

# GLOBAL POWER SYNERGY

## THAILAND / UTILITIES - CONVENTIONAL

# GPSC TB

# BUY

## UNCHANGED

### ได้รับผลกระทบจากมาตรการปิดซ่อมบำรุงและต้นทุน

- เราหันมามองแนวโน้มการเติบโตของกำไรสุทธิในปี 2021-23 เป็นบวกน้อยลงจากการปิดซ่อมบำรุงนอกแผนหลายรายการ
- เรายังมีความสงสัยเกี่ยวกับแบตเตอรี่ G-Cell ของ GPSC ซึ่งใช้เทคโนโลยี SemiSolid ซึ่งเป็นเทคโนโลยีใหม่ที่ยังเชื่อไม่ได้
- คงแนะนำซื้อแต่ปรับราคาเป้าหมายลงจาก 100 เป็น 90 บาท (SoTP)

TARGET PRICE	THB90.00
CLOSE	THB79.00
UP/DOWNSIDE	+13.9%
PRIOR TP	THB100.00
CHANGE IN TP	-10.0%
TP vs CONSENSUS	-0.5%

### KEY STOCK DATA

YE Dec (THB m)	2020	2021E	2022E	2023E
Revenue	69,578	72,625	85,322	95,350
Net profit	7,508	7,920	8,778	10,486
EPS (THB)	2.66	2.81	3.11	3.72
vs Consensus (%)	-	(3.7)	(6.9)	3.0
EBITDA	20,892	19,536	19,631	21,965
Core net profit	7,113	7,920	8,778	10,486
Core EPS (THB)	2.52	2.81	3.11	3.72
Chg. In EPS est. (%)	-	(5.1)	(11.5)	(6.4)
EPS growth (%)	27.6	11.3	10.8	19.5
Core P/E (x)	31.3	28.1	25.4	21.2
Dividend yield (%)	4.2	2.4	2.5	2.6
EV/EBITDA (x)	15.1	17.7	18.2	16.5
Price/book (x)	2.2	2.1	2.1	2.0
Net debt/Equity (%)	75.1	98.3	104.9	102.0
ROE (%)	7.0	7.6	8.3	9.5

### แนวโน้มการเติบโตของกำไรสุทธิเป็นบวกน้อยลง

จากการดำเนินงานของโรงไฟฟ้าขนาดเล็ก (SPP) ของบริษัท ที่เชื่อถือได้น้อยลงและราคาไฟฟ้าที่สูงเกินคาด เราหันมามองแนวโน้มการเติบโตของกำไรสุทธิของ GPSC ในปี 2021-23 เป็นบวกน้อยลง ปัจจุบันเราคาดว่ากำไรสุทธิจะโตในอัตราที่ลดลงมากโดยจะเหลือเพียง 5% y-y ในปี 2021 หลังโตอย่างมีนัยสำคัญถึง 85% y-y ในปี 2020 จากส่วนแบ่งกำไรเต็มปีจากกำไรสุทธิของ Glow Energy ที่ให้แก่ GPSC หลังซื้อกิจการดังกล่าวมาในปี 2019 เราคาดว่าการเติบโตของกำไรสุทธิของ GPSC จะกลับมาโต 11% y-y ในปี 2022 และ 20% ในปี 2023 จากต้นทุนราคาไฟฟ้าที่ลดลง กำลังการผลิตที่สูงขึ้นจากการซื้อกิจการ และสัญญาซื้อขายไฟฟ้าจาก SPP ฉบับใหม่

### การปิดซ่อมบำรุงนอกแผนและผลกระทบจากต้นทุนราคาไฟฟ้าจะสิ้นสุดภายใน 2Q22

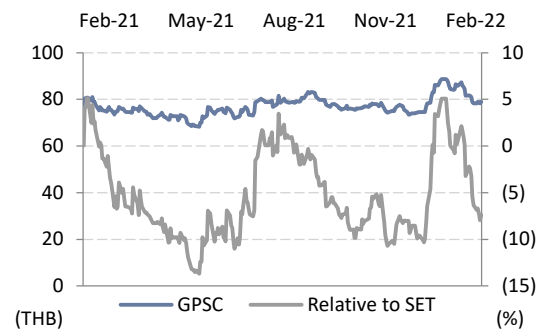
ในปี 2020-21 โรงไฟฟ้าของ GPSC ประสบปัญหาการปิดซ่อมบำรุงนอกแผนหลายหน่วย ส่วนมากเป็นโรงไฟฟ้าที่ซื้อจาก Glow Energy ประกอบด้วย: 1) การหยุดจ่ายไฟนอกแผนของ Gheco-One เป็นเวลา 28 วัน (30 ส.ค. ถึง 26 ก.ย. 21); และ 2) การหยุดจ่ายไฟนอกแผนของ Glow Energy Phase 5 (4 มิ.ย. ถึง 18 ต.ค. 20; 6 ธ.ค. 20 ถึง 1 เม.ย. 21; และ 14 ส.ค. 21 ซึ่งอาจยาวถึง มิ.ค. 22) เราคาดว่าอัตรากำไรขั้นต้นของ SPP และโรงไฟฟ้าขนาดเล็กมาก (VSPP) จะหดตัวในช่วง 2H21-1Q22 แต่จะปรับตัวดีขึ้นภายใน 2Q22 เนื่องจากเราคาดว่าราคาไฟฟ้าจะอ่อนลงจากอุปทานที่สูงขึ้นของก๊าซที่มีราคาต่ำจากอ่าวไทยและราคาน้ำมันที่ลดลงในตลาดโลก ในขณะที่การผลิตน้ำมันจากชั้นหินดินดานของสหรัฐฯ พุ่งตัว

### ยังไม่ได้รวมธุรกิจแบตเตอรี่

เรายังมีความสงสัยเกี่ยวกับแบตเตอรี่ G-Cell ของ GPSC ซึ่งใช้เทคโนโลยี SemiSolid เทคโนโลยีดังกล่าวเป็นของใหม่ที่ยังไม่ผลิผลิสูงในด้านการนำเชื่อถือในระยะยาวและความปลอดภัย ด้วยเหตุดังกล่าวเราจึงคิดว่าบริษัท และแม้แต่ AXIVA อาจต้องใช้เวลา 1-2 ปีเพื่อแสดงให้เห็นประสิทธิภาพของเทคโนโลยีแบตเตอรี่ดังกล่าว ซึ่งทำให้เราจะไม่รวมกำไรสุทธิและ Upside ในด้านการประเมินมูลค่าจากกิจการแบตเตอรี่ของ GPSC ไว้ในประมาณการของเรา โดยจะรอข่าวความก้าวหน้าเพิ่มเติม ความสำเร็จในด้านการนำเชื่อถือของผลิตภัณฑ์ และผลการทดสอบในด้านความปลอดภัยของลูกค้าของบริษัท

### ซื้อก่อนกำไรที่คาดว่าจะฟื้นตัวใน 2Q22

เราคงแนะนำซื้อแต่ปรับลดราคาเป้าหมายจาก 100 เป็น 90 บาท (SoTP) เพื่อสะท้อนการปรับลดประมาณการกำไรต่อหุ้น (EPS) โดยเราปรับลดประมาณการ EPS ในปี 2021-23 อีก 5.1-11.5% เพื่อรวม: 1) สมมติฐานต้นทุนราคาไฟฟ้าที่สูงขึ้น 0.9-7.9%; และ 2) ประมาณการค่าใช้จ่ายในการลงทุนที่สูงขึ้น 21.4-45.7% เพื่อใช้ซื้อกิจการตามแผน เราเชื่อว่า GPSC ในฐานะที่เป็นบริษัทโรงไฟฟ้าขนาดเล็กจะยังเจอแรงกดดันในด้านอัตรากำไรจากต้นทุนราคาไฟฟ้าที่สูงขึ้นใน 1Q22 ในขณะที่กำไรจากธุรกิจแบตเตอรี่ยังเป็นลบ.



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	(10.5)	1.9	3.6
Relative to country (%)	(11.4)	(1.0)	(7.4)
Mkt cap (USD m)	6,753		
3m avg. daily turnover (USD m)	42.2		
Free float (%)	25		
Major shareholder	PTTGC Plc (23%)		
12m high/low (THB)	89.75/67.25		
Issued shares (m)	2,819.73		

Sources: Bloomberg consensus; FSSIA estimates



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บทวิเคราะห์ฉบับนี้แปลมาจากบทวิเคราะห์ของ FSSIA ฉบับวันที่ 7 กุมภาพันธ์ 2022

## Investment thesis

Backed by the PTT Group as a major shareholder, GPSC is the fourth-largest utilities company in Thailand by market capitalisation, with its operations comprising the generation of electricity, steam and other utilities. Currently, the company has an electricity generating equity capacity of 4,750MW as of 2020 and solid expansion plans to increase its capacity to 7.1GW in 2023.

Established as a power investment arm of the PTT Group – Thailand's leading energy company – GPSC has long leveraged its solid ties with the group to expand its electricity generation capacity growth and capture domestic and international opportunities. Currently, GPSC generates electricity mainly from natural gas (80%), and most of its capacity is aimed at supporting PTT Group companies, including PTT (PTT TB, BUY), PTT Global Chemical (PTTGC TB, BUY), Thai Oil (TOP TB, BUY) and IRPC (IRPC TB, BUY).

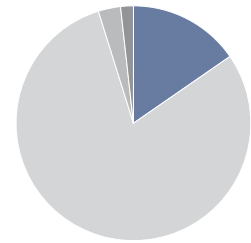
## Company profile

GPSC is PTT Group's power flagship company. It operates small power producers, is an independent power producer and has a presence in renewable energy.

[www.gpscgroup.com](http://www.gpscgroup.com)

## Principal activities (revenue, 2020)

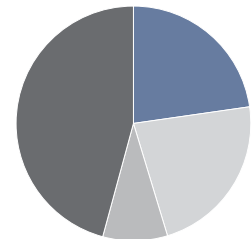
- Independent power producer - 15.4 %
- Small power producer - 79.8 %
- Very small power producer - 3.1 %
- Others - 1.8 %



Source: Global Power Synergy

## Major shareholders

- PTTGC Plc - 22.7 %
- PTT Plc - 22.6 %
- TOP Plc - 8.9 %
- Others - 45.8 %



Source: Global Power Synergy

## Catalysts

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

## Risks to our call

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.

## Event calendar

Date	Event
Feb 2022	4Q21/2021 results announcement

## Key assumptions

	2021E	2022E	2023E
Gas cost (THB/mmbtu)	312	310	294
Tariff (THB/kWh)	3.42	3.45	3.49
Capacity (MW)	7,492	7,516	7,641
CAPEX (THB m)	33,547	23,197	16,997

Source: FSSIA estimates

## Earnings sensitivity

- Ceteris Paribus, for every 1% increase in gas price, we estimate 2022 earnings will decline 1.1%, and vice versa.
- Ceteris Paribus, for every 1% increase in interest rate, we estimate 2022 earnings will decline 1.1%, and vice versa.

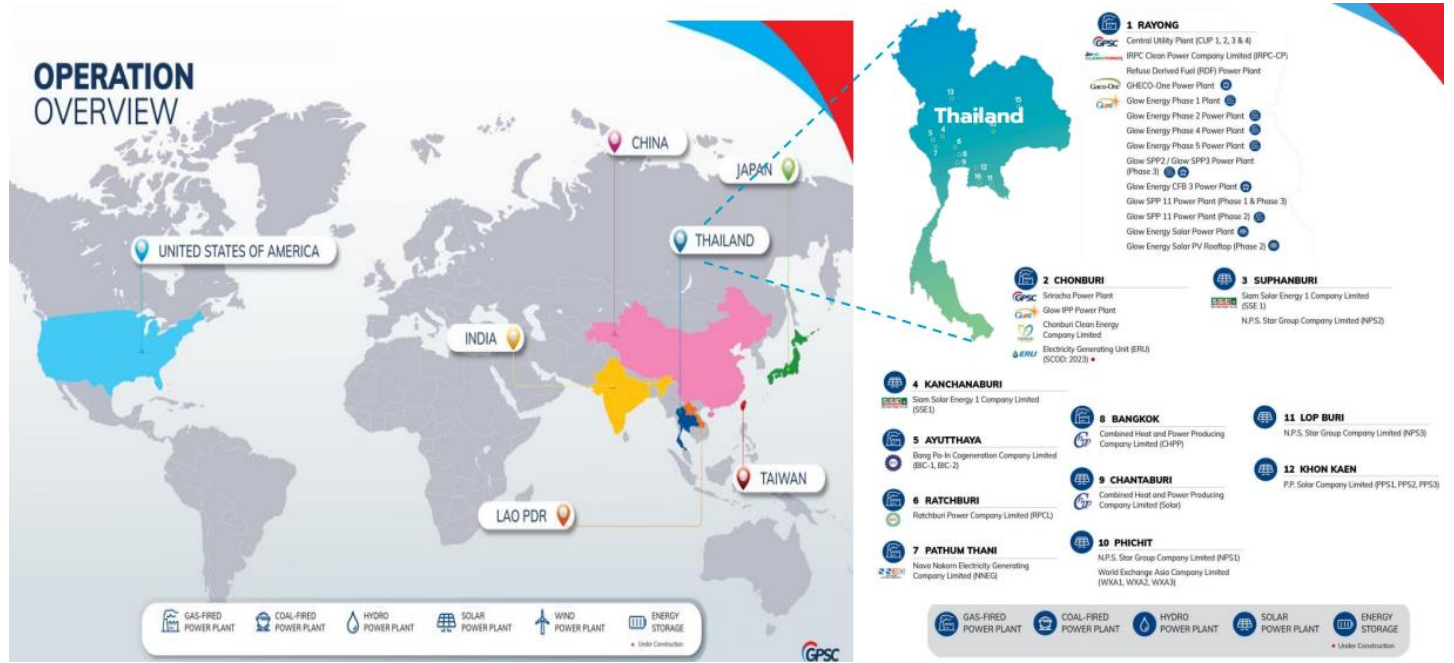
Source: FSSIA estimates



## Plagued by shutdowns and higher gas cost

We are less bullish on GPSC’s net profit growth outlook in 2021-23, given the higher-than-expected prices of gas and coal which together account for 2/3 of GPSC’s total cost, and the prolonged shutdown of its small power producer phase 5 (SPP5) plant, leading to a poor net profit in the past three quarters (2Q21-4Q21E).

### Exhibit 1: GPSC’s asset portfolio



Source: GPSC

**The unplanned shutdown of SPP phase 5.** First opened in Sept-11, SPP5, one of many power plants acquired from Glow Energy (delisted), is designed to generate 342MW and 160 tonnes per hour (tph) of steam, with a maximum power generation capacity of 382MW. Due to its high operational efficiency, SPP5 has been normally used as a base load unit supporting other small cogeneration units that are utilised to meet demand from the Electricity Generating Authority of Thailand (EGAT) and for balancing industrial load requirements.

### Exhibit 2: IPP plant portfolio



Source: GPSC

### Exhibit 3: SPP plant portfolio



Source: GPSC

SPP5 suffered two unplanned shutdowns in 2020. On 16 Sep-21, GPSC announced that it would temporarily shut the plant down again from 14 Aug-21 to Mar-22 due to the power generators short-circuiting. While GPSC could claim partial damages from the unplanned shutdowns based on the THB0.3b expense incurred for the 6-day deductible period, we estimate that GPSC could incur a total THB0.4b loss from the disruptions at SPP5.

Over the past two years, GPSC has seen repeated unplanned shutdowns at its power plants, mostly at those acquired from Glow Energy. These include: 1) Gheco-One's outage for 28 days from 30 Aug to 26 Sept-21; and 2) Glow Energy phase 5's outages from 4 Jun to 18 Oct-20; 6 Dec-20 to 1 Apr-21; and 14 Aug-21 to Mar-22, potentially.

**Exhibit 4: 2022 planned maintenance shutdown schedule for the former Glow power plants**

Main Units	Description	Duration	2022													
			Q1			Q2			Q3			Q4				
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
<b>GE phase 4</b>	CTG_3A	7 Days	10/1	MI	16/1											
GSPP2	CTG_3A_3B	4 Days	10/1	MI	13/1											
GSPP2	CTG_1A	7 Days		12/3	MI	18/3										
GSPP2	CTG_1B	7 Days				6/5	MI	12/5								
GSPP2	CTG_2A	4 Days							25/8	MI	28/8					
GSPP2	CFB_2	4 Days							26/8	MI	29/8					
GSPP3	CFB_1&2	21 Days								22/8	MI	11/9				
GSPP1 (Plant 2)	GT_1	5 Days	14/1	MO	18/1											
GSPP1 (Plant 3)	GE_2	16 Days		13/2	MI	28/2										
GSPP1 (Plant 3)	GE_1	16 Days				25/5	MO	9/6								
GSPP1 (Plant 1)	GT_100	15 Days							17/8	MO	31/8					
HIPC (Unit 1)	Unit_1	14 Days										20/10	MI	2/11		
HIPC (Unit 2)	Unit_2	14 Days											3/11	MI	16/11	

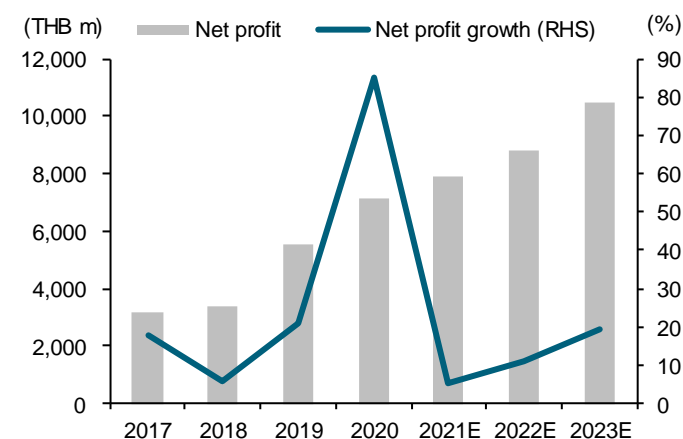
Source: GPSC

When combined with the planned shutdown schedule, we believe the expected net profit generated from the power plants acquired from Glow is now much less reliable, leading to a potential downside to our earnings forecasts.

**Less reliable operations at Glow's former assets and the higher gas cost are key concerns.** As a result of the less reliable operations at its SPPs and the higher-than-expected gas price, we turn less positive on GPSC's net profit growth outlook in 2021-23. We now expect its net profit growth to slow down sharply to 5% y-y in 2021 after the significant net profit growth of 85% y-y in 2020, driven by the full-year earnings contribution of Glow's net profit to GPSC after the complete acquisition in 2019.

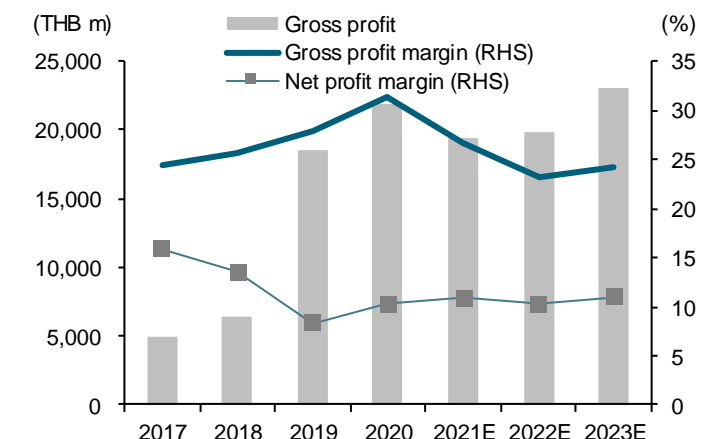
We project GPSC's net profit growth to rebound to 11% y-y in 2022 and 20% in 2023, driven by a lower gas cost, higher capacity from its acquisitions, and the new SPP power purchase agreements (PPAs).

**Exhibit 5: Net profit and net profit growth**



Sources: GPSC; FSSIA estimates

**Exhibit 6: Gross profit, gross profit margin, and net profit margin**



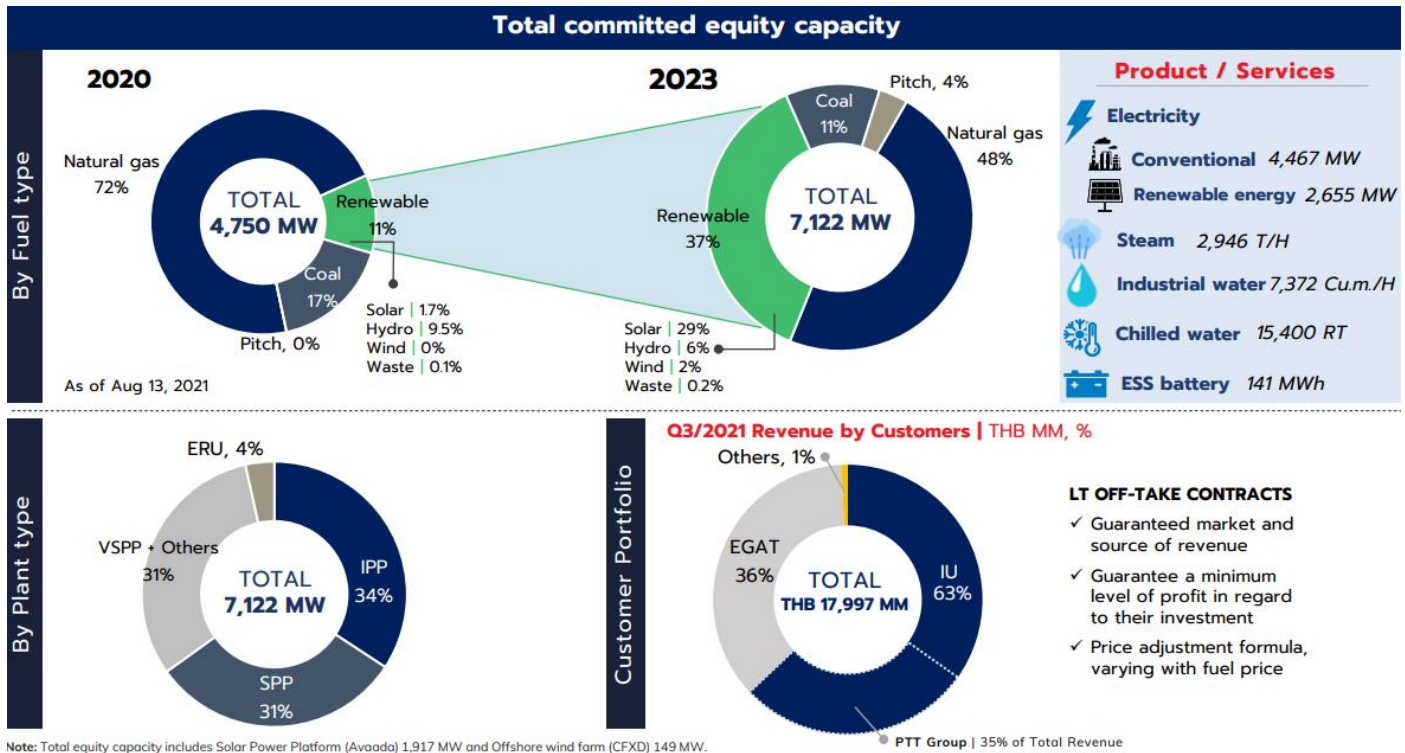
Sources: GPSC; FSSIA estimates

### Rising gas cost erodes SPP's gross margins

GPSC is one of two leading SPP operators in Thailand, with a total SPP capacity of 2.2GW, representing 31% of its total 7.1GW target for 2023. The remainder of its capacity includes 2.4GW from independent power producers (IPPs), 2.2GW from very small power producers (VSPPs), and a 250MW energy recovery unit (ERU) power plant acquired from Thai Oil (TOP TB, BUY, TP THB67).

Revenue generated from the electricity and steam sold to industrial users (IUs) accounts for 63% of GPSC's revenue, including the sales volumes sold to companies within PTT Group (35% of total revenue) and the non-PTT group (29%), with the remaining 36% sold to EGAT.

Exhibit 7: GPSC's asset portfolio

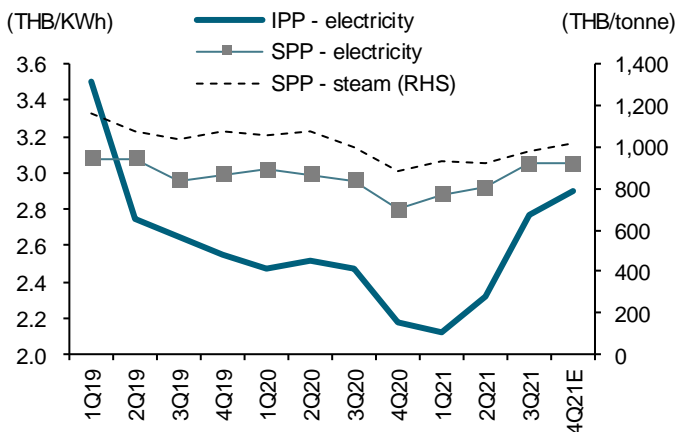


Source: GPSC

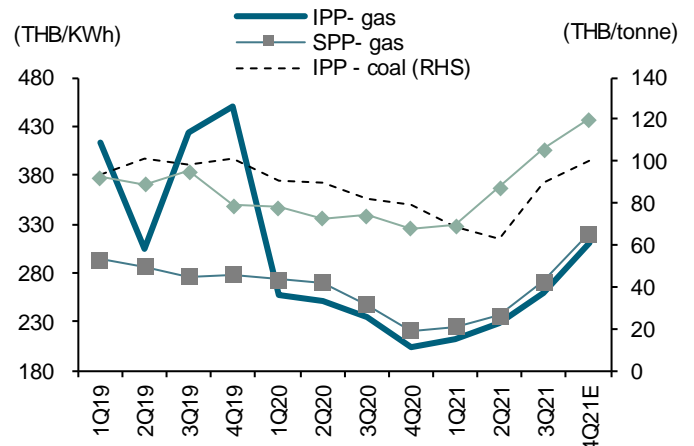
Hence, EBITDA and net profit from IUs are GPSC's mainstream sources. Unlike IPPs with the full cost pass-through mechanism, the cost of gas and coal used for electricity and steam sold to IUs produced from SPPs cannot be passed through to customers.

Exhibit 8: Electricity tariffs for IPPs, SPPs, and steam price for IUs

Exhibit 9: Coal and gas prices for IPPs and SPPs



Sources: GPSC; FSSIA estimates

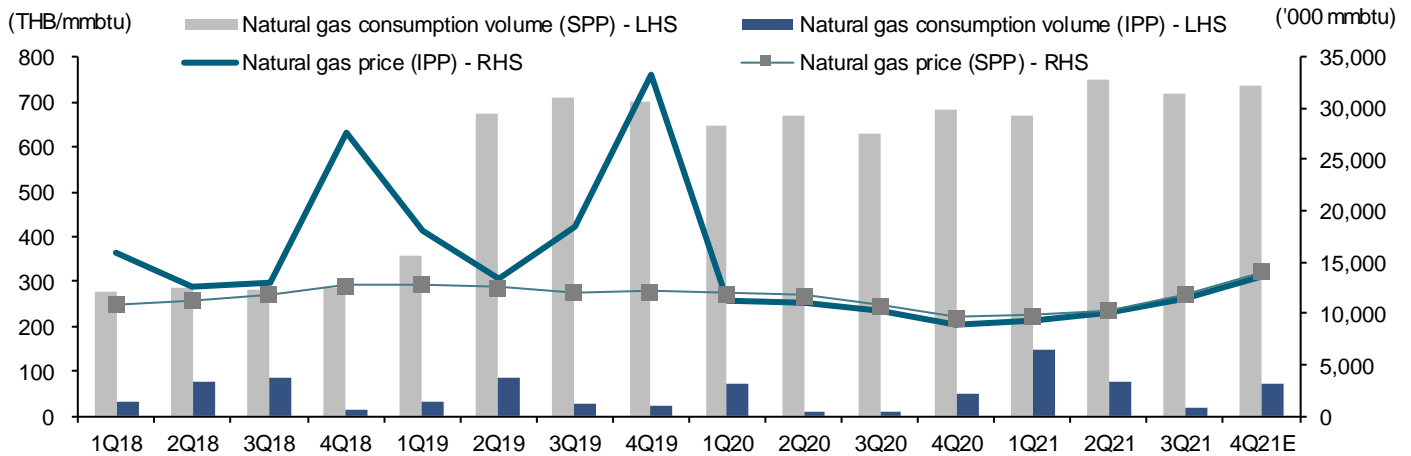


Sources: GPSC; FSSIA estimates

**Potentially wider mismatch between energy cost and selling price in 2H21-1H22.**

Instead, the gross margin (tariff minus energy cost) depends on changes in the electricity tariff and the steam price, which may or may not fully match the changes in gas and coal prices due to government intervention to freeze the national pooled grid electricity tariff, which is directly linked to the tariff for electricity sold to IUs.

**Exhibit 10: Natural gas prices and consumption volumes of GPSC's SPPs and IPPs**



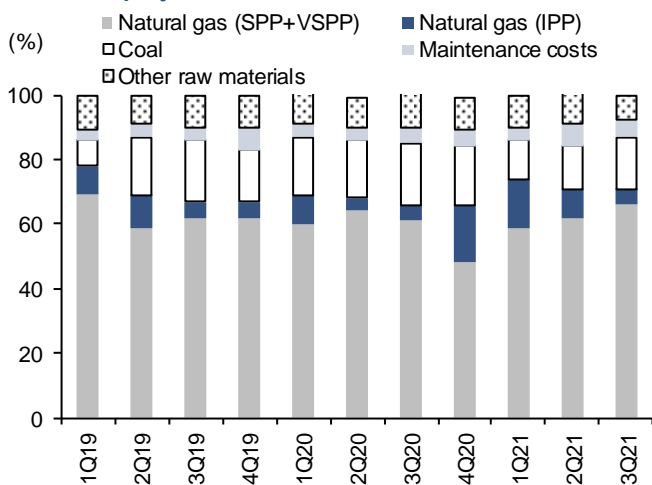
Sources: GPSC; FSSIA estimates

Given that the combined cost of coal and gas for SPPs and VSPPs accounts for over 80% of its total cost, we think the current mismatch between the cost of coal and gas vs the electricity tariff and the steam selling price sold to IUs could increasingly lead to a margin squeeze for GPSC's SPPs and VSPPs in 2H21-1H22.

In essence, we believe that the portion of gas and coal costs for SPPs and VSPPs which sell electricity and steam to IUs (>80% of the total cost on average) could exceed the portion of electricity and steam revenue from SPPs and VSPPs (75-80% of total revenue).

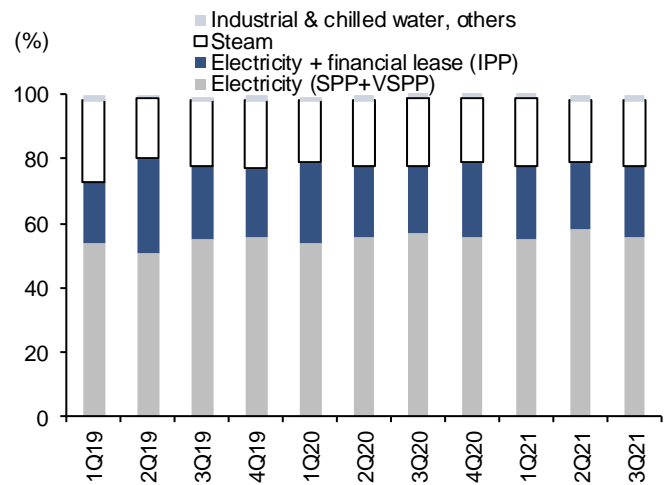
This cost-revenue mismatch shows that GPSC's margin structure is biased towards the cost side over the revenue side, thereby leading to a negative impact on GPSC's gross margins for SPPs and VSPPs based on the price uptrends for gas and coal from mid-2021 to mid-2022, based on our estimate.

**Exhibit 11: Gas cost accounted for over 60% of total cost in 3Q21 and is projected to rise further in 4Q21-1H22**



Sources: GPSC; FSSIA estimates

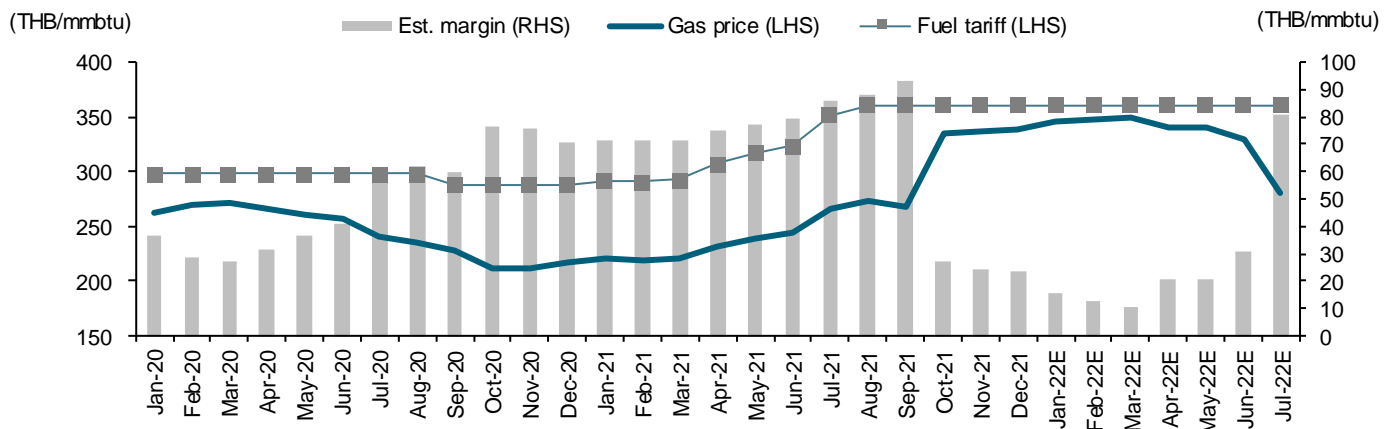
**Exhibit 12: Electricity and steam sold to IUs accounted for over 70% of total revenue in 3Q21**



Sources: GPSC; FSSIA estimates

While we project the gas price to continue to rise q-q in 4Q21 and 1Q22, and note PTT (PTT TB, BUY, TP THB60)'s plans to import more spot LNG to fill up the supply gap caused by gas production declines from the Bongkot and Erawan gas fields, we expect the gas price to begin to decline by end-2Q22 thanks to the projected lower spot global LNG price.

**Exhibit 13: Estimated gross margin, gas price, and fuel tariff of SPPs**



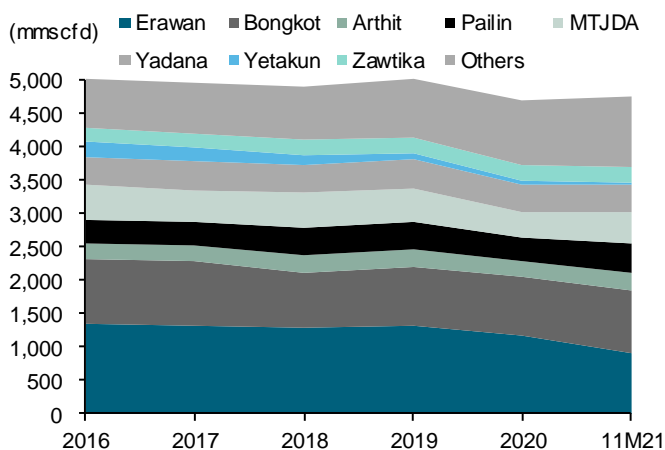
Sources: BGRIM; FSSIA estimates

**Impact on the gas price from falling production at Bongkot and Erawan.** Since early 2021, Thailand has faced a grave dilemma due to declining gas production from the Bongkot and Erawan fields, Thailand's two largest gas fields which accounted for over 45% of the country's total gas supply in 2020.

Gas production from the Erawan field has plunged sharply from 1,200mmscfd in 2016-20 down to 900mmscfd in Nov-21. According to PTT Exploration and Production (PTTEP TB, BUY, TP THB162), gas production from Erawan plunged further to a mere 400mmscfd in Jan-22, as Chevron, the former operator, halted the investment required to maintain gas production over a dispute with the Department of Mineral Fuels (DMF) on the issue of decommissioning costs after the expiration of its concession in Apr-22.

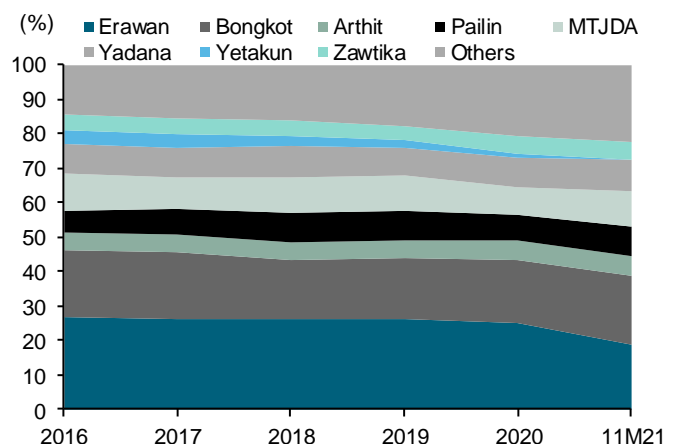
Meanwhile, gas production from the Bongkot field similarly declined from 800mmscfd in 2016-19 to 500mmscfd at the end of 2021. The new production service contract (PSC) for the operator of Bongkot from 2022-42 has effectively lowered the field's gas production from 800mmscfd to 500mmscfd in order to extend the wet gas reserve in the Gulf of Thailand and ensure adequate feedstock for PTT's gas separation plants that produce petrochemical products.

**Exhibit 14: Thailand's gas production breakdown by field**



Sources: Department of Mineral Fuels (DMF) and PTT

**Exhibit 15: Thailand's gas production breakdown by field (%)**

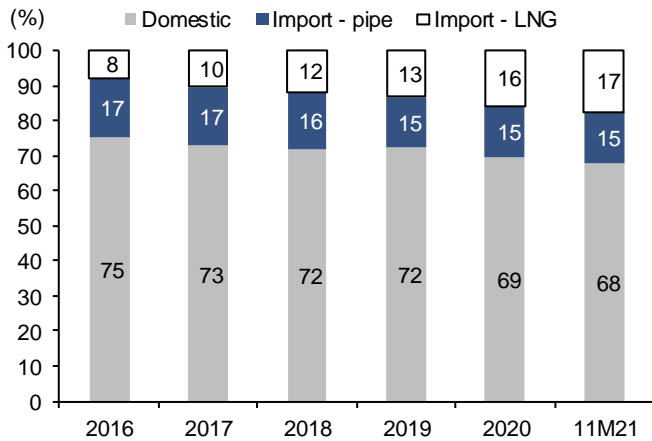


Sources: Department of Mineral Fuels (DMF) and PTT



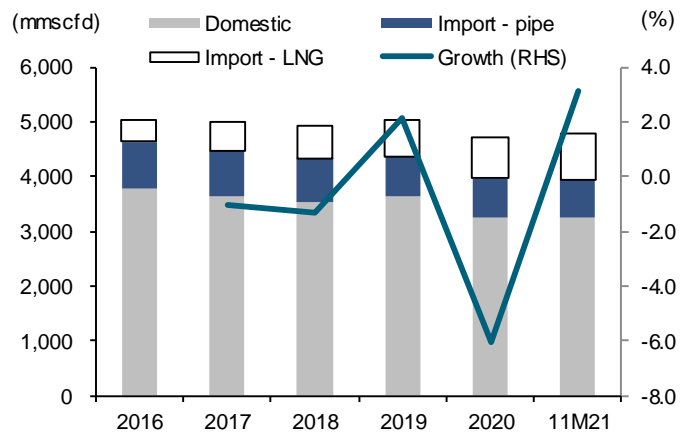
The impact of lower gas production from Erawan and Bongkot combined has led to a gas supply shortfall of 1,100mmscfd (800mmscfd from Erawan and 300mmscfd from Bongkot). However, the regulator has mandated PTTEP, as the new operator for both Bongkot and Erawan under the new names G2 and G1, to raise gas production from Bongkot to 800mmscfd (+300mmscfd) and the Arthit gas field to 350mmscfd (+100mmscfd), to compensate for the 800mmscfd gas supply shortfall from G1.

**Exhibit 16: Thailand's gas production breakdown**



Source: Energy Policy and Planning Office (EPPO)

**Exhibit 17: Thailand's gas production breakdown (%)**



Source: EPPO

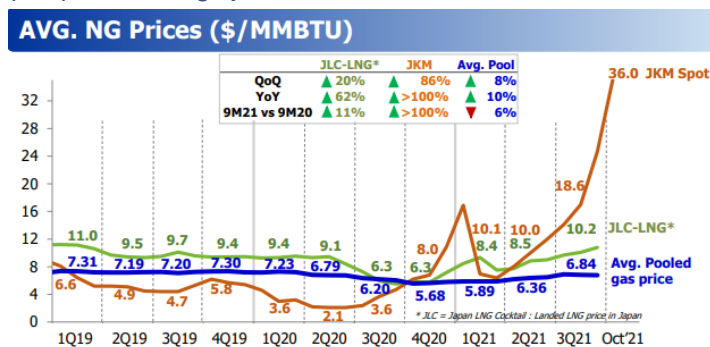
This has forced higher import volumes of spot LNG by PTT, from 1.4mt in 2021 to 4.8mt in 2022, bringing the total LNG import volume to 6.6mt (5.2mt contract volume plus 1.4mt spot volume) in 2021 and 10mt (5.2mt contract volume plus 4.8mt spot volume) in 2022, according to PTT's management.

The global LNG price has spiked sharply since 4Q21, mainly due to the abrupt gas supply shortfall in European markets after Russia, which is Europe's largest gas supplier with more than a 40% market share, cut its gas sales volume to Europe due to political disputes.

Hence, the global spot LNG price, represented by the Japan-Korea Market (JKM) price benchmark, has spiked from below USD16/mmbtu in 3Q21 to USD36/mmbtu in 4Q21, and remains high at over USD25/mmbtu in 1Q22.

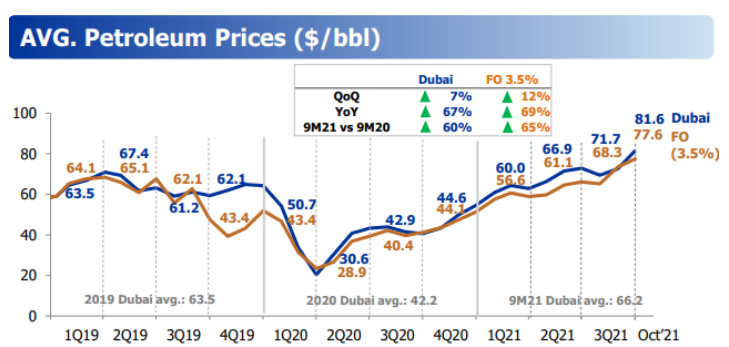
As PTT has no choice but to raise its spot LNG imports to supplement its 5.2mt LNG import contract to compensate for the gas supply shortfall in Thailand, the average pool gas price has spiked from THB260/mmbtu in 3Q21 to THB320/mmbtu in 4Q21 and is projected to shoot up further to THB360/mmbtu in 1Q22. We expect the local price to dip to THB310/mmbtu in 2Q22 as high winter demand fades and supply from the US rises, relieving upward pressure on the global spot price.

**Exhibit 18: Thailand's gas prices for spot (JKM), contract (JLC), and average pool**



Source: PTT

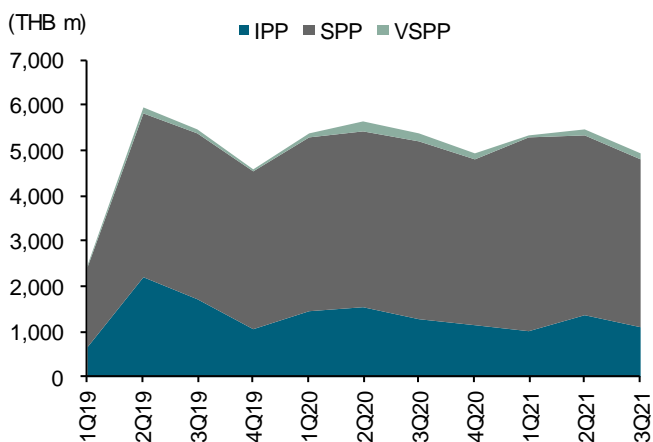
**Exhibit 19: Higher oil and fuel oil prices**



Source: PTT

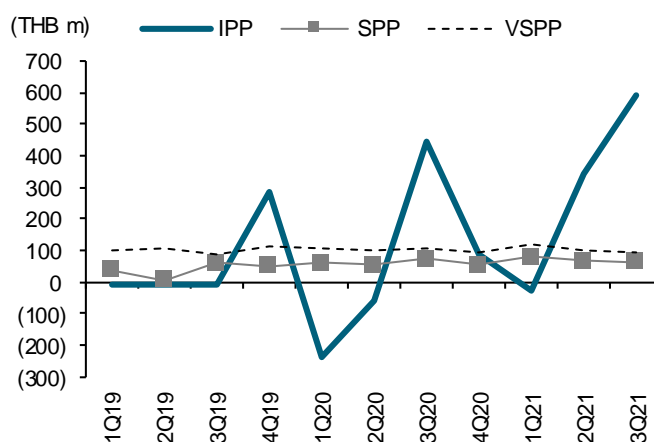
For GPSC, we expect the gross profit from SPPs and VSPPs to shrink in 2H21 into 1Q22 before improving by 2Q22 as the gas price softens, cheaper gas supplies from the Gulf of Thailand rebound, and the oil price weakens due to increased supply from the US as shale oil producers ramp up production and exports.

**Exhibit 20: Gross profit breakdown by power plant type**



Sources: GPSC; FSSIA estimates

**Exhibit 21: Share of profit (loss) from associates**



Sources: GPSC; FSSIA estimates

**Battery upside remains uncertain in 2022**

As the flagship power company in PTT Group, GPSC is positioned to lead the energy unit’s future growth. Under PTT’s “Future energy and Beyond (FEB)” strategic plan to grow and diversify the group’s net profit and asset portfolio, it has been named as one of four key units projected to account for 30% of the plan’s net profit goal by 2030, according to PTT’s management.

Under PTT’s FEB plan, GPSC will lead the battery and energy storage system (ESS) venture supporting PTT’s EV strategy via a JV with Foxconn to establish and operate an EV manufacturing platform with an initial target capacity of 50,000 EVs by 2024.

**Exhibit 22: PTT’s long-term growth strategy, “Future energy and Beyond”**

**Powering life with Future energy and Beyond**  
**GPSC play all in PTT’s new Future Energy Vision**

**1 Future Energy**

- Champion** Renewable
- Champion** Energy Storage & system related
- Key role (EV battery, Quick charger)** EV Value Chain
- Key role (Generation, Application)** Hydrogen

**Beyond**

- Life science**
  - Pharmaceutical
  - Medical device
  - Nutrition
- High Value Business**
- Mobility & Lifestyle**

Source: PTT

GPSC has already invested THB1.1b in its 30MWh pilot battery plant. In Jul-21, it began producing G-Cell batteries using innovative technology licensed from 24M Technologies Incorporation (24M), a US-based start-up company. GPSC's batteries using 24M's Lithium-Io Phosphate (LFP) technology are currently in the testing stage. GPSC plans to expand its production capacity from 30MWh to 100MWh in 2023-24, and later to 1GWh, if the batteries are commercially and technically feasible.

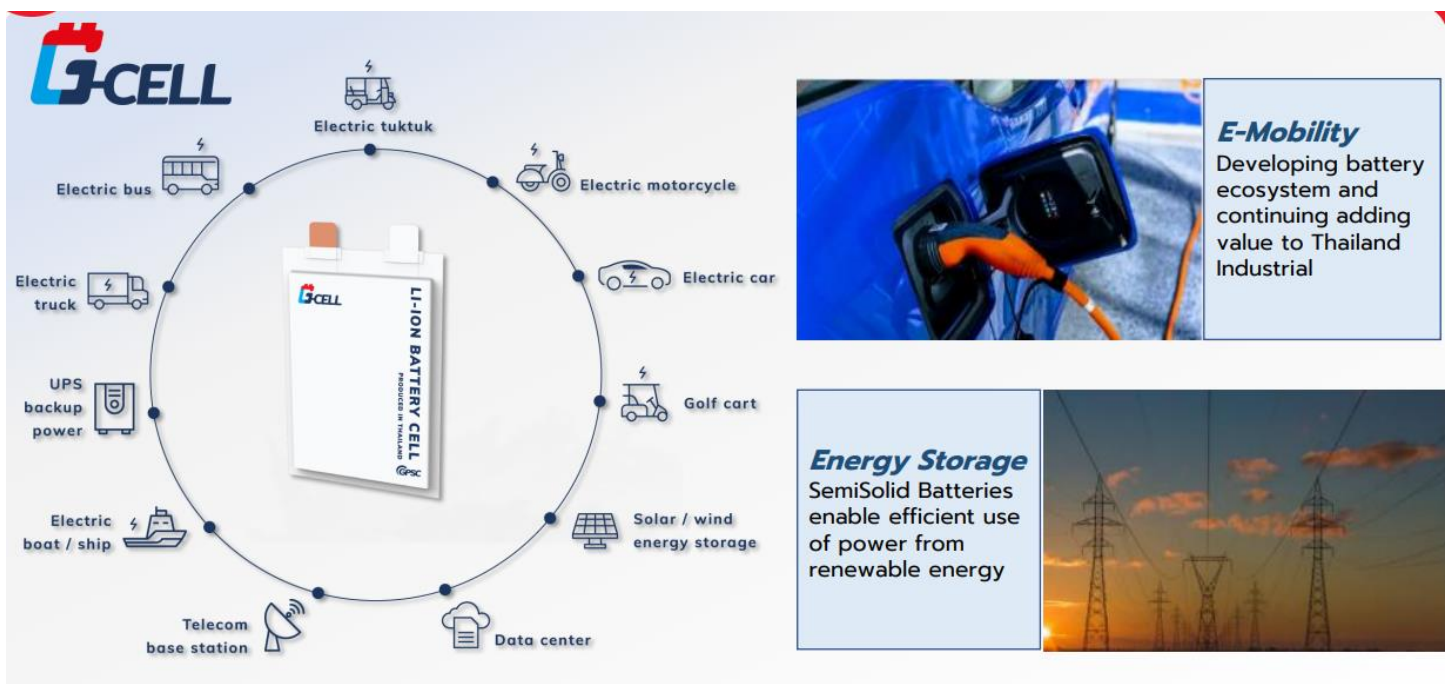
Exhibit 23: GPSC is a leading flagship company under PTT Group's new S-curve growth strategy



Source: GPSC

G-Cell batteries manufactured by GPSC employ an innovative manufacturing platform, are highly safe, and can effectively prevent short-circuiting because the unit cells are covered with a special insulation film. With the SemiSolid platform, G-Cells are also environmentally friendly and more easily recyclable than conventional lithium-ion batteries, according to GPSC.

Exhibit 24: Targeted applications for GPSC's G-cell battery



Source: GPSC

Alongside GPSC's LFP G-Cell battery production, the company plans to expand production of Lithium Nickel Manganese Cobalt Oxide (NMC) batteries to better suit EV customers in Thailand.

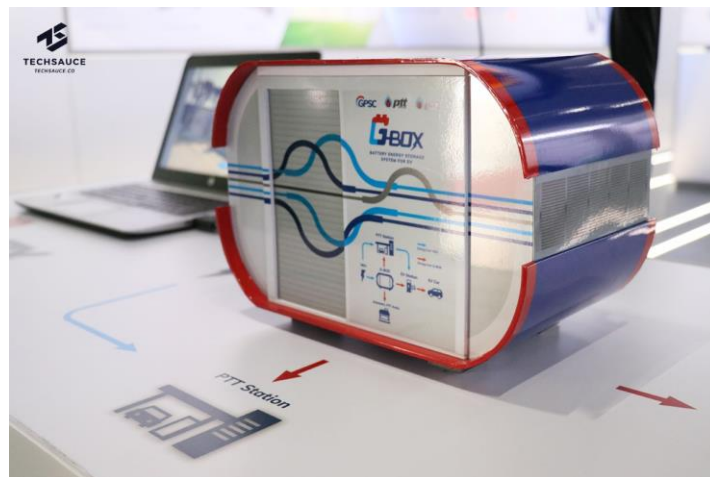
In Feb-21, GPSC invested THB0.5b to acquire an 11.1% stake in Anhui Axxiva New Energy Technology Co., Ltd. (AXXIVA) in China, with a plan to construct a 1GWh battery plant scheduled to COD in 1Q23. The batteries produced by AXXIVA are to be sold to Cherry New Energy Automobile, one of the leading EV manufacturers in China.

#### Exhibit 25: Cherry's Arrizo 6 EV car model



Source: [Cherry International](#)

#### Exhibit 26: GPSC's G-Cell battery



Source: GPSC

However, we remain sceptical about GPSC's G-Cell battery because its new SemiSolid technology lacks long-term reliability and safety data. Hence, we think it may take 1-2 years for GPSC and even AXXIVA to prove that their 24M-based technology is feasible for EV and ESS applications.

As a result, we exclude the net profit and valuation upside from GPSC's battery venture, pending further product reliability and safety testing by customers.

Note that with the initial investment of THB1.1b for the 30MWh battery plant, GPSC will incur an annual depreciation expense of THB73m and additional operating expenses of THB50-100m, based on our estimate. This could lead to a net loss contribution of THB0.1b annually for GPSC in 2021-23.

## 4Q21 results forecast

We project GPSC to report a disappointing 4Q21 net profit of THB1.8b, down 5.6% q-q but up 21% y-y. We project its core net profit to drop to THB585m, down 74% q-q and 68% y-y. Key points are:

- The 25% q-q spike in gas cost due to the much higher price for PTT's LNG imports at USD25-30/mmbtu, far above the average price of USD7-8/mmbtu for Gulf of Thailand gas, and USD10-12/mmbtu for gas imported from Myanmar;
- The lower power dispatch for IPPs due to seasonally low demand;
- The continued shutdown of SPP phase 5 since 2Q21 due to technical problems;
- A continued net loss of THB20m from Avaada, acquired in 2021, due to the low season for solar farms in India.

### Exhibit 27: 4Q21 results forecast

	4Q20	3Q21	----- 4Q21E -----		
	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)
<b>Revenue</b>	<b>16,531</b>	<b>17,857</b>	<b>20,287</b>	<b>13.6</b>	<b>22.7</b>
Operating costs	(12,122)	(12,935)	(15,671)	21.2	29.3
<b>EBITDA</b>	<b>4,409</b>	<b>4,922</b>	<b>4,729</b>	<b>(3.9)</b>	<b>7.2</b>
<i>EBITDA margin (%)</i>	27	28	23	<i>nm</i>	<i>nm</i>
Depn & amort.	(2,046)	(2,205)	(1,565)	(29.0)	(23.5)
EBIT	2,363	2,717	3,163	16.4	33.9
Interest expense	(965)	(984)	(343)	(65.2)	(64.5)
Interest & invt inc	0	0	0	<i>nm</i>	<i>nm</i>
Other income	191	251	(771)	(407.3)	(504.1)
Associates' contrib	244	211	837	296.7	242.7
Exceptionals	77	62	(554)	(997.9)	(818.8)
<b>Pretax profit</b>	<b>1,910</b>	<b>2,257</b>	<b>2,332</b>	<b>3.3</b>	<b>22.1</b>
Tax	(141)	(355)	281	(179.2)	(298.7)
<i>Tax rate (%)</i>	7	16	(12)	<i>nm</i>	<i>nm</i>
Minority interests	(311)	(27)	(843)	3,023.6	171.5
<b>Net profit</b>	<b>1,458</b>	<b>1,875</b>	<b>1,770</b>	<b>(5.6)</b>	<b>21.4</b>
Non recurring	355	381	(1,185)	(410.7)	(433.6)
<b>Core net profit</b>	<b>1,813</b>	<b>2,256</b>	<b>585</b>	<b>(74.1)</b>	<b>(67.7)</b>
EPS (THB)	0.52	0.66	0.63	(5.6)	21.4
Core EPS (THB)	0.64	0.80	0.21	(74.1)	(67.7)

Sources: GPSC; FSSIA estimates

## EPS and target price revisions

We maintain BUY but lower our SoTP-based TP from THB100 to THB90, to reflect the cuts in our EPS forecasts. We revise down our EPS forecasts in 2021-23 by 5.1-11.5% to incorporate: 1) our 0.9-7.9% higher gas cost assumptions; and 2) our 21.4-45.7% higher capex estimates for GPSC to fund its planned acquisitions.

We believe GPSC, as an SPP-driven company, will continue to face margin pressure from the higher gas cost in 1Q22, with the earnings from its battery venture remaining in the red.

However, by 2Q22, we expect GPSC's net profit to rebound and stay on an uptrend driven by: 1) a lower gas cost due to the lower price of spot LNG imports; 2) an improving net profit from its SPPs on stronger demand post the economic reopening and the rebound in Thailand's exports; and 3) the turnaround of Avaada and the net profit addition from its offshore wind farms in Taiwan.

### Exhibit 28: Key changes in assumptions

	Current			Previous			Change		
	2021E (THB m)	2022E (THB m)	2023E (THB m)	2021E (THB m)	2022E (THB m)	2023E (THB m)	2021E (%)	2022E (%)	2023E (%)
Revenue	72,625	85,322	95,350	84,821	84,924	95,350	(14.4)	0.5	0.0
Gross profit	19,423	19,784	23,112	20,046	20,956	23,112	(3.1)	(5.6)	0.0
Operating profit	11,540	11,963	13,403	11,920	13,142	13,403	(3.2)	(9.0)	0.0
Core net profit	7,920	8,778	10,486	8,350	9,918	11,200	(5.1)	(11.5)	(6.4)
EPS (THB/shr)	2.81	3.11	3.72	2.96	3.52	3.97	(5.1)	(11.5)	(6.4)
<b>Key assumptions</b>									
Gas cost (THB/mmbtu)	312	310	294	289	292	292	7.9	6.3	0.9
Tariff (THB/KWh)	3.42	3.45	3.49	3.42	3.45	3.49	0.0	0.0	0.0
Capacity (MW)	7,492	7,516	7,641	7,492	7,516	7,641	0.0	0.0	0.0
CAPEX (THB m)	33,547	23,197	16,997	23,024	17,099	13,999	45.7	35.7	21.4

Sources: GPSC; FSSIA estimates

### Exhibit 29: SoTP-based target price

Cost of equity assumptions			(%)	Cost of debt assumptions			(%)
Risk free rate			2.3	Pretax cost of debt			4.0
Market risk premium			8.5	Marginal tax rate			20.0
Stock beta			1.00				
Cost of equity, Ke			10.8	Net cost of debt, Kd			3.2
Weight applied			30.0	Weight applied			70.0
WACC (%)			5.5				
<b>DCF valuation estimate</b>	<b>THB m</b>	<b>THB/share</b>		<b>Comments</b>			
Core operating assets	134,994	47.9		Include all SPPs and two hydropower plants, WACC 5.5%			
Investments	21,670	7.7		Estimated value for affiliates post 2015, assume EIRR of 12%			
Cash	1,775	0.6		At end-2022E			
Debt	(126,125)	(44.7)		At end-2022E			
Minorities	(10,924)	(3.9)		At end-2022E			
<b>Residual ordinary equity - Exc. ERU</b>	<b>21,390</b>	<b>6.9</b>					
GLOW	108,826	38.6		Excluding SPP replacement projects			
XPCL	7,108	2.5		Assume EIRR 12%, COD Oct 2019			
ERU - TOP	2,018	0.7		Assume EIRR 9.4%, COD 2023E			
GLOW SPP replacement	108,973	38.6		Including GEN phase 2, GSPP2&3, and GSPP11#1			
Avaada - solar farms (India)	6,988	2.5		Assume EIRR 15%			
CI - offshore wind farms (Taiwan)	461	0.2		Assume EIRR 8%			
<b>Target price</b>	<b>255,764</b>	<b>90.0</b>					

Sources: GPSC; FSSIA estimates

## Financial Statements

### Global Power Synergy

Profit and Loss (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Revenue	66,562	69,578	72,625	85,322	95,350
Cost of goods sold	(47,985)	(47,742)	(53,202)	(65,537)	(72,238)
<b>Gross profit</b>	<b>18,578</b>	<b>21,836</b>	<b>19,423</b>	<b>19,784</b>	<b>23,112</b>
Other operating income	918	1,402	1,546	1,451	648
Operating costs	(670)	(2,346)	(1,434)	(1,604)	(1,796)
<b>Operating EBITDA</b>	<b>18,826</b>	<b>20,892</b>	<b>19,536</b>	<b>19,631</b>	<b>21,965</b>
Depreciation	(7,079)	(8,706)	(7,995)	(7,668)	(8,561)
Goodwill amortisation	0	0	0	0	0
<b>Operating EBIT</b>	<b>11,748</b>	<b>12,186</b>	<b>11,540</b>	<b>11,963</b>	<b>13,403</b>
Net financing costs	(4,822)	(4,022)	(3,286)	(3,613)	(5,124)
Associates	837	924	1,465	2,311	4,368
Recurring non-operating income	837	924	1,465	2,311	4,368
Non-recurring items	(1,514)	395	0	0	0
<b>Profit before tax</b>	<b>6,248</b>	<b>9,483</b>	<b>9,720</b>	<b>10,662</b>	<b>12,648</b>
Tax	(247)	(993)	(883)	(843)	(1,002)
<b>Profit after tax</b>	<b>6,001</b>	<b>8,490</b>	<b>8,837</b>	<b>9,819</b>	<b>11,645</b>
Minority interests	(1,940)	(982)	(917)	(1,041)	(1,160)
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
<b>Reported net profit</b>	<b>4,061</b>	<b>7,508</b>	<b>7,920</b>	<b>8,778</b>	<b>10,486</b>
<b>Non-recurring items &amp; goodwill (net)</b>	<b>1,514</b>	<b>(395)</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Recurring net profit</b>	<b>5,575</b>	<b>7,113</b>	<b>7,920</b>	<b>8,778</b>	<b>10,486</b>
<b>Per share (THB)</b>					
Recurring EPS *	1.98	2.52	2.81	3.11	3.72
Reported EPS	1.44	2.66	2.81	3.11	3.72
DPS	1.30	3.30	1.90	1.95	2.05
Diluted shares (used to calculate per share data)	2,820	2,820	2,820	2,820	2,820
<b>Growth</b>					
Revenue (%)	167.5	4.5	4.4	17.5	11.8
Operating EBITDA (%)	220.8	11.0	(6.5)	0.5	11.9
Operating EBIT (%)	188.9	3.7	(5.3)	3.7	12.0
Recurring EPS (%)	(11.8)	27.6	11.3	10.8	19.5
Reported EPS (%)	(35.8)	84.9	5.5	10.8	19.5
<b>Operating performance</b>					
Gross margin inc. depreciation (%)	17.3	18.9	15.7	14.2	15.3
Gross margin of key business (%)	17.3	18.9	15.7	14.2	15.3
Operating EBITDA margin (%)	28.3	30.0	26.9	23.0	23.0
Operating EBIT margin (%)	17.6	17.5	15.9	14.0	14.1
Net margin (%)	8.4	10.2	10.9	10.3	11.0
Effective tax rate (%)	4.6	11.6	10.7	10.1	12.1
Dividend payout on recurring profit (%)	65.8	130.8	67.6	62.6	55.1
Interest cover (X)	2.6	3.3	4.0	4.0	3.5
Inventory days	28.0	49.6	45.4	43.3	45.6
Debtor days	48.7	56.4	45.7	38.9	34.8
Creditor days	28.4	32.6	28.7	27.4	28.8
Operating ROIC (%)	13.8	9.0	(1.8)	(1.6)	(10.1)
ROIC (%)	7.4	4.7	(1.1)	(1.1)	(7.8)
ROE (%)	7.9	7.0	7.6	8.3	9.5
ROA (%)	7.2	4.4	3.1	3.3	1.9
* Pre-exceptional, pre-goodwill and fully diluted					
<b>Revenue by Division (THB m)</b>					
Independent power producer	14,993	10,695	4,301	3,677	13,336
Small power producer	50,215	55,525	64,249	77,211	77,579
Very small power producer	581	2,136	2,851	3,208	3,208
Others	773	1,222	1,224	1,225	1,227

Sources: Global Power Synergy; FSSIA estimates



## Financial Statements

### Global Power Synergy

Cash Flow (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Recurring net profit	5,575	7,113	7,920	8,778	10,486
Depreciation	7,079	8,706	7,995	7,668	8,561
Associates & minorities	837	924	1,465	2,311	4,368
Other non-cash items	1,957	1,317	1,318	1,318	1,319
Change in working capital	992	(10,510)	(338)	(907)	(569)
<b>Cash flow from operations</b>	<b>16,439</b>	<b>7,551</b>	<b>18,361</b>	<b>19,169</b>	<b>24,165</b>
Capex - maintenance	(7,079)	(8,706)	(6,295)	(5,868)	(6,761)
Capex - new investment	(72,735)	(1,296)	(27,252)	(17,329)	(10,236)
Net acquisitions & disposals	2,354	(540)	0	0	0
Other investments (net)	0	0	0	0	0
<b>Cash flow from investing</b>	<b>(77,460)</b>	<b>(10,543)</b>	<b>(33,547)</b>	<b>(23,197)</b>	<b>(16,997)</b>
Dividends paid	0	0	(6,485)	(5,498)	(5,498)
Equity finance	0	0	0	0	0
Debt finance	81,105	5,705	10,510	11,300	4,000
Other financing cash flows	(6,157)	(1,264)	(6,536)	(2,590)	(4,529)
<b>Cash flow from financing</b>	<b>74,948</b>	<b>4,441</b>	<b>(2,511)</b>	<b>3,211</b>	<b>(6,028)</b>
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
<b>Net other adjustments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Movement in cash</b>	<b>13,927</b>	<b>1,450</b>	<b>(17,697)</b>	<b>(817)</b>	<b>1,140</b>
Free cash flow to firm (FCFF)	(55,880.92)	1,032.24	(11,900.73)	(415.25)	12,291.61
Free cash flow to equity (FCFE)	13,927.18	1,450.02	(11,211.82)	4,681.54	6,638.80

#### Per share (THB)

FCFF per share	(19.82)	0.37	(4.22)	(0.15)	4.36
FCFE per share	4.94	0.51	(3.98)	1.66	2.35
Recurring cash flow per share	5.48	6.41	6.63	7.12	8.77

Balance Sheet (THB m) Year Ending Dec	2019	2020	2021E	2022E	2023E
Tangible fixed assets (gross)	120,025	127,437	159,286	180,684	195,883
Less: Accumulated depreciation	(18,753)	(27,460)	(33,755)	(39,623)	(46,384)
<b>Tangible fixed assets (net)</b>	<b>101,272</b>	<b>99,978</b>	<b>125,531</b>	<b>141,062</b>	<b>149,499</b>
<b>Intangible fixed assets (net)</b>	<b>7,578</b>	<b>6,072</b>	<b>6,072</b>	<b>6,072</b>	<b>6,072</b>
Long-term financial assets	-	-	-	-	-
Invest. in associates & subsidiaries	10,625	11,165	11,165	11,165	11,165
Cash & equivalents	18,839	20,289	2,591	1,775	2,915
A/C receivable	12,405	9,084	9,084	9,084	9,084
Inventories	6,724	6,253	6,969	8,584	9,462
Other current assets	952	7,828	8,170	9,599	10,727
<b>Current assets</b>	<b>38,919</b>	<b>43,454</b>	<b>26,815</b>	<b>29,042</b>	<b>32,188</b>
Other assets	93,622	95,987	95,987	95,987	95,987
<b>Total assets</b>	<b>252,017</b>	<b>256,656</b>	<b>265,570</b>	<b>283,328</b>	<b>294,911</b>
Common equity	100,893	102,901	104,336	107,615	112,603
Minorities etc.	9,283	8,966	9,883	10,924	12,084
<b>Total shareholders' equity</b>	<b>110,176</b>	<b>111,867</b>	<b>114,219</b>	<b>118,540</b>	<b>124,686</b>
Long term debt	79,356	92,321	99,825	109,125	105,125
Other long-term liabilities	25,736	30,405	25,736	25,736	25,736
<b>Long-term liabilities</b>	<b>105,093</b>	<b>122,726</b>	<b>125,561</b>	<b>134,861</b>	<b>130,861</b>
A/C payable	4,581	3,952	4,403	5,424	5,979
Short term debt	19,253	11,993	15,000	17,000	25,000
Other current liabilities	12,914	6,118	6,386	7,503	8,384
<b>Current liabilities</b>	<b>36,748</b>	<b>22,063</b>	<b>25,790</b>	<b>29,927</b>	<b>39,363</b>
<b>Total liabilities and shareholders' equity</b>	<b>252,017</b>	<b>256,656</b>	<b>265,570</b>	<b>283,328</b>	<b>294,911</b>
Net working capital	2,585	13,096	13,434	14,340	14,910
Invested capital	215,683	226,298	252,189	268,626	277,633

\* Includes convertibles and preferred stock which is being treated as debt

#### Per share (THB)

Book value per share	35.78	36.49	37.00	38.17	39.93
Tangible book value per share	33.09	34.34	34.85	36.01	37.78

#### Financial strength

Net debt/equity (%)	72.4	75.1	98.3	104.9	102.0
Net debt/total assets (%)	31.7	32.7	42.3	43.9	43.1
Current ratio (x)	1.1	2.0	1.0	1.0	0.8
CF interest cover (x)	19.0	1.7	5.9	7.1	4.3

Valuation	2019	2020	2021E	2022E	2023E
<b>Recurring P/E (x) *</b>	<b>40.0</b>	<b>31.3</b>	<b>28.1</b>	<b>25.4</b>	<b>21.2</b>
<b>Recurring P/E @ target price (x) *</b>	<b>45.5</b>	<b>35.7</b>	<b>32.0</b>	<b>28.9</b>	<b>24.2</b>
Reported P/E (x)	54.9	29.7	28.1	25.4	21.2
Dividend yield (%)	1.6	4.2	2.4	2.5	2.6
Price/book (x)	2.2	2.2	2.1	2.1	2.0
Price/tangible book (x)	2.4	2.3	2.3	2.2	2.1
EV/EBITDA (x) **	16.6	15.1	17.7	18.2	16.5
EV/EBITDA @ target price (x) **	18.2	16.6	19.2	19.8	17.9
EV/invested capital (x)	1.4	1.4	1.4	1.3	1.3

\* Pre-exceptional, pre-goodwill and fully diluted \*\* EBITDA includes associate income and recurring non-operating income

Sources: Global Power Synergy; 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	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	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)

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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, CFA, FRM, ERP 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
Global Power Synergy	GPSC TB	THB 79.00	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.
PTT Global Chemical	PTTGC TB	THB 57.50	BUY	The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin.
PTT PCL	PTT TB	THB 39.75	BUY	Risks to our SoTP-based valuation are the oil price and potential earnings downside from government intervention.
Thai Oil	TOP TB	THB 53.75	BUY	Downside risks to our EV/EBITDA-based TP are a sharp rise in oil price and weak demand for refined oil products.
IRPC PCL	IRPC TB	THB 3.92	BUY	Key risks to our positive view and EV/EBITDA-based target price are weaker-than-expected oil product demand growth and lower-than-expected PP-naphtha and SM-benzene margins.
PTT Explor & Prod	PTTEP TB	THB 130.50	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.

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 04-Feb-2022 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.