/mmbtu, based on the blended price of 1.3mt and 0.195mt spot LNG. This consisted of 65kt imported by PTT and 130kt imported by the Electricity Generating Authority of Thailand (EGAT), from two ships in Sep-21 (65kt per ship) and later in Oct-21 (130kt from two ships) to supply EGAT's new Bangkokong IPP, based on our estimate.

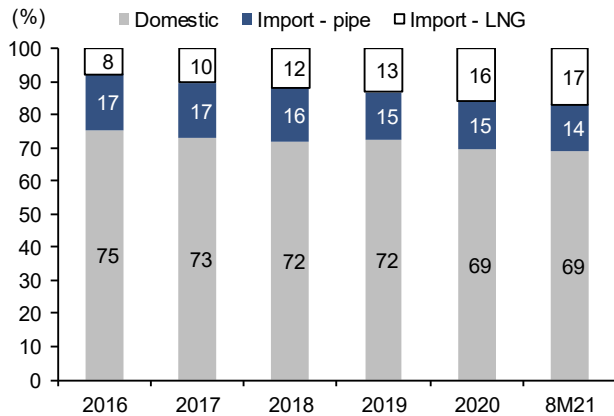
The remaining 240kt quota for LNG imports in Nov-Dec 2021 remains open, pending the ERC's rectification of conditions to incentivise importers.

Given that the imported LNG volume of 800mmscf, or 1.5mt, represents 21% of Thailand's total gas supply in 3Q21, the high LNG price resulted in the much higher pool gas price sold to SPPs.

We expect a higher gas price for SPPs by USD2/mmbtu in 4Q21 before it starts to decline in 1Q22, when we expect the pool gas price in Thailand to weaken to reflect the new gas price from the Bongkot gas field (20-30% of Thailand's gas supply) under the new production service contract. The new gas price could be up to 20% lower than the current gas price for Bongkot under the existing concession.

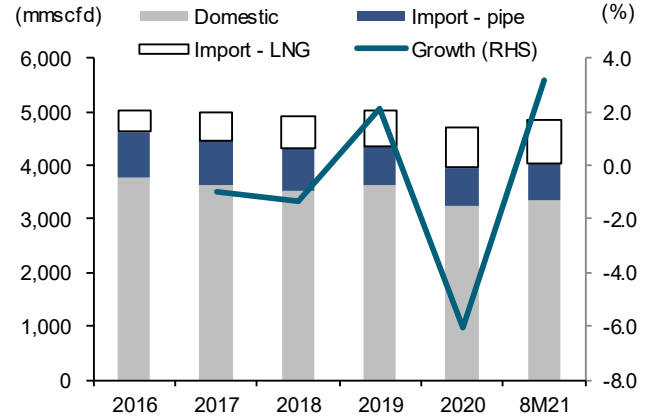
While the average price for gas produced domestically in the Gulf of Thailand and onshore remains relatively low at USD6-7/mmbtu, reflected in PTT Exploration and Production (PTTEP TB, BUY, TP THB158)'s wellhead gas price which includes mostly the gas production in Thailand and the pool gas price. The pool gas price embraces not only the price for gas produced domestically but also the higher prices of LNG gas imports and the piped gas from Myanmar via three gas fields (Yadana, Yetagun, and Zawtika), which accounted for 14% of Thailand's total gas supply in 8M21, down from 17% in 2016-17 due to the lower gas production from both Yadana and Yetagun caused by their natural declines.

Exhibit 3: Thailand's gas supply, breakdown by source (%)



Sources: Department of Mineral Fuels (DMF) and PTT

Exhibit 4: Thailand's gas supply, breakdown by source



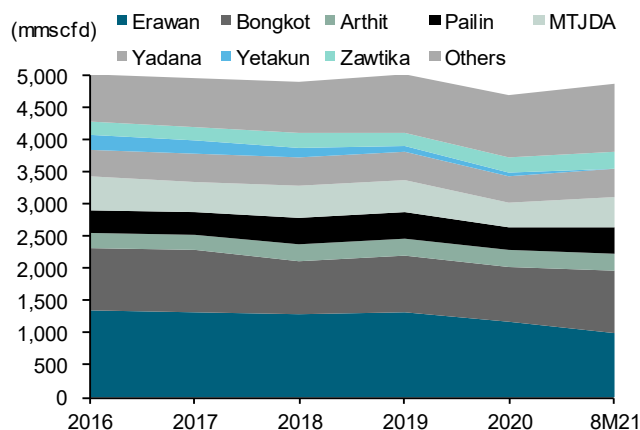
Sources: Department of Mineral Fuels (DMF) and PTT

Although we expect that the higher gas prices for imported gas via pipeline from the three gas fields (14% of total gas supply) in Myanmar will drive up Thailand's pool gas price by USD0.2-0.4/mmbtu, based on a USD1-2/mmbtu q-q higher projected gas price in 4Q21, we think the most significant factor that could impact the gas prices for SPPs will come from a sharp rise in the imported LNG price by USD2-3/mmbtu q-q. We think this will occur as a result of the higher oil price, which is linked to the contract gas prices paid by PTT as an importer of LNG under long-term contract.

In addition, the proportion of imported LNG to the total gas supply in Thailand has continued to rise to 17% in 8M21, up from a mere 7.8% in 2016, thanks to the natural decline in gas production levels for the piped gas imported from Myanmar and the gas fields in Thailand, mainly Bongkot (19.9% of total gas supply in 8M21) and Erawan (20.3%).

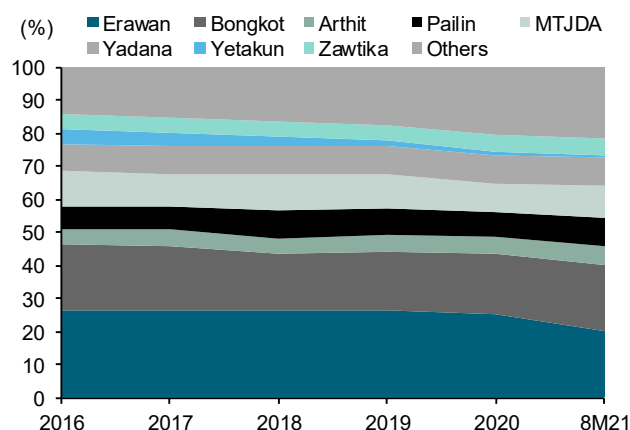
Erawan, Thailand's largest gas field, has seen its gas production plunge from 1,339mmscfd (26.7%) in 2016 down to only 1,185mmscfd (20.3%) in 8M21, as the current gas production concessions for the existing operator, Chevron (Thailand), will expire in Apr-22 and Mar-23. Chevron has had a dispute with the Department of Mineral Fuels (DMF) over the decommissioning expenses of Erawan field, causing reductions and delays in gas production during the transition period from Chevron (Thailand) to the new operator, PTTEP.

Exhibit 5: Thailand's gas supply, breakdown by field



Sources: Department of Minerals Fuel (DMF) and PTT

Exhibit 6: Thailand's gas supply, breakdown by field (%)



Sources: Department of Minerals Fuel (DMF) and PTT

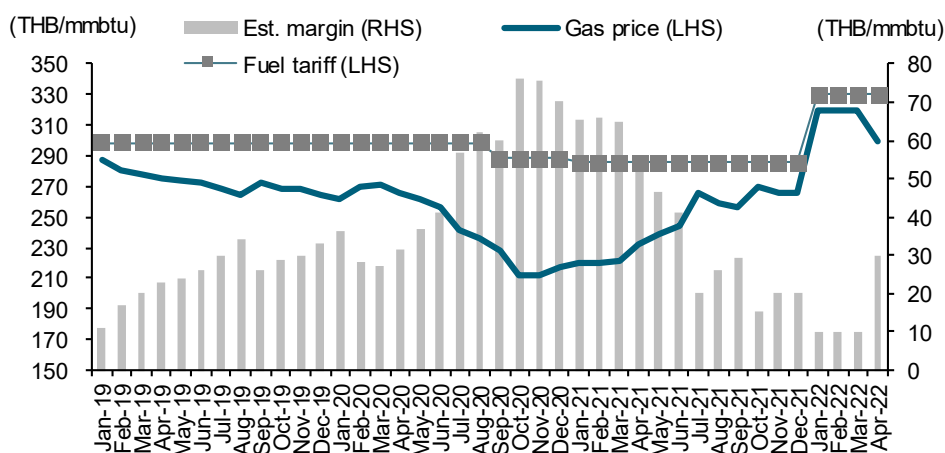
Subsidised electricity tariff could lead to margin squeeze for SPPs

On top of the rising gas costs driven by the higher prices of imported LNG and gas from Myanmar, we think SPPs could face a margin squeeze if the ERC decides to raise the electricity tariff at a lower rate than the cost inflation.

According to the ERC, the higher gas cost by THB60/mmbtu in 4Q21 would have to be matched by a THB0.4/kWh increase in the fuel tariff (Ft) for Jan-Apr 2022, bringing the Ft up from THB-0.1532/kWh (Jan-Dec 2021) to THB0.25/kWh vs THB-0.1243/kWh in 2020.

We estimate that the ERC will compromise by raising the Ft by THB0.2-0.3/kWh, which could result in a gross margin decline from THB20-22/mmbtu in 3Q21E down to THB9/mmbtu in Jan-Mar 2022, before rising again to THB29/mmbtu in May 2022 when we expect the gas cost to drop following the impact of the lower gas price from imported LNG.

Exhibit 7: BGRIM's gas price, tariff, and estimated margin

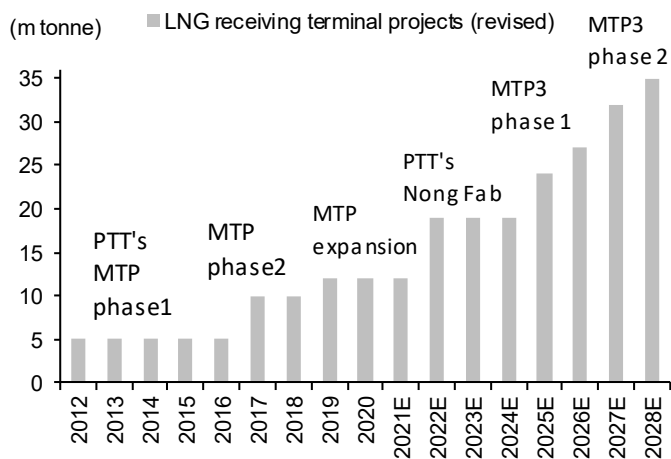


Sources: BGRIM; PTT; FSSIA estimates

Impact of the high gas price in 3Q-4Q21 on power companies

We estimate that the 25% higher gas price – the electricity tariff could be stagnant as a result of the government's subsidies – could lead to earnings downsides of 10% for BGRIM, 8% for GPSC, 3% for GULF, and 1-2% for RATCH and EGCO (IPPs) in 4Q21. However, the high gas cost impact should significantly subside in 1Q22 onward as 1) BGRIM and GULF will start to import LNG at lower contract prices than USD1/mmbtu (all-inclusive cost); and 2) we project the gas price to be relatively flat y-y, as the LNG and fuel oil prices are likely to soften by 2Q22 after the peak winter season.

Exhibit 8: LNG terminals in Thailand



Source: PTT

Exhibit 9: Owners of LNG shipper import licences in Thailand

Company	Import quota	
	(mtpa)	(mmscfd)
1 PTT	n/a	n/a
2 EGAT	n/a	n/a
3 GULF	0.3	42
4 Hin Kong Power Holding	1.4	196
5 BGRIM	1.2	168
6 EGCO	0.2	35
7 PTT Global LNG	n/a	n/a
8 SCC	n/a	n/a
Total	3.1	441

Source: PTT

Unlike in 2021, the seven companies granted shipper licences to import LNG – EGAT, GULF, BGRIM, Hin Kong Holding, EGCO, Siam Cement (SCC TB, BUY, TP THB520), and PTT Global LNG (collectively 'LNG7') - are more interested in importing LNG in 2022 with a quota of 1.74mt and in 2023 with a quota of 3.02mt, as they could import LNG at a contract price lower than the spot price and PTT's current pool gas price (USD5.5/mmbtu contract price vs over USD10/mmbtu spot price and USD7-8/mmbtu for PTT's pool gas price).

One shipper in the LNG7 has already indicated its interest to import 0.5mt of LNG in 2022. In addition, the demand for imported LNG should be consumed by BGRIM's five new SPPs in 2022 and three new SPPs in 2023, while other companies in the LNG7 plan to use the imported LNG for the 15% gas demand under the existing PPAs with PTT.

Hence, we believe that by 1Q22, SPP-driven companies with shipper licences, like BGRIM and GULF, should see lower gas costs thanks to the contract LNG price that should weigh down the average gas cost for those companies in 2022 onward.

Water for power

On 8 November 2021, the ERC finally approved the electricity tariff for three hydropower plants in Laos that will sell most of their electricity production to Thailand under long-term PPAs under an MOU between Thailand and Laos to purchase up to 10,500MW of power from Laos, up from 9,000MW under the previous MOU.

Exhibit 10: Potential and operating hydropower plant projects along the Mekong River

COD	Project	Capacity (MW)	Stake (%)	Equity capacity (MW)	Investment (USD m)	Status	Key developer	Electricity offtaker	
2026E	Nam Ngum	480	20	96	1,440	PPA signed Jul-19	EDL, EGATi	Reservoir	90% EGAT/10% EDL
2029E	Pak Beng	897	30	269	2,372	Proposed 2017	Datang (Lao) Pak Beng Hydropower	Run-of-river	90% EGAT/10% EDL
2030E	Pak Lay	763	30	229	2,134	Proposed 2019	PowerChina Resources	Run-of-river	na
2032E	Sanakham	684	30	205	2,073	Proposed May-20	Datang Sanakham Hydropower	Run-of-river	na
2033E	Luang Prabang	1,400	30	420	4,200	Proposed Jul-19	PetroVietnam Power	Run-of-river	na
	Total	3,744		1,123					
Hydropower plants operating on Mekong River									
2019	Xaiyaburi	1,285			4,838	Operating	CK power owned 37.5%/GPSC 25%/EGCO 15%	Run-of-river	90% EGAT/10% EDL
2019	Don Sahong	260			780	Operating	Mega First Corp (Malaysia)	Run-of-river	na

Source: Mekong River Commission (MRC)

GULF intends to acquire stakes in all three hydropower plant projects with approved tariffs by the ERC – Nam Ngum 3, Pak Beng, and Pak Lay (NPP).

Nam Ngum 3 (NN3) hydropower plant has a THB2.8934/kWh feed-in-tariff (FiT) throughout a 27-year PPA. Established by Electrity Du Laos (EDL), it secured a PPA with EGAT on 16 July 2019. NN3 is scheduled to commence its commercial operation date (COD) in 2026. NN3 is currently owned by EDL, the Chaleun Sekong Group (CSL), and EGAT International (EGATi). GULF aims to acquire up to a 20% stake from EGATi within 2022.

Pak Beng (897MW) and Pak Lay (763MW) are two run-of-river hydropower plant projects. Pak Beng was granted a FiT of THB2.7935/kWh and Pak Lay was granted a FiT of THB2.9426/kWh for 27-year PPAs.

NPP have all been developed and are owned by Chinese developers with strong business relationships with GULF. GULF's management believes that these large-scale hydropower plants will be the company's next key growth drivers after the completion of GULF's two large IPPs in Thailand by 2024.

With a 30% stake potential in Pak Beng and Pak Lay and a 20% stake potential in NN3, we think that GULF could secure up to 1.1GW of capacity growth, representing 15% of its total equity capacity that we estimate at 7GW in 2025.

We expect NPP to start selling electricity to Thailand under PPAs in 2026 (NN3), 2028 (Pak Beng), and 2032 (Pak Lay), based on the current PDPR1.

While the COD of NN3 is in line with PDPR1, the CODs of Pak Beng and Pak Lay are slightly earlier than their planned CODs, by one year for Pak Beng and two years for Pak Lay. We think should be manageable as the developing consortium has long prepared for the development of these two projects.

Exhibit 11: New MW additions by zone under PDP 2018

Region/Target COD	Power plant	Capacity	Remark
West			
2023E	Hin Kong	700	IPPs/EGAT (replacing TECO)
2024E	Hin Kong	700	IPPs/EGAT (replacing RG TH#1-2)
North			
2026E	Mae Moh	600	Replacement by EGAT
Northeast			
2025E	Nam Phong	650	Replacement by EGAT
2026E	Power import	700	Nam Ngum 3 (480MW)
2028E	Power import	700	Pak Beng (897MW)
2030E	New bidding	700	IPPs/EGAT
2032E	Power import	700	Pak Lay (897MW)
2032E	New bidding	700	IPPs/EGAT
2033E	Power import	700	
2035E	Power import	700	
Metropolitan			
2026E	South BKK	700	Replacement by EGAT
2027E	South BKK	1400	Replacement by EGAT
2028E	North BKK	700	Replacement by EGAT
2035E	North BKK	700	Replacement by EGAT
2036E	New bidding	700	IPPs/EGAT
South			
2027E	Surat Thani	700	Replacement by EGAT
2029E	Surat Thani	700	Replacement by EGAT
2034E	New bidding	1000	IPPs/EGAT
2035E	New bidding	700	IPPs/EGAT
Upper central			
2032E	New bidding	1400	IPPs/EGAT
East			
2033E	New bidding	1000	IPPs/EGAT
2037E	New bidding	700	IPPs/EGAT

Source: PDP 2018

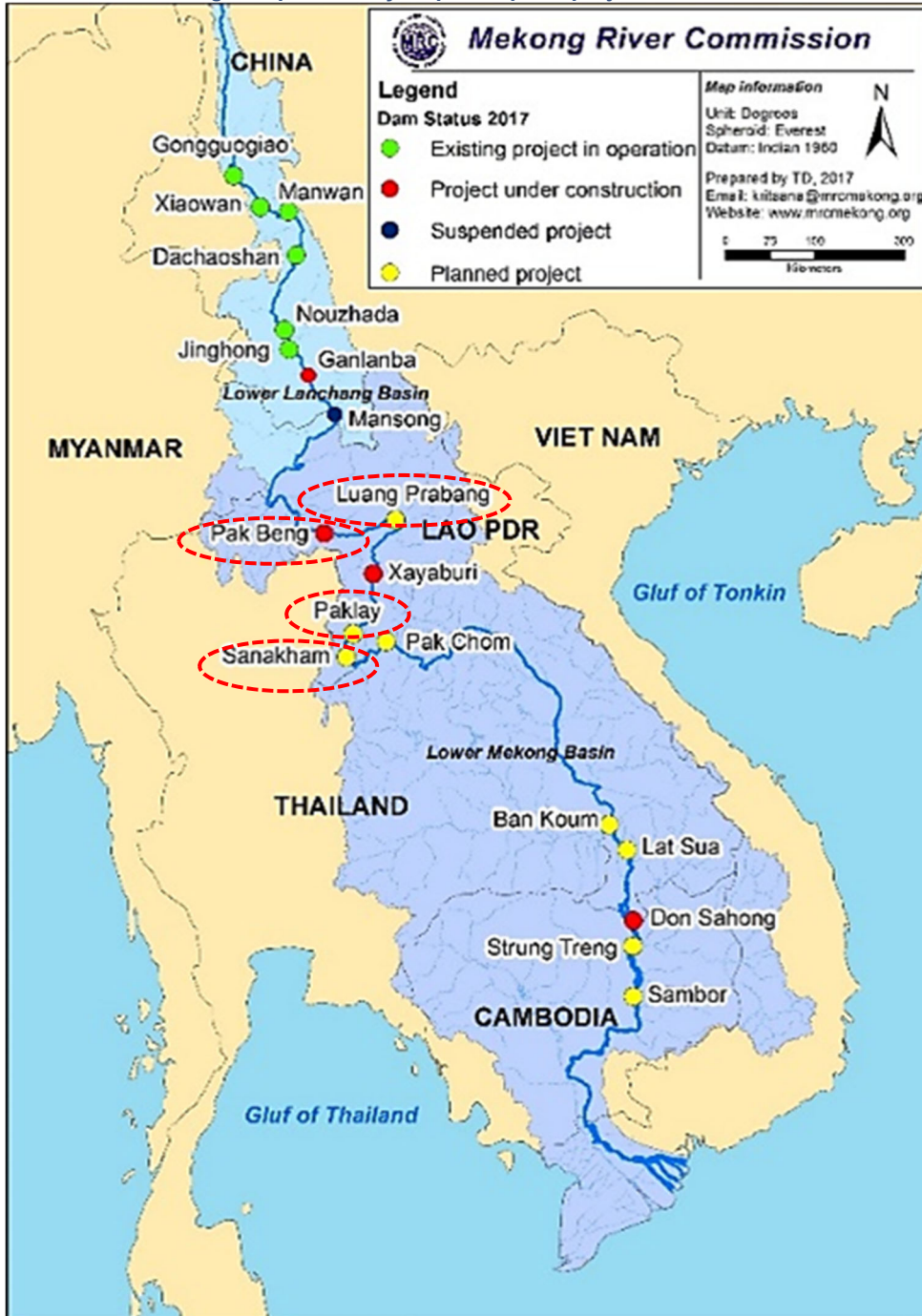
We believe these three FIT-approved hydropower plant projects, along with other hydro power plant projects (Sanakham and Luang Prabang), are likely to be included into Thailand's PDP 2022, considering that:

- 1) The electricity tariff of hydropower plants is now 10-25% (THB1.8-2.0/kWh) lower than the tariffs for gas-fired and coal-fired power plants (THB2-2.4/kWh). However, the recently approved tariff range for the three hydropower plants is THB2.79-THB2.94/kWh.
- 2) Hydropower plants are much cleaner than the fossil-based gas and coal-fired power plants, further strengthening the Thai government's goal of zero carbon emissions.
- 3) The reliability of electricity generated by hydropower plants can be significantly improved by using a battery-based energy storage system. Battery costs are projected to sharply decline over the next ten years.
- 4) The electricity generated from hydropower plants is a good match for the seasonally high demand for electricity in Thailand during June to September, when water flow levels for hydropower plants are higher due to the rainy season.

According to the Mekong River Commission (MRC), the estimated hydropower potential of the Lower Mekong Basin (excluding China) is 30GW, while that of the Upper Mekong Basin is 28.9GW.

In the Lower Mekong Basin, more than 3,235MW have been realised via facilities built largely over the past 10 years, while projects under construction will represent an additional 3.2GW over the next five years. Laos has completed two dams on the Mekong River, including the 1,285MW Xaiyaburi hydropower plant in October 2019 and the 260MW Don Sahong hydropower plant in 2019.

Exhibit 12: Existing and planned hydropower plant projects in Laos



Source: MRC

Exhibit 13: Peer comparisons

Company	BBG code	Rec	Share Price (LCY)	Target price (LCY)	Upside (%)	Market Cap (USD m)	3Y EPS CAGR (%)	PE		ROE		PBV		EV / EBITDA	
								21E (x)	22E (x)	21E (%)	22E (%)	21E (x)	22E (x)	21E (x)	22E (x)
THAILAND															
B Grimm Power	BGRIM TB	BUY	41.25	58	41	3,281	31.8	37.3	27.1	10.2	13.4	3.7	3.6	13.5	11.8
Gulf Energy Deve	GULF TB	BUY	42	56	33	15,037	44.1	74.8	39.0	10.0	17.6	7.3	6.5	50.7	26.7
Global Power Syn	GPSC TB	BUY	75.25	100	33	6,475	16.3	25.4	21.4	8.0	9.3	2.0	1.9	16.3	15.8
Banpu Power	BPP TB	BUY	17.4	23	32	1,618	18.2	9.8	8.7	12.7	13.3	1.2	1.1	33.6	25.7
Electricity Gen	EGCO TB	BUY	175	245	40	2,811	26.2	7.1	5.4	12.3	14.5	0.8	0.7	13.8	10.0
Ratch Group	RATCH TB	BUY	44.25	60	36	1,958	13.4	8.4	7.5	12.2	15.7	1.0	1.0	11.0	11.5
Wha Utilities&Pow	WHAUP TB	HOLD	4.2	4.5	7	490	20.4	13.2	12.2	9.9	10.6	1.3	1.3	43.8	42.8
Bcpq	BCPG TB	BUY	12.8	17	33	1,130	(6.4)	14.2	14.5	10.8	9.8	1.5	1.4	17.5	17.4
Ck Power	BKP TB	BUY	5.1	6.6	29	1,265	97.0	18.3	13.0	9.1	11.9	1.6	1.5	10.3	11.9
Energy Absolute	EA TB	BUY	65	76	17	7,398	29.3	29.6	24.9	26.1	24.8	7.0	5.5	23.0	18.1
Gunkul En	GUNKUL TB	BUY	4.72	5.4	14	1,279	41.4	16.2	13.5	20.2	22.0	3.1	2.8	13.9	12.4
Demco	DEMCO TB	BUY	4.38	5.9	35	98	64.6	17.7	15.0	3.8	4.4	0.7	0.7	(109.4)	(80.5)
Power Solution	PSTC TB	BUY	2.66	3.7	39	193	196.7	56.8	18.0	1.9	5.8	1.1	1.0	15.9	21.5
Sermasang Power	SSP TB	BUY	13.2	20	52	409	19.5	14.7	11.7	18.7	18.2	2.3	2.0	10.3	8.7
Tpc Power	TPCH TB	BUY	11	14	27	135	30.8	19.6	9.1	7.5	15.1	1.4	1.3	12.5	8.2
Tpi Polene Power	TIIPP TB	BUY	4.2	5.7	36	1,077	(3.6)	7.6	7.7	15.7	14.8	1.2	1.1	6.5	6.6
Absolute Clean	ACE TB	BUY	3.62	5.2	44	1,124	31.0	19.5	17.0	15.1	16.5	2.8	2.8	15.5	12.2
Earth Tech En	ETC TB	HOLD	2.88	2.1	(27)	197	(100.0)	20.3	19.6	12.6	12.0	2.4	2.3	13.2	12.6
Thailand avg						45,975	25.0	39.2	24.8	13.2	16.4	4.5	4.0	28.2	18.8
HONGKONG															
Datang Intl Power	991 HK	n/a	1.30	n/a	NA	5,966	(1.1)	14.0	6.3	1.9	4.1	0.5	0.4	9.2	7.8
Huadian Power	1071 HK	n/a	2.55	n/a	NA	5,129	(3.3)	15.5	6.6	1.5	10.6	0.3	0.3	11.8	8.4
Huaneng Power	902 HK	n/a	3.58	n/a	NA	13,139	(5.3)	37.7	8.7	4.4	8.2	0.4	0.4	9.9	8.4
China Power Inter	2380 HK	n/a	3.93	n/a	NA	4,948	15.9	15.7	13.5	4.8	6.5	1.0	0.9	11.8	9.6
China Resources	836 HK	n/a	18.38	n/a	NA	11,350	18.2	11.3	8.4	8.3	10.9	1.0	0.9	7.6	6.4
Clp Holdings Ltd	2 HK	n/a	75.80	n/a	NA	24,584	1.1	17.0	15.9	9.8	10.2	1.6	1.6	10.7	10.2
Power Assets	6 HK	n/a	47.10	n/a	NA	12,904	3.1	15.7	14.8	7.7	8.2	1.2	1.2	76.5	74.0
Hongkong avg						78,020	3.3	19.0	11.9	6.9	9.0	1.0	1.0	21.0	19.6
MALAYSIA															
Petronas Gas	PTG MK	n/a	16.40	n/a	NA	7,813	(0.9)	16.0	15.9	15.4	15.2	2.5	2.5	9.0	8.9
Tenaga Nasional	TNB MK	n/a	9.58	n/a	NA	13,208	9.2	11.6	11.2	8.4	8.4	0.9	1.0	6.5	6.4
Ytl Power Inte	YTLP MK	n/a	0.70	n/a	NA	1,366	101.9	12.5	13.2	3.6	3.2	0.5	0.4	10.5	10.5
Malaysia avg						22,387	4.9	3.8	3.7	3.0	3.0	0.4	0.4	2.2	2.2
CHINA															
China Datang	1798 HK	n/a	3.03	n/a	NA	2,829	26.3	11.2	9.2	7.4	7.7	1.4	0.9	9.5	8.2
China Gas	384 HK	n/a	17.34	n/a	NA	12,322	12.6	8.4	7.9	23.5	19.6	1.9	1.4	8.4	7.6
China Longyuan	916 HK	n/a	16.00	n/a	NA	16,506	20.0	16.9	14.8	10.7	11.0	1.7	1.5	9.7	8.5
Beijing Enterprises	392 HK	n/a	27.90	n/a	NA	4,520	14.6	4.2	3.9	9.8	9.7	0.4	0.4	7.8	6.5
Kunlun Energy	135 HK	n/a	6.88	n/a	NA	7,647	22.6	9.8	8.6	10.4	11.8	0.9	0.9	3.1	2.8
China avg						43,825	15.6	6.5	5.8	7.8	7.4	0.8	0.7	4.5	4.0
INDONESIA															
Perusahaan Gas	PGAS IJ	n/a	1,515.00	n/a	NA	2,580	nm	10.6	10.6	10.2	8.6	1.1	1.0	5.8	5.4
Indonesia avg						2,580	nm	0.4	0.4	0.3	0.3	0.0	0.0	0.2	0.2
SINGAPORE															
Sembcorp Indus	SCI SP	n/a	2.06	n/a	NA	2,723	9.9	14.6	9.9	7.6	10.3	1.1	1.0	9.8	9.1
Singapore avg						2,723	9.9	0.5	0.3	0.3	0.4	0.0	0.0	0.3	0.3
Utilities under coverage						45,975	25.0	39.2	24.8	13.2	16.4	4.5	4.0	28.2	18.8
Average (all)						195,511	20.8	18.7	12.3	8.0	9.4	1.7	1.5	16.3	13.4

Share price as of 9 November 2021

Sources: Bloomberg, 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	ICHI	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	PCSGH	PDJ	PG	PHOL	PLANB	PLANET
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	SEAOIL	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	TRC	TSC	TSR	TSTE	TSTH
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.

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Company	Ticker	Price	Rating	Valuation & Risks
B.Grimm Power	BGRIM TB	THB 41.25	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand, 2) a lower crude price, and 3) unplanned shutdowns of its SPPs.
Gulf Energy Development	GULF TB	THB 42.00	BUY	The downside risks to our SoTP-based TP on GULF include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) delays in project commercial operation dates.
Global Power Synergy	GPSC TB	THB 75.25	BUY	The downside risks to our SoTP-based TP on GPSC include 1) lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) lower-than-expected demand from industrial users.
Banpu Power	BPP TB	THB 17.40	BUY	Downside risks to our SOTP valuation are the start-up delays of its new projects and government intervention in the electricity tariff.
Electricity Generating	EGCO TB	THB 175.00	BUY	Downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; 2) delays in project commencement or commercial operation dates (COD); and 3) government intervention in electricity tariff subsidies.
Ratch Group	RATCH TB	THB 44.25	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price; and 3) delays in starting new projects.
WHA Utilities & Power	WHAUP TB	THB 4.20	HOLD	Downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; and 2) lower crude prices. Upside risks are the higher than expected sales volumes of water and electricity for industrial users.
BCPG	BCPG TB	THB 12.80	BUY	The downside risks to our SoTP-based TP include: 1) lower-than-expected demand for electricity in Thailand, the Philippines and Indonesia; and 2) government intervention by way of electricity tariff subsidies.
CK Power	CKP TB	THB 5.10	BUY	The downside risks to our SoTP-based TP include lower-than-expected demand for electricity in Thailand and lower-than-expected water supply for hydro projects.
Energy Absolute	EA TB	THB 65.00	BUY	Downside risks to our SoTP-based TP include: 1) lower-than-expected demand for electricity in Thailand; 2) lower crude prices; and 3) lower-than-expected demand for batteries.
Gunkul Engineering	GUNKUL TB	THB 4.72	BUY	The downside risks to our SoTP-based TP on GUNKUL include 1) lower-than-expected demand for electricity in Thailand, 2) declining EPC backlogs, and 3) lower-than-expected utilisation rates for solar and wind farms
Demco	DEMCO TB	THB 4.38	BUY	Downside risk includes delays in bidding for power transmission projects.
Power Solution Technologies	PSTC TB	THB 2.66	BUY	The downside risks to our SoTP-based TP on PSTC include 1) lower-than-expected demand for electricity in Thailand and delays of power plant project start-ups.
Sermasang Power Corp	SSP TB	THB 13.20	BUY	The downside risks to our SoTP-based TP for SSP include 1) a lower-than-expected demand for electricity in Thailand; 2) a lower crude price; and 3) project start-up delays.
TPC Power Holding	TPCH TB	THB 11.00	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand, 2) a lower crude price, and 3) higher costs of biomass feedstock.
TPI Polene Power	TPIPP TB	THB 4.20	BUY	Downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand; 2) lower crude price, and 3) unplanned shutdown of the company's power plants.
Absolute Clean Energy	ACE TB	THB 3.62	BUY	The downside risks to our SoTP-based TP include 1) lower-than-expected demand for electricity in Thailand, 2) a lower crude price, and 3) higher costs of biomass feedstock.
Earth Tech Environment	ETC TB	THB 2.88	HOLD	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.
Intouch Holdings	INTUCH TB	THB 76.50	HOLD	The key downside risks to our NAV-discounted TP are if the sluggish performance from the satellite business continues and if there is a slower-than-expected 5G adoption rate. The key upside risk is if INTUCH synergizes with GULF faster than expected.
PTT Explor & Prod	PTTEP TB	THB 119.50	BUY	Risks our TP, which is based on EV/EBITDA, are a sharp decline in oil price and a potential earnings downside from government intervention.

PTT PCL	PTT TB	THB 38.25	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downside from government intervention.
Siam Cement	SCC TB	THB 396.00	BUY	Downside risks to our SOTP based TP include 1) a lower-than-expected demand for chemicals, CBM, and packaging; 2) rising coal costs for its cement and packaging units; and 3) weaker demand from the automobile industry that could erode the demand for SCC's chemical unit and its dividend contributions.

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

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All share prices are as at market close on 09-Nov-2021 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price* - current price) / 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.