

11 SEPTEMBER 2020

THAILAND / UTILITIES - CONVENTIONAL

# GULF ENERGY DEVELOPMENT

## BUY

UNCHANGED

# GULF TB

TARGET PRICE	THB48.00
CLOSE	THB31.75
UP/DOWNSIDE	+51.2%
PRIOR TP	THB47.00
CHANGE IN TP	+2.1%
TP vs CONSENSUS	+27.8%

## In growth we trust ภาค 2

### EPS จะเพิ่มขึ้นปี 2021 หลังลดลงในปี 2020

เรายังคงมั่นใจในแนวโน้มการเติบโตของกำไรสุทธิของ GULF นับตั้งแต่ปี 2021 เป็นต้นไป แม้หลังเพิ่มทุน 10% และซื้อหุ้น INTUCH ไป 8% เมื่อเร็ว ๆ นี้ เราเห็นว่ากำไรสุทธิที่จะเพิ่มขึ้นในปี 2021 จากการซื้อกิจการเมื่อไม่นานมานี้ ประกอบด้วยกำไรสุทธิ 1.2 พัน ลบ. จากโรงไฟฟ้าพลังงานลมขนาด 450 MW ที่เปิดดำเนินการแล้วในเยอรมนี และกำไรสุทธิ 400 ลบ. จากธุรกิจนำเข้า LNG จะมากกว่ากำไรต่อหุ้น (EPS) ที่ลดลงจากการเพิ่มทุน 10% เราคาดว่ากำไรสุทธิของ EPS ของ GULF จะยังอยู่ในระดับที่ดีโดยอยู่ที่ 81% y-y ในปี 2021 หลังลดลง 7.5% y-y ในปี 2020 จากผลกระทบของการเพิ่มทุนเป็นหลัก อย่างไรก็ตามก็ดี เรายังคาดว่ากำไรสุทธิของบริษัทจะโตได้ที่อัตรา 1.8% y-y ในปี 2020

### INTUCH: กลยุทธ์ที่เหมาะสมในระยะยาวสำหรับ GULF

เรามองว่าการตัดสินใจซื้อหุ้น INTUCH ของ GULF เป็นกลยุทธ์ที่ดีในการเสริมสร้างการเติบโตของกำไรสุทธิในระยะยาวและวางบริษัท ไว้ในตำแหน่งที่เหมาะสมก่อนคู่แข่งในกระบวนการเปลี่ยนแปลงโครงสร้างข้อมูลตลาดอุตสาหกรรมมาเป็นดิจิทัลที่กำลังเกิดขึ้น ในทางกลยุทธ์เรามองว่า GULF สามารถใช้ระบบข้อมูลกลาง (Big Data) ของ ADVANC จากฐานลูกค้าโทรศัพท์เคลื่อนที่ 41 ล้านราย (ส่วนแบ่งตลาด 45% ในประเทศไทย) และฐานลูกค้าอินเทอร์เน็ตผ่านเครือข่ายความเร็วสูง (Broadband subscribers) 1.2 ล้านราย เพื่อเป็นกลุ่มเป้าหมายหลักสำหรับโครงข่ายอัจฉริยะเพื่อการส่งไฟฟ้าและบริการสาธารณูปโภค (Smart Grid and Smart Utilities Network) โดยใช้ประโยชน์จากสินทรัพย์ในด้านพลังงานและสาธารณูปโภคในอนาคตของ GULF ที่มีอยู่อย่างครบครัน

### จากก๊าซเป็นหน้า: การเติบโตจากโรงไฟฟ้าพลังน้ำ 5 แห่ง

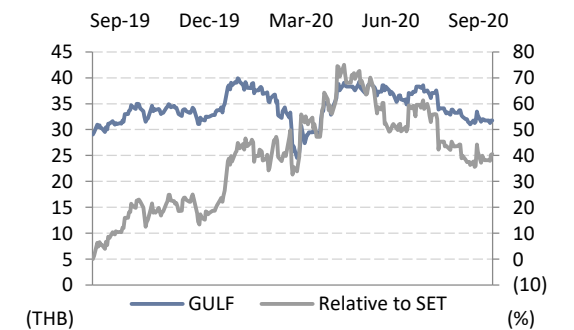
จากข้อมูลของบริษัท GULF กำลังวางแผนซื้อโรงไฟฟ้าพลังน้ำ 5 แห่งในลาว เพื่อจับโอกาสการเติบโตภายใต้แผนพัฒนากำลังการผลิตไฟฟ้าปี 2018 โครงการแรกคือโรงไฟฟ้าพลังน้ำ NN3 ซึ่งมีสัญญาซื้อขายไฟฟ้ากับการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) มีกำหนดเริ่มจ่ายไฟฟ้าเชิงพาณิชย์ในปี 2026 โดย GULF ตั้งเป้าซื้อหุ้นไม่เกิน 20% จาก EGAT ในปี 2020 โครงการที่เหลือทั้งหมดเป็นโรงไฟฟ้าพลังน้ำแบบมีน้ำไหลผ่านตลอดปี ประกอบด้วย ปากแบ่ง ปากลาย ชะนะคาม และหลวงพระบาง โดย GULF วางแผนซื้อหุ้นไม่เกิน 30% ในแต่ละโครงการ

### คงคำแนะนำซื้อหลังเพิ่มราคาเป้าหมายเป็น 48 บาท

เราเพิ่มราคาเป้าหมายจาก 47 เป็น 48 บาท (SoTP) เพื่อรวมมูลค่าดังต่อไปนี้ (1) 1.5 บาทจากหุ้น 8% ที่ GULF ถือใน INTUCH โดยคิดจากมูลค่ายุติธรรม 70 บาทตามประมาณการของตลาด; (2) 1.3 บาทจากหุ้น 50% ในโรงไฟฟ้าพลังงานลมนอกชายฝั่งขนาด 450 MW ; และ (3) การปรับราคาเป้าหมายไปในปี 2021 เราปรับประมาณการ EPS สำหรับปี 2020-2022 โดย -2%/8%/14% ตามลำดับเพื่อสะท้อน (1) กำไรสุทธิที่เพิ่มขึ้นจากโรงไฟฟ้าพลังงานลมนอกชายฝั่งในเยอรมนีและโรงไฟฟ้าพลังงานลม la Pech 1 & 2 ขนาด 100 MW ในเวียดนาม; และ (2) EPS ที่ลดลงตามจำนวนหุ้นที่เพิ่มขึ้น 10%

## KEY STOCK DATA

YE Dec (THB m)	2019	2020E	2021E	2022E
Revenue	30,040	28,887	33,800	82,305
Net profit	4,887	4,973	8,999	19,927
EPS (THB)	0.46	0.42	0.77	1.70
vs Consensus (%)	-	5.8	26.2	87.2
EBITDA	7,969	9,656	13,512	28,917
Core net profit	4,887	4,973	8,999	19,927
Core EPS (THB)	0.46	0.42	0.77	1.70
Chg. In EPS est. (%)	(80.0)	(2.5)	8.2	14.2
EPS growth (%)	61.4	(7.5)	81.0	121.4
Core P/E (x)	69.3	74.9	41.4	18.7
Dividend yield (%)	0.8	0.8	1.3	2.2
EV/EBITDA (x)	50.8	47.6	35.2	16.1
Price/book (x)	8.8	5.1	4.7	4.0
Net debt/Equity (%)	112.9	88.6	93.1	62.5
ROE (%)	13.0	9.0	11.9	23.1



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	(4.5)	(14.9)	1.6
Relative to country (%)	(2.2)	(6.5)	31.1
Mkt cap (USD m)	10,814		
3m avg. daily turnover (USD m)	38.5		
Free float (%)	27		
Major shareholder	Mr. Sarath Ratanavadi (35%)		
12m high/low (THB)	41.03/22.35		
Issued shares (m)	2,133.30		

Sources: Bloomberg consensus; FSSIA estimates



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

บทวิเคราะห์ฉบับนี้แปลมาจากบทวิเคราะห์ของ FSSIA ฉบับวันที่ 11 กันยายน 2020

### Investment thesis

Founded in 2010, GULF is one of Thailand’s pioneer power companies with operations in both small power producers (SPP) and large independent power producers (IPP). A big power company with strong and sustainable earnings growth, GULF is Thailand’s largest power producer with the highest visible earnings growth outlook among the Thai power companies we cover. The key growth drivers include growth in equity capacity at 18% CAGR to reach 6.3GW by 2024E, driven by two phases of growth from SPP and IPP projects.

We project that NPs from its 19 SPPs will make up GULF’s core NP in 2020-22 before its new large-scale IPPs come on stream in 2022-25E. We believe that GULF will ride Thailand’s SPP growth, based on 1) higher electricity tariffs on Thailand’s structurally higher tariff rates, driven by the higher commodity prices of coal, gas and oil; and 2) the solid demand for power and steam from industrial users (IU).

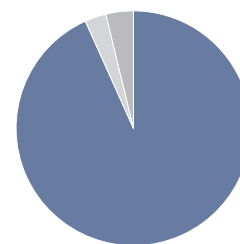
### Company profile

GULF is Thailand’s largest power producer with expected capacity of over 7.6GW by 2027. It has the largest SPP and IPP portfolio and possesses the strongest earnings growth outlook among the Thai power companies we cover.

[www.gulf.co.th](http://www.gulf.co.th)

### Principal activities (revenue, 2019)

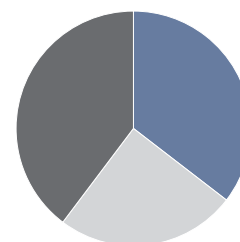
- Power business - 100.9 %
- Consulting business - 3.2 %
- Others - -4.1 %



Source: Gulf Energy Development

### Major shareholders

- Mr. Sarath Ratanavadi - 35.4 %
- GULF Capital Holdings Limited - 24.8 %
- Others - 39.7 %



Source: Gulf Energy Development

### Catalyst

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

### Risk to our call

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 CODs.

### Event calendar

Date	Event
Nov 2020	3Q20 results announcement

### Key assumptions

	2020E	2021E	2022E
Dispatched power (GWh)	16,179	17,549	33,479
Average utilisation rate (%)	83	84	85
Gas cost (THB/mmbtu)	247	235	223
No of shares at year end (m shares)	11,733	11,733	11,733
No of shares - weighted avg. (m shares)	10,933	11,733	11,733

Source: FSSIA estimates

### Earnings sensitivity

- For every 1% increase in gas price, we estimate that 2020 earnings will decline 1.1%, and vice versa, all else being equal.
- For every 1% increase in interest rate, we estimate that 2020 earnings will decline 2.1%, and vice versa, all else being equal.

Source: FSSIA estimates



## “In growth we trust” for INTUCH and hydropower

Since publishing our report “In growth we trust,” dated 30 Jun-20, several additional events have further strengthened GULF’s NP growth outlook post 2020. First, GULF acquired a 50% stake in a 450MW offshore wind farm in Germany. Second, GULF acquired a 100% stake in the 100MW onshore wind farm Ia Pech 1 & 2 in Vietnam. Third, GULF announced the potential acquisition of 30% stakes in four large-scale hydropower plants in Laos. Fourth, GULF announced its intention to acquire up to a 10% stake in Intouch Holdings (INTUCH TB, not rated), up from the current 8% stake it already owns. Finally, GULF announced a 10% capital increase in Jul-20.

We believe GULF’s EPS growth will accelerate starting in 4Q20, following the 10% capital increase announced on 23 Jul-20. GULF intends to raise THB32b in cash by issuing 1,066.65m new shares via a rights offering (RO) at THB30/share; a 21.4% discount to its 15-day average share price prior to the announcement. The RO ratio is at 10 existing shares for one new RO with the XR date on 6 Aug 2020. GULF will increase its registered capital by 10% to THB11.73b post capital increase at the same THB1 par value.

### Exhibit 1: Capital increase

Capital increase	Unit		
# of shares	10,666.5	m shares	
RO	10:1		
Offering price	30	THB/share	
# of shares from RO	1,066.7	m shares	with a par value of THB 1 per share
% increase in # of shares	10	%	
Post capital increase # of shares	11,733.2	m shares	
Rights offering (Record date)	7 Aug 2020		
Excluding right (XR)	6 Aug 2020		
Subscription date	14-18 Sep 2020		

Sources: GULF; FSSIA estimates

We remain positive on GULF’s net profit (NP) growth outlook in 2021 onward, even after the 10% capital increase and the recent acquisition of the 8% stake in INTUCH, given:

1) The 2020E 9.09% EPS dilution from the 10% capital increase should be more than offset by the 20% y-y higher 2021E NP growth from its recently acquired growth projects, including an estimated THB1.2b NP from its 50% stake in a 450MW operating wind farm in Germany and a THB0.4b higher NP from liquefied natural gas (LNG) imports. In addition, GULF is likely to benefit from the sharp structural decline in the gas cost in Thailand starting in 3Q20. We project the gas price for GULF’s SPPs to drop by 11% q-q in 3Q20 and 5% q-q in 4Q20.

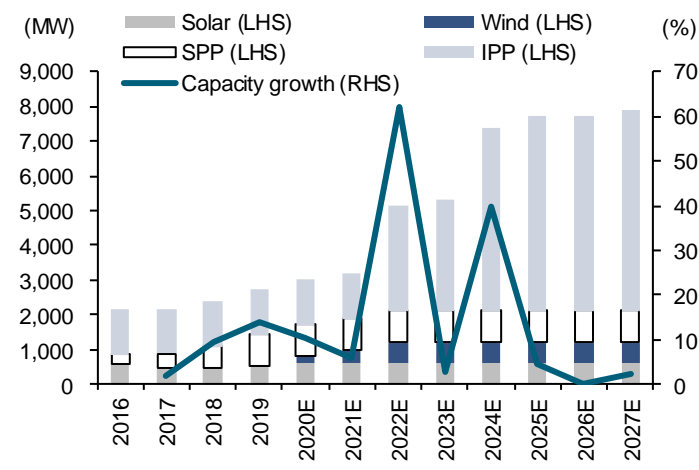
### Exhibit 2: Equity, net profit, and EPS pre and post capital increase

	Pre capital increase		Post capital increase	
	2020E	2020E	2021E	2022E
Equity (THB m)	84,914	84,914	93,909	115,844
Net profit (THB m)	4,973	4,973	8,999	19,927
# of shares (m shares)	10,667	11,733	11,733	11,733
EPS (THB/share)	0.47	0.42	0.77	1.70
Dilution (%)		(9.09)	80.95	121.44

Sources: GULF, FSSIA estimates

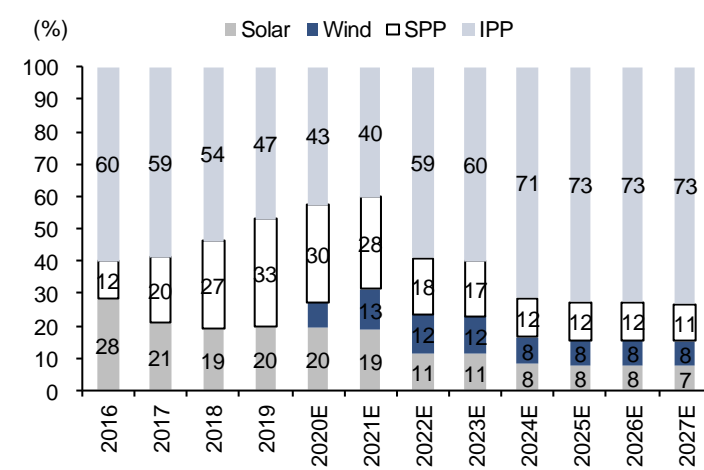
2) According to management, THB32b will be used to fund GULF's multiple growth projects, including wind farms in Germany (THB19.6b), wind farms in Vietnam (410MW), two motorways, two IPP acquisitions – Hin Kong and Burapa – and two infrastructure projects – Maptaphut LNG terminal phase 3 and Laemchabang phase 3. All of these projects would require THB72.9b in equity investments in 2020-24, based on our estimate.

**Exhibit 3: Capacity breakdown by power plant type**



Sources: GULF; FSSIA estimates

**Exhibit 4: Capacity breakdown by power plant type (%)**

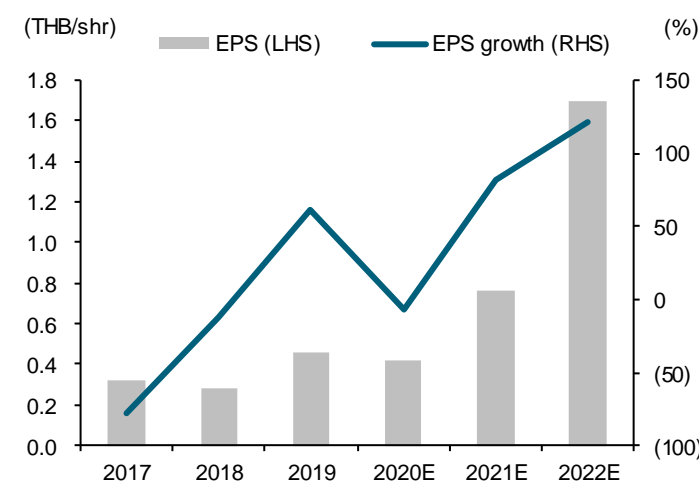


Sources: GULF; FSSIA estimates

In addition, management has stated that GULF is likely to secure additional new capacity growth from multiple projects currently under negotiations, including offshore wind farms in Europe and Asia, hydropower plants in Laos, and gas-fired IPPs in Vietnam.

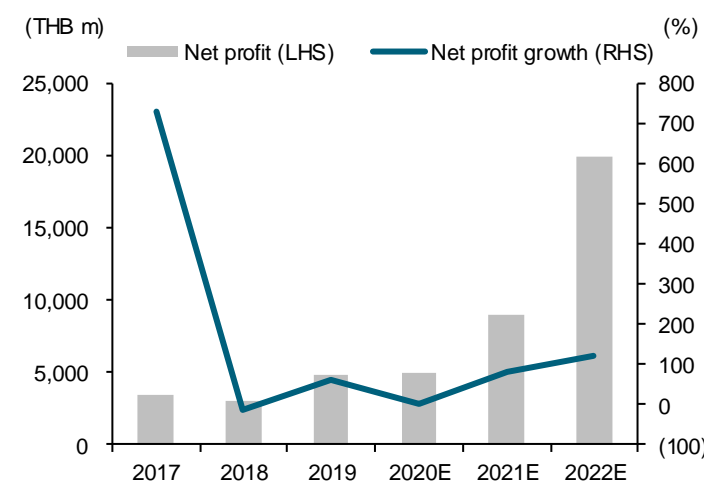
Even including all of the committed growth projects and excluding all of the potential new projects, we project that GULF's EPS growth will remain strong in 2021 at 81% y-y after a 7.5% y-y EPS decline in 2020 due mainly to the capital increase impact, though we still project 1.8% y-y NP growth for 2020. The main drivers include the additional THB1.2b NP contribution from the 50% stake acquired in the 450MW offshore wind farm in Germany, which we expect GULF to start consolidating by 4Q20.

**Exhibit 5: EPS and EPS growth**



Sources: GULF; FSSIA estimates

**Exhibit 6: Net profit and net profit growth**



Sources: GULF; FSSIA estimates

## Emerging new growth potential

We believe GULF's recent capital call is highly justified by its ongoing, successful, and value-accretive growth strategy, mostly from acquisitions since 2019. On top of GULF's two large IPP (5GW capacity) committed growth projects that are scheduled to start operations in 2021-24 and are expected to drive its EPS growth by 81% y-y in 2021 and 121% y-y in 2022 – based on the committed capacity pre-capital increase – we think GULF is now ready to fund its multiple new growth projects that will come on stream post 2020. We estimate those projects to require THB72.9b in equity investments in 2020-24.

### Exhibit 7: Committed growth projects

	Capacity	Energy	Investment	Stake	Equity investment	Growth	Time	Certainty	COD	Contract period
	(MW)		(THB b)	(%)	(THB b)					(year)
<b>Oman</b>										
- Gas-fired power plant	326	Gas	15.0	49	1.6	/	/	/	2021-22E	25
- Water (m3/hour)	1,667	Water		49		/	/	/	2021-22E	25
<b>Vietnam</b>										
- Mekong wind	310	Wind	19.2	95	4.6	/	/	/	2021-23E	20
- Ia Pech 1 & 2	100	Wind	6.2	100	1.6	/	/	/	2021E	20
<b>Germany</b>										
- Renewable - wind farm	450	Wind	39.2	50	19.6	/	/	/	2021E	20
<b>Thailand</b>										
<b>Power plants</b>										
- Two IPP power plants (GSRC and Gulf PD)	5,300	Gas	100.0	70	25.0	/	/	/	2021-24E	25
- Hin Kong IPP power plant	1,400	Gas	21.0	49	2.6	/	/	/	2024-25E	25
- Burapa IPP power plant	540	Gas	9.7	35	0.9	/	/	/	2027E	25
<b>Infrastructure</b>										
- Laemchabang deep sea port (m TEU)	4.0	Port	30.0	40	3.8	/	/	/	2024E	35
- Maptaphut LNG terminal (mtpa)	10.8	LNG	42.9	70	9.9	/	/	/	2023E/2026E	30
- Motorway (M6 & M81)		Toll	na	40	3.0	/	/	/	2023E	30
- One Bangkok - distribution			3.6	33	0.4	/	/	/	2024E	30
<b>Investment</b>										
- INTUCH			12.0	8.0	12.0	/	/	/	2020	
<b>Total</b>			<b>298.7</b>		<b>72.9</b>					

Sources: GULF; FSSIA estimates

On top of GULF's multiple committed growth projects, we think the company is poised to secure additional new capacity growth in multiple locations overseas.

**Oman:** After securing a 326MW SPP and completing a share swap to restructure its shareholder's organization, we think GULF is ready to secure gradual capacity growth for its SPPs in Oman, which we estimate to be 0.5-1GW over the next three years.

### Exhibit 8: Potential growth projects

Potential growth projects	Capacity	Energy	Investment	Stake	Equity investment	Growth	Time	Certainty	COD	Contract period
	(MW)		(THB b)	(%)	(THB b)					(year)
<b>Europe and Asia</b>										
- Offshore wind farms	500	Wind	40.0	50	20.0	/			2020E	
<b>Laos</b>										
- Hydropower plant	3,744	Hydro	337.0	30	25.3	/			2026-33E	
<b>Vietnam</b>										
- LNG to power	6,000	Gas	na	30	14.0	/			2025-30E	25
<b>Total</b>	<b>10,244</b>				<b>59.2</b>					

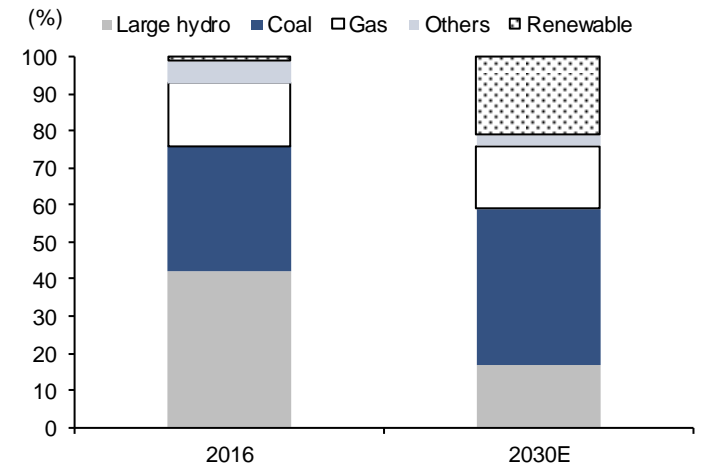
Sources: GULF; FSSIA estimates



**Vietnam:** GULF has already secured a 1.5GW IPP and is likely to secure additional IPPs with capacity totalling 4-5GW within 2021; all scheduled to commence their commercial operating dates (COD) by 2025. Under Vietnam’s latest Power Development Plan 7, which covers the period from 2016-2030, Vietnam plans to grow its electricity generating capacity from a mere 43GW in 2016 to 130GW by 2030, implying an 8.2% 15-year CAGR, or an average of 5.8GW in additional capacity annually from 2016-30.

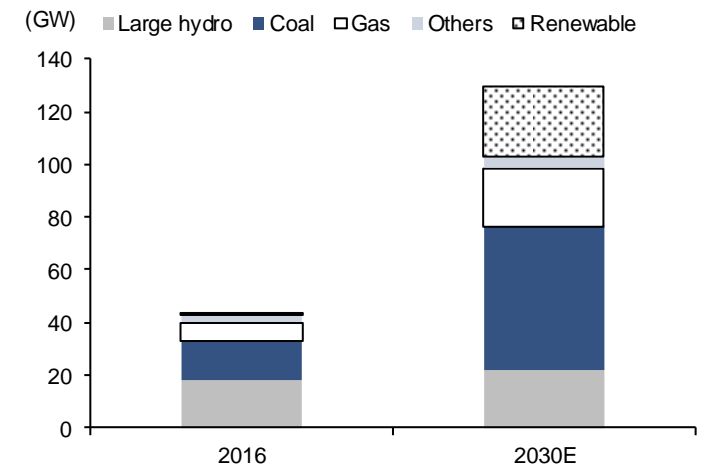
According to management, GULF is now under negotiations to secure new gas-fired IPPs in Vietnam of up to 6GW, scheduled to start their CODs by 2026 onward. We believe GULF is likely to secure an additional 2-3GW equity capacity based on 40-45% stakes in the projects.

**Exhibit 9: Electricity generating capacity projection breakdown by power plant type (%) under Vietnam’s PDP 7**



Source: Vietnam PDP 7

**Exhibit 10: Electricity generating capacity projection breakdown by power plant type under Vietnam’s PDP 7**



Source: Vietnam PDP 7

**Laos:** GULF is poised to secure five hydropower plants that we project to have an aggregate capacity up to 3-4GW, within 2020.



## Up to five new potential hydropower plants in Laos

Under Thailand's current Power Development Plan (PDP 2018), the country still requires up to 27GW of power capacity to partly replace the upcoming retired power capacity and the higher projected demand growth in 2018-37.

### Exhibit 11: Projected new capacity additions

Year	System's peak demand (MW)	Reliable capacity (MW)	New MW required (MW)
2017	30,300	34,000	(3,600)
2027E	41,100	36,000	5,100
2037E	54,000	27,000	27,000

Source: PDP 2018

Thailand's new energy minister, Mr. Supattanapong Panmeechaow, the former CEO of PTT Global Chemical (PTTGC TB, BUY, TP THB50), has expressed his key policies regarding the future of Thailand's energy industry:

**LNG shipper license and imports will be a top priority in 2020.** According to Mr. Supattanapong's latest comment, LNG imports will be one of his top priorities in 2020. In the near term, the three private companies that have been awarded LNG shipper import licenses (B.Grimm Power (BGRIM TB, BUY TP THB75), GULF, and Ratch Group (RATCH TB, BUY, TP THB82)) should start to import LNG within 2020 to capitalize on the globally low price of LNG.

In the medium to long term, the energy minister believes that LNG imports by private companies should strengthen the country's energy security. He fully promotes the deregulation and liberalisation of Thailand's gas market under the second phase of the Gas Plan 2015 that will allow private companies to receive LNG shipper licenses to import LNG for use in their own power plants, as well as resell it to other users.

The energy minister has also delayed the bidding for the 23rd round of Thailand's petroleum exploration in the Gulf of Thailand from the original date of 23 Apr-20 to 2021. This was done because the COVID-19 outbreak remains an obstacle, and the low oil price environment is unfavourable for the bidding. Hence, he believes that LNG imports should be accelerated within 2020 to ensure Thailand's long-term energy security.

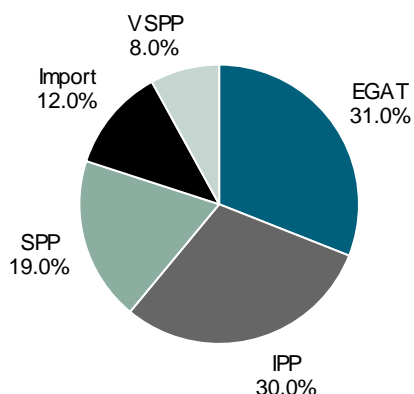
**Lower electricity demand.** Most of the new power capacity under PDP 2018 will be maintained, and the excess power reserves will be sold to Thailand's neighbouring countries.

**Cancellation of community-owned power projects under the "Energy for All" scheme.** A total capacity of 1,933MW for biogas, biomass, and solar hybrid power plants will be cancelled, as it is deemed inefficient and is outside the scope of PDP 2018. Instead, the energy minister plans to use up to THB5.6b of the energy conservation fund to stimulate the economy via subsidies for 400,000 new graduates in 2020 and for small and medium enterprises (SMEs) that have been impacted by COVID-19.

**Biodiesel B10 will be promoted** using a widening subsidized price gap and E20 gasohol (20% ethanol and 80% gasoline). B10 is intended to replace E10 gasohol as a standard fuel for gasoline.

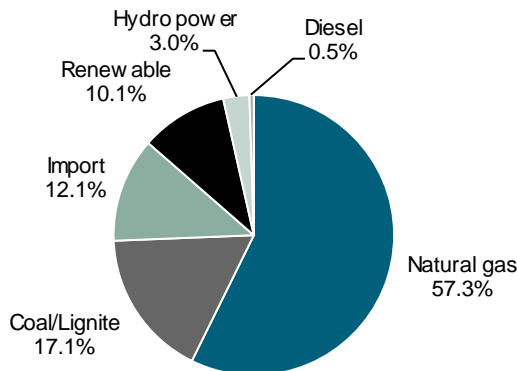
**The electric vehicle (EV) industry will be promoted,** including accelerating domestic EV car production and legalizing the fixed-rate tariff of THB2.64/kWh to stimulate the installation of new EV charging stations nationwide.

**Exhibit 12: Electricity production breakdown by producer as of Dec-19**



Source: PDP 2018 Revision 1

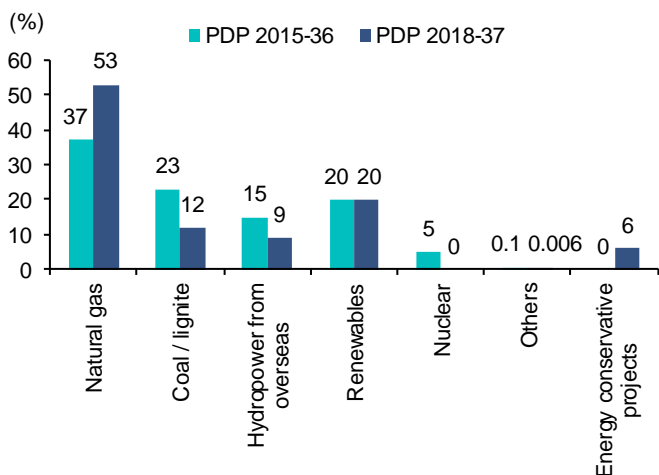
**Exhibit 13: Electricity production breakdown by fuel type (Jan–Dec-19)**



Source: PDP 2018 Revision 1

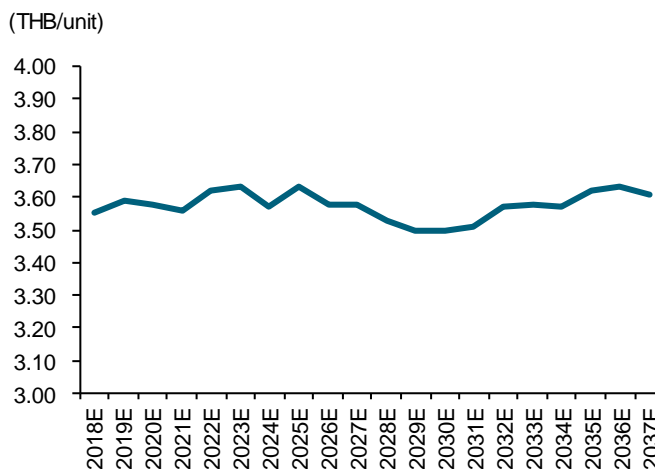
The energy minister addressed certain key issues that will need to be revised before the approval of the proposed PDP Revision 1 (PDPR1). The main issues have to do with the potential electricity demand downside caused by the COVID-19 outbreak, which we think could strategically lead to 1) new capacity during 2020-36, particularly for new IPPs, given the currently high power capacity reserve of over 40% at end-2Q20 due to the lower electricity demand; and 2) a higher new capacity requirement for imported power to effectively lower the country’s long-term power tariff to under THB3.6/kWh.

**Exhibit 14: Capacity breakdown comparison (PDP 2015 vs PDP 2018)**



Source: PDP 2018

**Exhibit 15: Electricity tariff under PDP 2018**

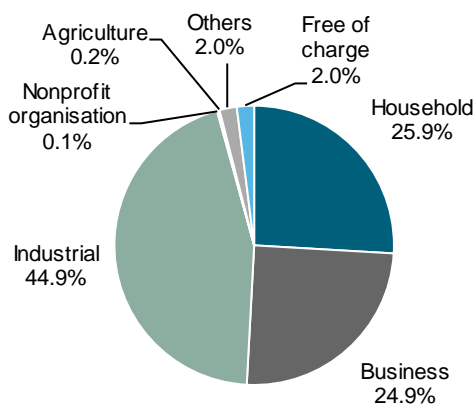


Source: PDP 2018

Under PDP 2018 and PDPR1, the electricity demand growth in 2018-37 – the period covered under PDP 2018 – will remain unchanged, based on a 3.8% CAGR GDP growth rate. The total electricity generating capacity is projected to rise from 46.1GW at end-2017 to 77.2GW at end-2036, with 56.4GW of new capacity and 25.3GW of retired operating capacity, according to PDP 2018.

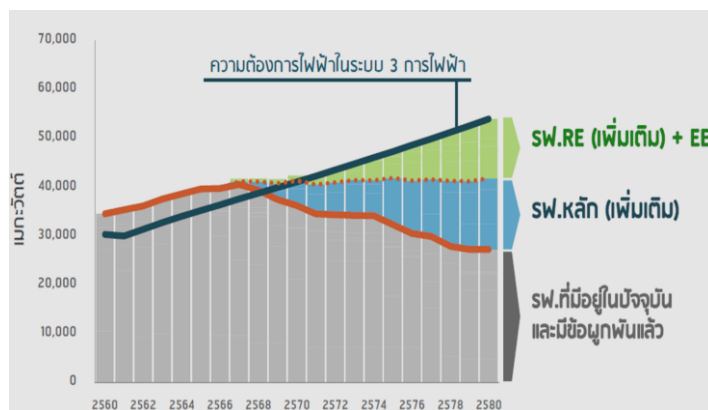
According to management, GULF believes that under PDP 2018, Thailand needs 3.5GW of new capacity to be imported from Laos, mainly under the remaining 3GW capacity out of the 9GW target to be purchased from Laos under the MOU signed by the Thai and Laos PDR’s governments over 10 years ago.

**Exhibit 16: Electricity usage breakdown by user as of Dec-19**



Source: PDP 2018 Revision 1

**Exhibit 17: Electricity demand based on PDP 2018 Revision 1**



Source: PDP 2018 Revision 1

After successfully securing a 49% stake in the Hin Kong 1.4GW gas-fired IPPs – scheduled to commence their CODs in 2023-24 under PDP 2018 and owned 51% by RATCH, the project developer – GULF is now seeking more growth from hydropower plants in Laos, where the electricity produced in those plants will be sold to Thailand via power purchase agreements (PPA).

**Exhibit 18: New MW additions by zone under PDP 2018**

Region/Target COD	Power plant	Capacity	Remark
<b>West</b>			
2023E	Hin Kong	700	IPPs/EGAT (replacing TECO)
2024E	Hin Kong	700	IPPs/EGAT (replacing RG TH#1-2)
<b>North</b>			
2026E	Mae Moh	600	Replacement by EGAT
<b>Northeast</b>			
2025E	Nam Phong	650	Replacement by EGAT
2026E	Power import	700	
2028E	Power import	700	
2030E	New bidding	700	IPPs/EGAT
2032E	Power import	700	
2032E	New bidding	700	IPPs/EGAT
2033E	Power import	700	
2035E	Power import	700	
<b>Metropolitan</b>			
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
<b>South</b>			
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
<b>Upper central</b>			
2032E	New bidding	1400	IPPs/EGAT
<b>East</b>			
2033E	New bidding	1000	IPPs/EGAT
2037E	New bidding	700	IPPs/EGAT

Source: PDP 2018

According to the Mekong River Commission (MRC), the estimated hydropower potential of the Lower Mekong Basin (LMB) (excluding China) is 30GW, while that of the Upper Mekong Basin (UMB) is 28.9GW. In the LMB, 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 Oct-19 and the 260MW Don Sahong hydropower plant in 2019.

### Exhibit 19: Potential and operating hydropower plant projects along the Mekong River

COD	Project	Capacity	Stake	Equity Capacity	Investment	Status	Key developer	Electricity offtaker	
		(MW)	(%)	(MW)	(USD m)				
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 Phabang	1,400	30	420	4,200	Proposed Jul-19	PetroVietnam Power	Run-of-river	na
	Total	3,744		1,123					
<b>Hydropower plants in operations on Mekong river</b>									
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)

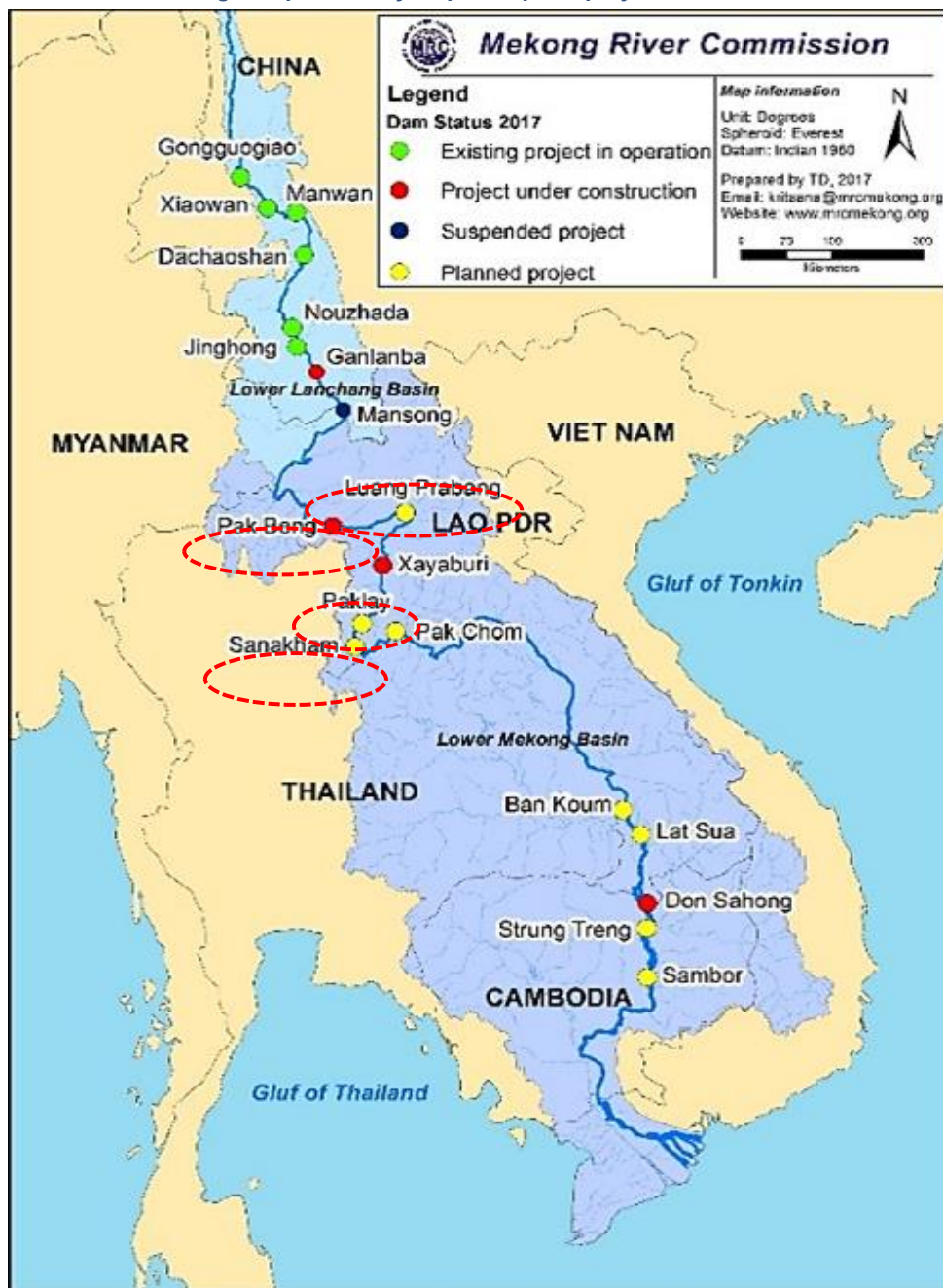
To capture the potential capacity growth under PDP 2018, GULF is now planning to secure up to five hydropower plants in Laos, according to management.

The first project, the Nam Ngum 3 (NN3) hydropower plant, established by Electrite Du Laos (EDL), already secured a PPA with the Electricity Generating Authority of Thailand (EGAT) on 16 Jul-19 and its COD is scheduled for 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 2020.

The remaining projects are all run-of-river hydropower plant projects: Pak Beng, Pa Lay, Sanakham, and Luang Phabang, and all have been developed and are owned by Chinese developers with strong business relationships with GULF. Management believes that these four large-scale hydropower plants will be GULF's next key growth drivers after the completion of GULF's two large IPPs in Thailand by 2024.

With a 30% stake potential in each of these four large projects and a 20% stake in NN3, we think that GULF could secure up to 1.1GW of capacity growth, representing 15% of GULF's total equity capacity that we estimate to be 7GW in 2025.

Exhibit 20: Existing and planned hydropower plant projects in Laos

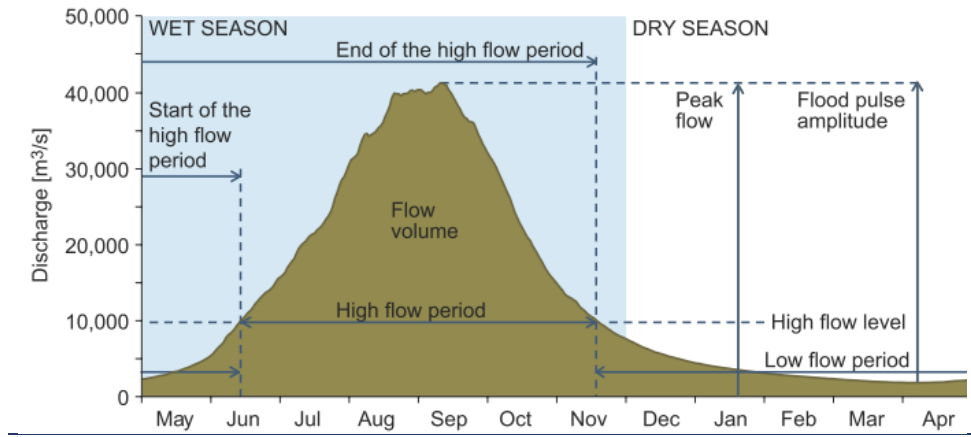


Source: MRC

We believe these five hydropower plants are likely to be secured by GULF and included into Thailand’s PDP 2018, given:

- 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);
- 2) Hydropower plants are much cleaner than the fossil-based gas and coal-fired power plants;
- 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 Jun-Sep; when water flow levels for hydropower plants are higher due to the rainy season.

**Exhibit 21: Changes in seasonal water flow for hydropower plant projects in Laos**



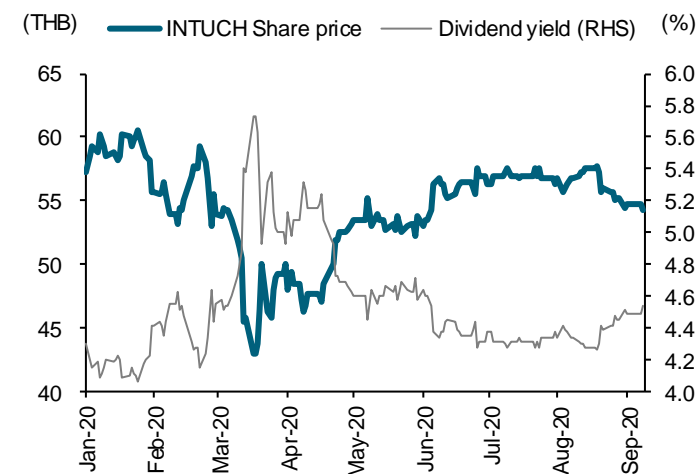
Sources: Mekong River Commission (MRC)

## Strategic implications for INTUCH acquisition

On 28 Aug-20, GULF announced its intention to acquire up to a 10% stake in INTUCH, clearly indicating that it has a long-term plan for the company. On 21 Aug-20, GULF acquired an 8% stake, or 256.287m shares, in INTUCH; up from 5.1% in Jul-20.

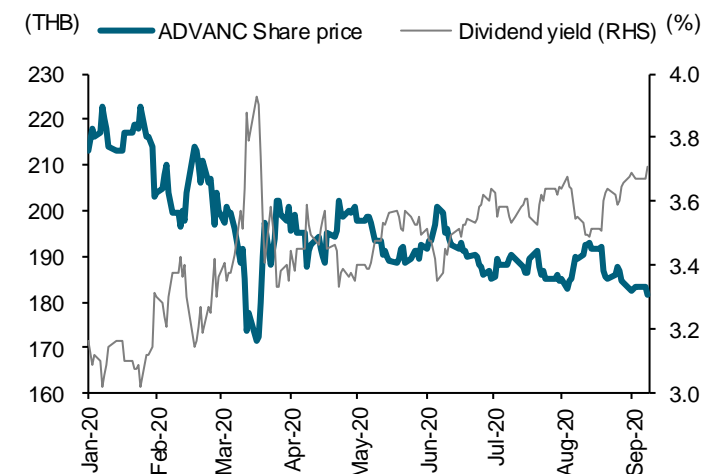
We think GULF's move to acquire more stakes in INTUCH is a positive strategy to strengthen its long-term NP growth and position itself well ahead of its competitors for the upcoming digitalization of the industrial market landscape.

**Exhibit 22: INTUCH share price and 2020E dividend yield**



Note: 2020E DPS is based on Bloomberg consensus estimates as of 9 Sep 2020  
Source: Bloomberg

**Exhibit 23: ADVANC share price and 2020E dividend yield**



Note: 2020E DPS is based on Bloomberg consensus estimates as of 9 Sep 2020  
Source: Bloomberg

**Short-term financial gain.** The sharp drop in INTUCH's share price during Mar-May due to the panic sell-off on COVID-19 offered a short-term investment opportunity for GULF to earn future capital gains and a short- to medium-term dividend yield of 4.6%. Based on our estimated THB7.5b acquisition cost, which implies a THB51/share average acquisition cost, we think GULF could earn a capital gain of up to THB0.8b as of the closing market share price of THB57 on 26 Jun-20.

We estimate that, financially, GULF will make a 3-4% yield gap, or THB0.4b from its INTUCH investment, based on 1) a THB12b investment, or an implied average acquisition cost of THB47 per share; 2) a funding cost of 2% from GULF's low-interest loan; and 3) a 4.6% dividend yield from INTUCH.

In the short term, we think the INTUCH investment is a sound opportunistic move, as GULF could employ its excess cash on hand to earn a 10% capital gain, or THB0.8b, based on INTUCH's closing share price of THB54.25 on 8 Aug-20, a high dividend yield of 4.6%, and an annual dividend of THB0.4b.

**Potential long-term strategic win.** Strategically, we are now positive on the INTUCH acquisition, as we think GULF could employ Advanced Info Service (ADVANC TB, not rated)'s big data from its 41m mobile subscribers (45% market share in Thailand) and 1.2m (10% market share) broadband subscribers as a key potential customer base for a smart grid and smart utilities network, capitalizing on GULF's future integrated businesses, which include:

- 1) An LNG terminal, LNG imports, and LNG-to-power;
- 2) Power plant assets, which could rise to over 20% of Thailand's generating capacity by 2025;
- 3) Motorway and train infrastructure projects;
- 4) Other utilities services, such as water for the "One Bangkok" project.

Management indicated that it will hold INTUCH as an opportunistic investment and potentially as a key platform for future growth to fully capitalize on GULF's large-scale, well-diversified asset portfolio of power plants and infrastructure projects.

Management also stated that they have a clear strategic growth plan for the next 10 years to divide GULF’s core business into five categories: 1) power generation (IPPs, SPPs, very small power producers (VSPP)); 2) renewables; 3) hydropower plants; 4) gas (LNG terminal and LNG imports); and 5) infrastructure (motorways).

**Exhibit 24: GULF’s financial position projections at end-2020-22E**

(THB m)	Pre capital increase		Post capital increase	
	2020E	2020E	2021E	2022E
Cash	29,237	29,237	33,028	18,006
Debt	104,453	104,453	120,453	90,453
Net debt	75,216	75,216	87,425	72,446
Asset	204,454	204,454	230,305	232,570
Equity	84,914	84,914	93,909	115,844
Debt to equity (x)	1.23	1.23	1.28	0.78
Net debt to equity (x)	1.66	0.89	0.93	0.63

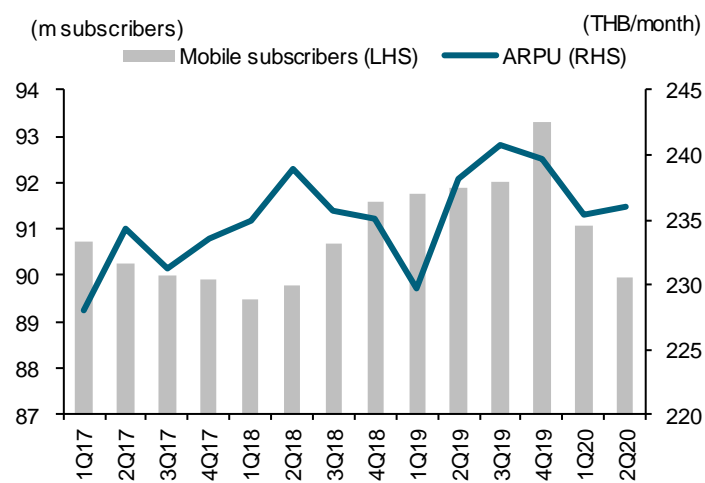
Sources: GULF; FSSIA estimates

While the new projects require large investments, GULF plans to manage the funding risk using 1) back-end equity funding, which would typically be in the last 1-2 years before the CODs of the new projects; 2) rising free cash flows from operating projects; and 3) new debt. Hence, we think the INTUCH investment will likely be divested in the future when GULF requires capital for its multiple growth projects.

However, management indicated that while GULF is unlikely to take management control and enter into an Information and Communication Technology (ICT) industry – which is outside GULF’s core business strength of utilities and infrastructure – GULF could enhance INTUCH’s value. This could be achieved via strategic moves to further strengthen ADVANC’s incumbent leading position in the ICT business in Thailand, which would help GULF capture the upcoming digitalization trend of Thailand’s utilities and infrastructure industries.

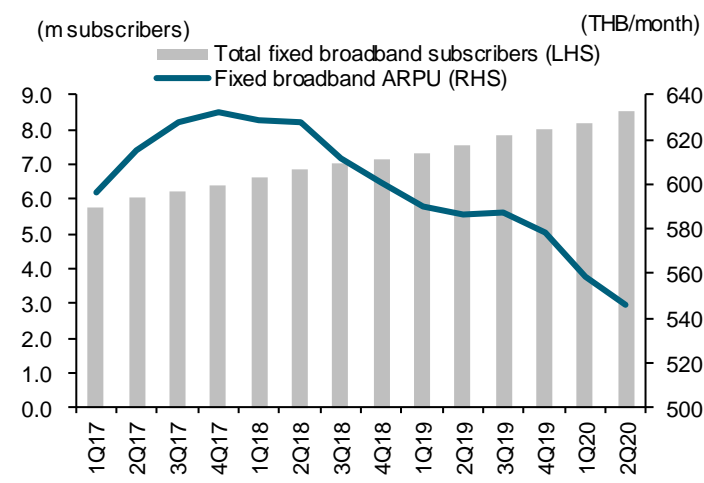
**Asset enhancement.** We believe GULF’s ownership in INTUCH, which owns a 40.45% stake in ADVANC – Thailand’s leading mobile and fixed broadband (FB) operator – and a 41.14% stake in Thaicom (THCOM TB, not rated) – Thailand’s leading operator of satellites – is a good strategic move that should enable GULF to harness the upcoming 5G technology, which could be a key platform for GULF’s expanding utilities and infrastructure in Thailand.

**Exhibit 25: Thailand’s mobile subscribers and ARPU**



Source: Company Data

**Exhibit 26: Thailand’s fixed broadband subscribers and ARPU**



Source: Company Data

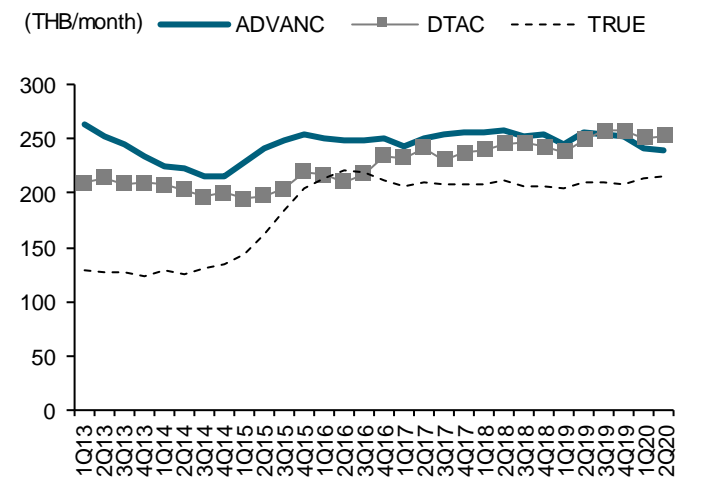


We think ADVANC's major shareholder, Temasek Holdings, which owns a combined 31.81% in ADVANC via a direct holding of 23.32% and an indirect holding of 8.5% (21% stake INTUCH which owns 40.45% in ADVANC), has efficiently managed ADVANC. Temasek also owns Singapore Telecom, and under those companies' ownership and current management team, ADVANC has maintained its long-standing market leader position in Thailand's mobile industry. It has also become an increasingly more prominent player in Thailand's FB industry.

**Less intense price competition.** We believe that under GULF's ownership, ADVANC's value to shareholders could be further strengthened. As a foreign-owned operator in the highly-protected ICT industry, ADVANC's NP growth, particularly in terms of average revenue per user (ARPU), has been declining, ranging between THB230-240/user since 1Q17, due to the high competition in Thailand's already saturated ICT market. Total mobile subscriber numbers in Thailand have also been stagnating in the range of 90-93m, and recently dropped to below 90m in 2Q20 due to the decline in tourism that resulted in fewer prepaid subscribers.

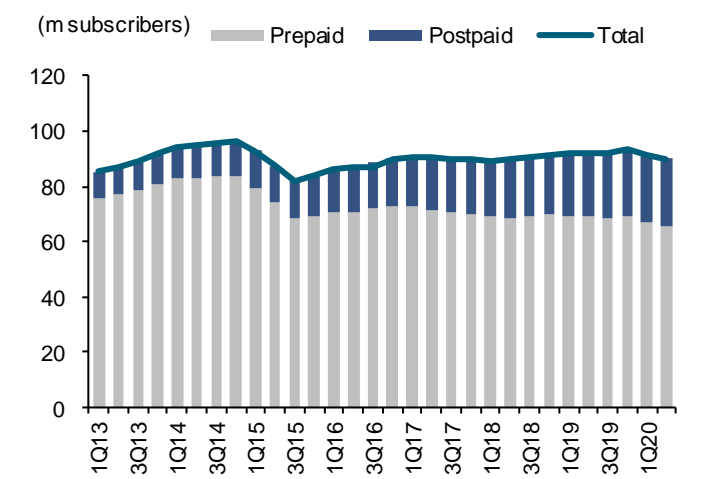
Since 1Q16, the blended ARPU (ARPU for postpaid and prepaid subscribers) for all three key mobile operators in Thailand have been relatively stable between THB200/subscriber for True Corporation (TRUE TB, not rated), up to THB230/subscriber for ADVANC and THB250/subscriber for Total Access Communication (DTAC TB, not rated).

**Exhibit 27: Blended ARPU**



Source: Company Data

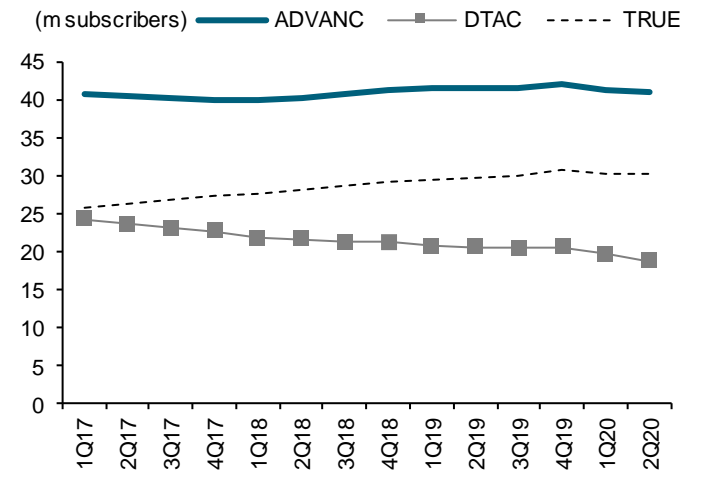
**Exhibit 28: Thailand's total mobile subscribers**



Source: Company Data

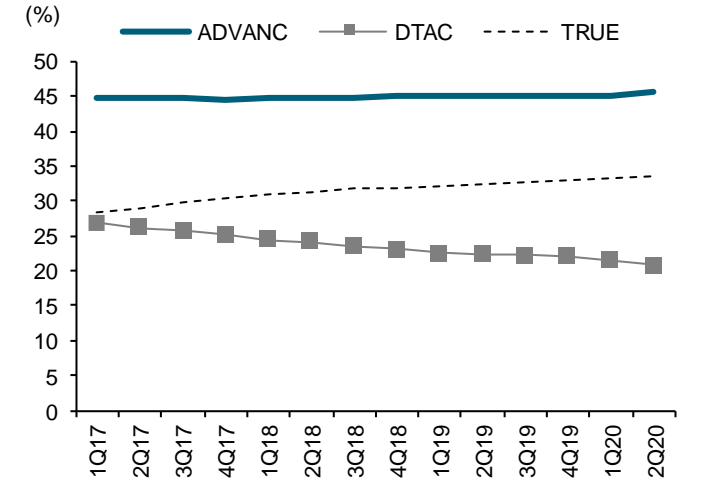
We believe the main reason for the frozen ARPU and subscriber numbers in Thailand is the intense competition among all three operators, particularly the concomitant price war with heavy promotions to maintain or increase the market share of each player. We think that with GULF's ownership, the price competition could be less intense, as GULF could potentially lessen the price competition among the three operators, leading to a compromise to alleviate the price competition and thereby allowing the ARPU to stabilize or increase slightly.

**Exhibit 29: Thailand’s mobile subscribers by operator**



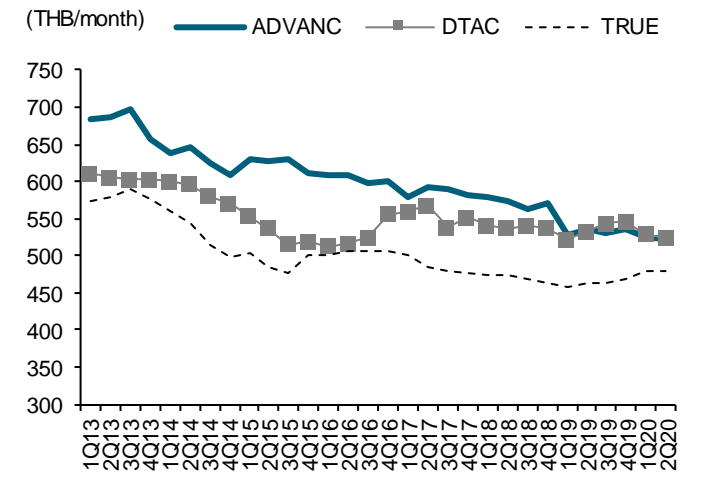
Source: Company Data

**Exhibit 30: Thailand’s mobile subscription market share**



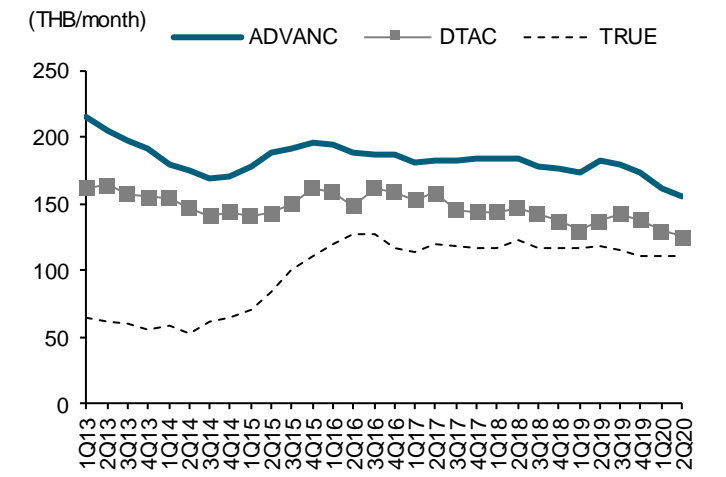
Source: Company Data

**Exhibit 31: Postpaid ARPU**



Source: Company Data

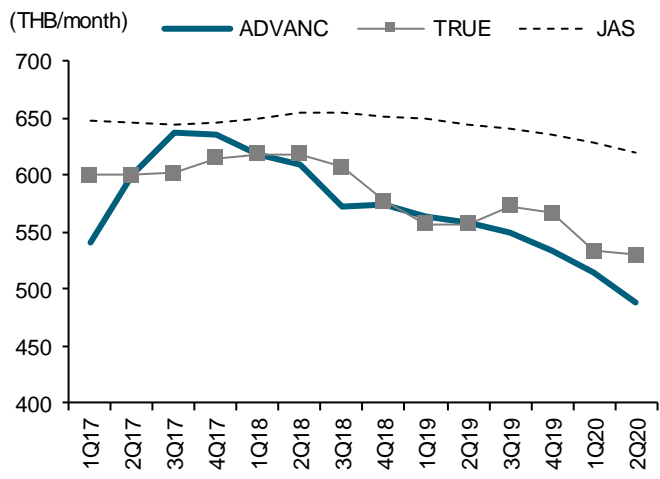
**Exhibit 32: Prepaid ARPU**



Source: Company Data

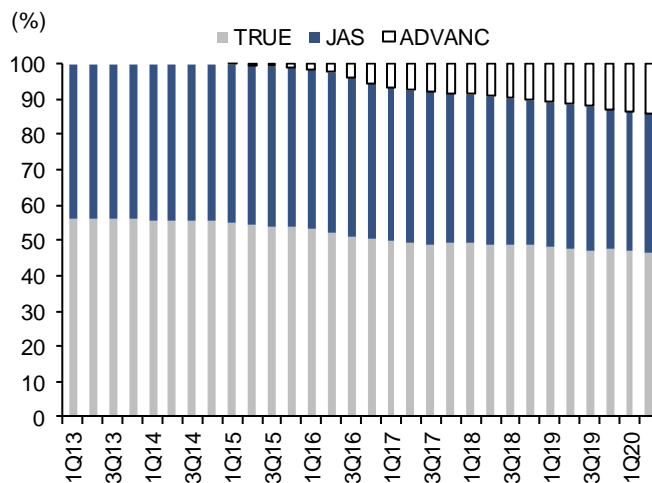
Similarly, the ARPU for FB in Thailand has been trending downward since 2017 due to the intensifying competition between two arch-rivals – the newly arrived ADVANC and the incumbent TRUE. Since its FB operation commenced in 2015, ADVANC has continued to gain market share for its FB, rising from zero at the beginning of 2015 up to 14% in 2Q20. We think ADVANC’s newer technology platform, larger subscriber base, and wider network coverage than its two peers are the key reasons for its increasing FB market share.

**Exhibit 33: Thailand’s fixed broadband ARPU by operator**



Source: Company Data

**Exhibit 34: Fixed broadband subscription market share**



Source: Company Data

**5G technology platform for the convergence of utilities, infrastructure, and data communications.** According to the study by Huawei and China Telecom Beijing Research Institute in the report [“5G Network Slicing Enabling the Smart Grid.”](#) 5G technology is an essential component in the successful development of a smart grid system. A smart grid can comprehensively improve the information and intelligence of the power grid and fully utilize modern information communication and control technologies.

The smart grid system and the power pool concept can allow a country to achieve effective security, clean energy, close coordination, and intelligent development of the power grid, as well as provide reliable power for economic and social development.

With the rapid development of power consumption information collection, distribution automation, distributed energy access, EV services, and bidirectional user interactions, 5G technology, ICT platforms and the big data of customers have become critical for the development of a successful smart grid and smart utility and infrastructure systems.

New real-time, stable and efficient communication technologies and systems suitable for the electric power industry are urgently needed for monitoring the status of and collecting information about intelligent devices and triggering new working and power service modes.

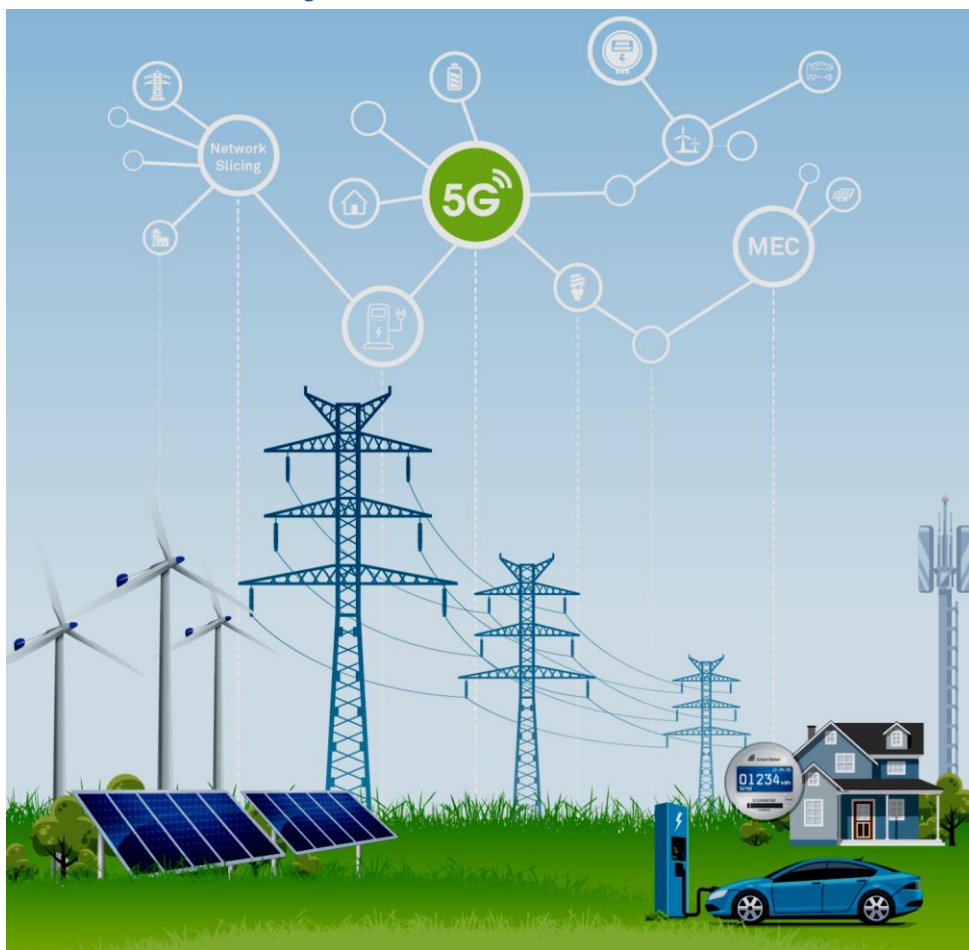
**Exhibit 35: Typical service scenarios for smart grids**



Source: “5G Network Slicing Enabling the Smart Grid” by China Telecom Beijing Research Institute

With GULF’s fully integrated network of multiple power plants (IPPs, SPPs, renewables), infrastructure assets (port, LNG terminal, motorway, and train systems), and its energy business (LNG imports, electricity and water distribution), we believe the company should be able to greatly benefit from ADVANC’s extensive customer base, efficient ICT technology platform, and nationwide coverage. This would allow GULF to leverage and expand its upcoming “smart” ventures, including the smart grid and the electricity market in the future.

## Exhibit 36: 5G and smart grid



Source: "5G Network Slicing Enabling the Smart Grid" by China Telecom Beijing Research Institute

The electricity market exists in two major forms. First, wholesale electricity markets (WEMs) allow for power trading between generators, retailers, and other financial intermediaries for both the short-term delivery of electricity (spot price) and for future delivery periods (forward price). WEMs exist when competing power generators offer their electricity output to retailers. WEMs exist in many developed countries, including the US, Singapore, Germany, Australia and New Zealand.

Second, retail electricity markets (REMs) exist when end-user customers can choose their power suppliers from competing electricity retailers who purchase electricity from generators and then distribute it to end users. Generally, REM reforms follow when the WEM and REM systems embrace power billing, credit control, customer management via an efficient call centre, distribution use-of-system contracts, "pool" or "spot market" purchase agreements, and hedge contracts for different users.

We believe the recent marriage between GULF – Thailand's largest private power company – and ADVANC – Thailand's largest mobile operator – is likely to be a happy union. There are a number of operational and strategic synergies between the two that should allow both parties to fully enjoy the benefits of 5G technology. These involve the rapid convergence of utilities, infrastructure, and the increasing digitalization of the world that is increasingly reliant upon big data and technology platforms to ensure the success of present and future business operations.

## Valuation

We revise our EPS forecasts for 2020-22 by -2%/8%/14% to reflect our NP revisions to incorporate 1) the NPs from the 450MW offshore wind farm in Germany, scheduled to be consolidated into GULF's financial statement in 4Q20, and the 100MW la Pech 1 & 2 wind farms in Vietnam; and 2) the EPS dilution impact from the 10% increase in the number of shares outstanding.

### Exhibit 37: Key changes in assumptions and EPS forecasts

(THB m)	----- Current -----			----- Previous -----			----- Change (%) -----		
	2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E
Revenue	28,887	33,800	82,305	28,887	33,800	81,268	0	0	1
Gross profit	11,304	15,439	33,611	11,304	15,439	32,667	0	0	3
Operating profit	7,645	10,463	23,737	7,645	10,463	23,108	0	0	3
Net profit	4,973	8,999	19,927	4,635	7,560	15,859	7	19	26
EPS (THB/shr)	0.42	0.77	1.70	0.43	0.71	1.49	(2)	8	14
<b>Key assumptions</b>									
Dispatched power (GWh)	16,179	17,549	33,479	16,179	17,549	33,479	0	0	0
Average utilisation rate (%)	83	84	85	83	84	85	0	0	0
Gas cost (THB/mmbtu)	247	235	223	247	235	223	0	0	0
No of shares at year end (m shares)	11,733	11,733	11,733	10,667	10,667	10,667	10	10	10
No of shares - weighted avg. (m shares)	10,933	11,733	11,733	10,667	10,667	10,667	3	10	10

Sources: GULF; FSSIA estimates

Accordingly, we raise our SoTP-based TP from THB47 to THB48 to incorporate the values of 1) THB1.5 for GULF's 8% stake in INTUCH, using a THB70 fair value for INTUCH based on Bloomberg's consensus estimates; 2) THB1.3 for the 50% stake in the 450MW offshore wind farm; and 3) our valuation rollover to 2021.

## Exhibit 38: GULF's SoTP, DCF-based valuation

Cost of equity assumptions		(%)		Cost of debt assumptions		(%)	
Risk free rate		2.3		Pretax cost of debt		5.0	
Market risk premium		8.5		Marginal tax rate		20.0	
Stock beta		0.50					
Cost of equity, Ke		6.6		Net cost of debt, Kd		3.6	
Weight applied		25.0		Weight applied		75.0	
WACC (%)		4.3					
DCF valuation estimate		(MW)	(%)	(THB m)	Equity capacity (MW)	(THB/share)	Comments
<b>IPP</b>	GNS	1,653	40	26,083	661	2.2	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	GUT	1,752	40	35,867	701	3.1	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	GSRC	2,650	70	70,244	1,855	6.0	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	GPD	2,920	70	84,882	2,044	7.2	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	Duqm (Oman)	236	45	4,082	106	0.3	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	Hin Kong (2024E-2025E)	1,400	49	34,910	686	3.0	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	Burapa Power (2027E)	540	35	10,724	189	0.9	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	<b>SPP</b>	GJP's 7 SPPs	831	40	49,026	332	4.2
GMP's 9 SPPs		1,179	53	93,597	619	8.0	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
GMP's 3 SPPs (GNC, GNRV1&2)		383	70	32,127	268	2.7	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
CGC (biomass)		25	100	1,024	25	0.1	WACC 4.3%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
<b>VSPP</b>	Solar - Thailand	598	75	17,063	449	1.5	WACC 3.8%, Risk free rate 2.3%, Risk premium 8.5%, zero terminal growth
	Solar - Vietnam	149	95	1,491	141	0.1	WACC 5%, Risk free rate 6%, Risk premium 6.5%, zero terminal growth
	Wind - Vietnam	410	95	13,262	390	1.1	WACC 5%, Risk free rate 6%, Risk premium 6.5%, zero terminal growth
	Wind - Germany	450	50	14,938	225	1.3	WACC 4%, Risk free rate 2%, Risk premium 8.5%, zero terminal growth
<b>Infrastructure</b>	Laemchabang phase 3 (2023E)		40	8,827		0.8	EIRR 10.5%
	Maptaphut phase 3 (2023E)		70	128,621		11.0	EIRR 13.6%
	Motorway O&M projects (2023E)		40	5,763		0.5	EIRR 10%
	One Bangkok (2024E)	240	16	1,173		0.1	EIRR 12%
<b>Investment</b>	SPCG		10	2,117	29	0.2	At 1.5x FY20E P/BV
	INTUCH		8	17,940		1.5	At THB70 fair value based on Bloomberg's consensus
	Net debt			(90,425)		(7.7)	At end-2021E
	<b>Residual ordinary equity</b>			<b>563,320</b>	<b>8,720</b>	<b>48.0</b>	

Sources: GULF; FSSIA estimates

## Financial Statements

### Gulf Energy Development

Profit and Loss (THB m) Year Ending Dec	2018	2019	2020E	2021E	2022E
Revenue	17,181	30,040	28,887	33,800	82,305
Cost of goods sold	(11,289)	(20,357)	(17,583)	(18,361)	(48,694)
<b>Gross profit</b>	<b>5,892</b>	<b>9,683</b>	<b>11,304</b>	<b>15,439</b>	<b>33,611</b>
Other operating income	-	-	-	-	-
Operating costs	(1,490)	(1,713)	(1,647)	(1,928)	(4,694)
<b>Operating EBITDA</b>	<b>4,402</b>	<b>7,969</b>	<b>9,656</b>	<b>13,512</b>	<b>28,917</b>
Depreciation	(1,392)	(2,434)	(2,011)	(3,049)	(5,180)
Goodwill amortisation	0	0	0	0	0
<b>Operating EBIT</b>	<b>3,011</b>	<b>5,536</b>	<b>7,645</b>	<b>10,463</b>	<b>23,737</b>
Net financing costs	(1,622)	(1,703)	(2,605)	(2,100)	(1,058)
Associates	2,615	3,205	1,460	3,441	4,803
Recurring non operating income	2,732	3,320	1,607	3,588	4,951
Non recurring items	0	0	0	0	0
<b>Profit before tax</b>	<b>4,121</b>	<b>7,152</b>	<b>6,648</b>	<b>11,950</b>	<b>27,630</b>
Tax	21	14	0	(22)	(1,001)
<b>Profit after tax</b>	<b>4,141</b>	<b>7,166</b>	<b>6,648</b>	<b>11,928</b>	<b>26,629</b>
Minority interests	(1,113)	(2,280)	(1,674)	(2,929)	(6,702)
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
<b>Reported net profit</b>	<b>3,028</b>	<b>4,887</b>	<b>4,973</b>	<b>8,999</b>	<b>19,927</b>
<b>Non recurring items &amp; goodwill (net)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Recurring net profit</b>	<b>3,028</b>	<b>4,887</b>	<b>4,973</b>	<b>8,999</b>	<b>19,927</b>
<b>Per share (THB)</b>					
Recurring EPS *	0.28	0.46	0.42	0.77	1.70
Reported EPS	0.28	0.46	0.42	0.77	1.70
DPS	0.20	0.26	0.25	0.40	0.70
Diluted shares (used to calculate per share data)	10,667	10,667	11,733	11,733	11,733
<b>Growth</b>					
Revenue (%)	294.9	74.8	(3.8)	17.0	143.5
Operating EBITDA (%)	822.4	81.0	21.2	39.9	114.0
Operating EBIT (%)	2,718.8	83.9	38.1	36.8	126.9
Recurring EPS (%)	(12.3)	61.4	(7.5)	81.0	121.4
Reported EPS (%)	(12.3)	61.4	(7.5)	81.0	121.4
<b>Operating performance</b>					
Gross margin inc depreciation (%)	26.2	24.1	32.2	36.7	34.5
Gross margin of key business (%)	-	-	-	-	-
Operating EBITDA margin (%)	25.6	26.5	33.4	40.0	35.1
Operating EBIT margin (%)	17.5	18.4	26.5	31.0	28.8
Net margin (%)	17.6	16.3	17.2	26.6	24.2
Effective tax rate (%)	-1.4	-0.3	0.0	0.3	4.4
Dividend payout on recurring profit (%)	70.4	56.8	59.0	52.2	41.2
Interest cover (X)	3.5	5.2	3.6	6.7	27.1
Inventory days	-	-	-	-	-
Debtor days	55.0	52.9	75.9	83.8	42.3
Creditor days	67.6	25.7	32.7	29.6	20.9
Operating ROIC (%)	4.2	6.1	5.5	(1.4)	(2.9)
ROIC (%)	5.4	6.9	5.2	(1.6)	(3.0)
ROE (%)	8.5	13.0	9.0	11.9	23.1
ROA (%)	4.8	6.6	5.2	5.3	11.4
* Pre-exceptional, pre-goodwill and fully diluted					
<b>Revenue By Division (THB m)</b>					
Power business	17,361	30,313	27,832	28,657	77,054
Consulting business	786	955	1,154	5,772	5,772
Others	(966)	(1,228)	(99)	(629)	(521)

Sources: Gulf Energy Development; FSSIA estimates

## Financial Statements

### Gulf Energy Development

Cash Flow (THB m) Year Ending Dec	2018	2019	2020E	2021E	2022E
Recurring net profit	3,028	4,887	4,973	8,999	19,927
Depreciation	1,392	2,434	2,011	3,049	5,180
Associates & minorities	2,615	3,205	1,460	3,441	4,803
Other non-cash items	-	-	-	-	-
Change in working capital	6,427	(6,473)	(1,926)	(1,500)	4,117
<b>Cash flow from operations</b>	<b>13,463</b>	<b>4,053</b>	<b>6,518</b>	<b>13,988</b>	<b>34,027</b>
Capex - maintenance	(1,387)	(2,410)	(2,011)	(2,011)	(3,580)
Capex - new investment	(17,122)	(13,320)	(53,820)	(20,742)	(12,674)
Net acquisitions & disposals	495	(1,209)	0	0	0
Other investments (net)	(2,545)	11,701	1,460	3,440	4,801
<b>Cash flow from investing</b>	<b>(20,558)</b>	<b>(5,239)</b>	<b>(54,371)</b>	<b>(19,314)</b>	<b>(11,453)</b>
Dividends paid	(853)	(2,133)	(2,773)	(2,933)	(4,693)
Equity finance	0	0	0	0	0
Debt finance	6,474	5,584	34,719	16,000	(30,000)
Other financing cash flows	(2,048)	(4,573)	30,755	(3,951)	(2,902)
<b>Cash flow from Financing</b>	<b>3,572</b>	<b>(1,123)</b>	<b>62,701</b>	<b>9,116</b>	<b>(37,595)</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>(3,523)</b>	<b>(2,309)</b>	<b>14,848</b>	<b>3,790</b>	<b>(15,020)</b>
Free cash flow to firm (FCFF)	(5,157.30)	1,709.69	(44,960.30)	(2,347.85)	24,953.51
Free cash flow to equity (FCFE)	(2,670.04)	(175.41)	17,620.89	6,723.51	(10,327.20)
<b>Per share (THB)</b>					
FCFF per share	(2.42)	0.80	(21.08)	(1.10)	11.70
FCFE per share	(1.25)	(0.08)	8.26	3.15	(4.84)
Recurring cash flow per share	0.66	0.99	0.72	1.32	2.55
<b>Balance Sheet (THB m) Year Ending Dec</b>					
Tangible fixed asset (gross)	69,424	85,190	141,020	162,736	177,389
Less: Accumulated depreciation	(1,760)	(4,229)	(6,240)	(8,251)	(11,831)
<b>Tangible fixed assets (Net)</b>	<b>67,664</b>	<b>80,961</b>	<b>134,780</b>	<b>154,485</b>	<b>165,558</b>
<b>Intangible fixed assets (Net)</b>	<b>27</b>	<b>1,113</b>	<b>1,113</b>	<b>1,113</b>	<b>1,113</b>
Long-term financial assets	-	-	-	-	-
Invest. In associates & subsidiaries	20,038	21,247	21,247	21,247	21,247
Cash & equivalents	16,698	14,390	29,237	33,028	18,006
A/C receivable	3,516	5,199	6,817	8,711	10,357
Inventories	0	0	0	0	0
Other current assets	5,651	2,828	2,720	3,182	7,749
<b>Current assets</b>	<b>25,866</b>	<b>22,417</b>	<b>38,774</b>	<b>44,921</b>	<b>36,112</b>
Other assets	10,073	8,540	8,540	8,540	8,540
<b>Total assets</b>	<b>123,669</b>	<b>134,278</b>	<b>204,454</b>	<b>230,305</b>	<b>232,570</b>
Common equity	36,537	38,427	72,626	78,692	93,926
Minorities etc.	8,251	10,613	12,287	15,217	21,918
<b>Total Shareholders' equity</b>	<b>44,788</b>	<b>49,040</b>	<b>84,914</b>	<b>93,909</b>	<b>115,844</b>
Long term debt	59,883	66,453	101,453	116,453	88,453
Other long-term liabilities	590	8,976	8,976	8,976	8,976
<b>Long-term liabilities</b>	<b>60,472</b>	<b>75,429</b>	<b>110,429</b>	<b>125,429</b>	<b>97,429</b>
A/C payable	1,178	1,689	1,459	1,523	4,040
Short term debt	4,268	3,281	3,000	4,000	2,000
Other current liabilities	12,963	4,838	4,653	5,444	13,257
<b>Current liabilities</b>	<b>18,408</b>	<b>9,809</b>	<b>9,112</b>	<b>10,968</b>	<b>19,297</b>
<b>Total liabilities and shareholders' equity</b>	<b>123,669</b>	<b>134,278</b>	<b>204,454</b>	<b>230,305</b>	<b>232,570</b>
Net working capital	(4,973)	1,500	3,425	4,925	809
Invested capital	92,830	113,360	169,105	190,310	197,267
* Includes convertibles and preferred stock which is being treated as debt					
<b>Per share (THB)</b>					
Book value per share	3.43	3.60	6.19	6.71	8.01
Tangible book value per share	3.42	3.50	6.10	6.61	7.91
<b>Financial strength</b>					
Net debt/Equity (%)	105.9	112.9	88.6	93.1	62.5
Net debt/total assets (%)	38.4	41.2	36.8	38.0	31.2
Current ratio (x)	1.4	2.3	4.3	4.1	1.9
CF interest cover (x)	9.9	8.7	28.4	14.1	3.2
<b>Valuation</b>					
<b>Recurring P/E (x) *</b>	<b>111.8</b>	<b>69.3</b>	<b>74.9</b>	<b>41.4</b>	<b>18.7</b>
<b>Recurring P/E @ target price (x) *</b>	<b>169.1</b>	<b>104.8</b>	<b>113.2</b>	<b>62.6</b>	<b>28.3</b>
Reported P/E (x)	111.8	69.3	74.9	41.4	18.7
Dividend yield (%)	0.6	0.8	0.8	1.3	2.2
Price/book (x)	9.3	8.8	5.1	4.7	4.0
Price/tangible book (x)	9.3	9.1	5.2	4.8	4.0
EV/EBITDA (x) **	89.6	50.8	47.6	35.2	16.1
EV/EBITDA @ target price (x) **	129.0	72.5	67.4	49.3	22.7
EV/invested capital (x)	4.2	3.6	2.7	2.5	2.4
* Pre-exceptional & pre-goodwill are fully diluted ** EBITDA includes associate income and recurring non operating income					

Sources: Gulf Energy Development; FSSIA estimates



## Corporate Governance report of Thai listed companies 2019

EXCELLENT LEVEL										
AAV	ADVANC	AIRA	AKP	AKR	AMA	AMATA	AMATAV	ANAN	AOT	AP
ARROW	BAFS	BANPU	BAY	BCP	BCPG	BOL	BRR	BTS	BTW	BWG
CFRESH	CHEWA	CHO	CK	CKP	CM	CNT	COL	COMAN	CPALL	CPF
CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC	EA	EASTW	ECF
EGCO	GBX	GC	GCAP	GEL	GGP	GGC	GOLD	GPSC	GRAMMY	GUNKUL
HANA	HARN	HMPRO	ICC	ICHI	III	ILINK	INTUCH	IRPC	IVL	JKN
JSP	K	KBANK	KCE	KKP	KSL	KTB	KTC	KTIS	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	MFEC	MINT	MONO*
MTC	NCH	NCL	NKI	NSI	NVD	NYT	OISHI	OTO	PAP	PCSGH
PDJ	PG	PHOL	PJW	PLANB	PLANET	PORT	PPS	PR9	PREB	PRG
PRM	PSH	PSL	PTG	PTT	PTTEP	PTTGC	PYLON	Q-CON	QH	QTC
RATCH	ROBINS**	RS	S	S & J	SABINA	SAMART	SAMTEL	SAT	SC	SCB
SCC	SCCC	SCN	SDC	SEAFCO	SEAOL	SE-ED	SELIC	SENA	SIS	SITHAI
SNC	SORKON	SPALI	SPI	SPRC	SSSC	STA	STEC	SVI	SYNTEC	TASCO
TCAP	THAI	THANA	THANI	THCOM	THIP	THREL	TIP	TISCO	TK	TKT
TMB	TMILL	TNDT	TOA	TOP	TRC	TRU	TRUE	TSC	TSR	TSTH
TTA	TTCL	TTW	TU	TVD	TVO	U	UAC	UV	VGI	VIH
WACOAL	WAVE	WHA	WHAUP	WICE	WINNER					
VERY GOOD LEVEL										
2S	ABM	ADB	AF	AGE	AH	AHC	AIT	ALLA	ALT	AMANA
AMARIN	APCO	APCS	AQUA	ARIP	ASAP	ASIA	ASIAN	ASIMAR	ASK	ASN
ASP	ATP30	AUCT	AYUD	B	BA	BBL	BDMS	BEC	BEM	BFIT
BGC	BGRIM	BIZ	BJC	BJCHI	BLA	BPP	BROOK	CBG	CEN	CENDEL
CGH	CHG	CHOTI	CHOW	CI	CIMBT	CNS	COLOR	COM7	COTTO	CRD
CSC	CSP	DCC	DCON	DDD	DOD	EASON	ECL	EE	EPG	ERW
ESTAR	ETE	FLOYD	FN	FNS	FORTH	FPI	FPT	FSMART	FSS	FVC
GENCO	GJS	GL	GLOBAL	GLOW**	GULF	HPT	HTC	HYDRO	ICN	IFS
INET	INSURE	IRC	IRCP	IT	ITD***	ITEL	J	JAS*	JCK	JCKH
JMART	JMT	JWD	KBS	KCAR	KGI	KIAT	KOOL	KWC	KWM	L&E
LALIN	LANNA	LDC	LHK	LOXLEY	LRH	LST	M	MACO	MAJOR	MBAX
MEGA	METCO	MFC	MK	MODERN	MOONG	MPG	MSC	MTI	NEP	NETBAY
NEX	NINE	NOBLE	NOK	NTV	NWR	OCC	OGC	ORI	OSP	PATO
PB	PDG	PDI	PL	PLAT	PM	PPP	PRECHA	PRIN	PRINC	PSTC
PT	QLT	RCL	RICHY	RML	RWI	S11	SAAM	SALEE	SAMCO	SANKO
SAPPE	SAWAD	SCG	SCI	SCP	SE	SFP	SIAM	SINGER	SIRI	SKE
SKR	SKY	SMIT	SMK	SMP	SMT	SNP	SONIC	SPA	SPC	SPCG
SPVI	SR	SRICHA	SSC	SSF	SST	STANLY	STPI	SUC	SUN	SUSCO
SUTHA	SWC	SYMC	SYNEX	T	TACC	TAE	TAKUNI	TBSP	TCC	TCMC
TEAM	TEAMG	TFG	TFMAMA	THG	THRE	TIPCO	TITLE	TIW	TKN	TKS
TM	TMC	TMD	TMI	TMT	TNITY	TNL	TNP	TNR	TOG	TPA
TPAC	TPBI	TPCORP	TPOLY	TRITN	TRT	TSE	TSTE	TVI	TVT	TWP
TWPC	UBIS	UEC	UMI	UOBKH	UP	UPF	UPOIC	UT	UWC	VNT
WIIK	XO	YUASA	ZEN	ZMICO						
GOOD LEVEL										
A	ABICO	ACAP***	AEC	AEONTS	AJ	ALUCON	AMC	APURE	AS	ASEFA
AU	B52	BCH	BEAUTY	BGT	BH	BIG	BLAND	BM	BR	BROCK
BSBM	BSM	BTNC	CCET	CCP	CGD	CHARAN	CHAYO	CITY	CMAN	CMC
CMO	CMR	CPL	CPT	CSR	CTW	CWT	D	DIMET	EKH	EMC
EPCO	ESSO	FE	FTE	GIFT	GLAND	GLOCON	GPI	GREEN	GTB	GYT
HTECH	HUMAN	IHL	INGRS	INOX	JTS	JUBILE	KASET	KCM	KKC	KWG
KYE	LEE	LPH	MATCH	MATI	M-CHAI	MCS	MDX	META	MGT	MJD
MM	MVP	NC	NDR	NER	NNCL	NPK	NUSA	OCEAN	PAF	PF
PICO	PIMO	PK	PLE	PMTA	POST	PPM	PROUD	PTL	RCI	RJH
ROJNA	RPC	RPH	SF	SGF	SGP	SKN	SLP	SMART	SOLAR	SPG
SQ	SSP	STI	SUPER	SVOA	TCCC	THE	THMUI	TIC	TIGER	TNH
TOPP	TPCH	TPIPP	TPLAS	TQM	TTI	TYCN	UTP	VCOM	VIBHA	VPO
WIN	WORK	WP	WPH	ZIGA						
Score Range	Number of Logo					Description				
90-100						Excellent				
80-89						Very Good				
70-79						Good				
60-69						Satisfactory				
50-59						Pass				
Less than 50	No logo given					-				

**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

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

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

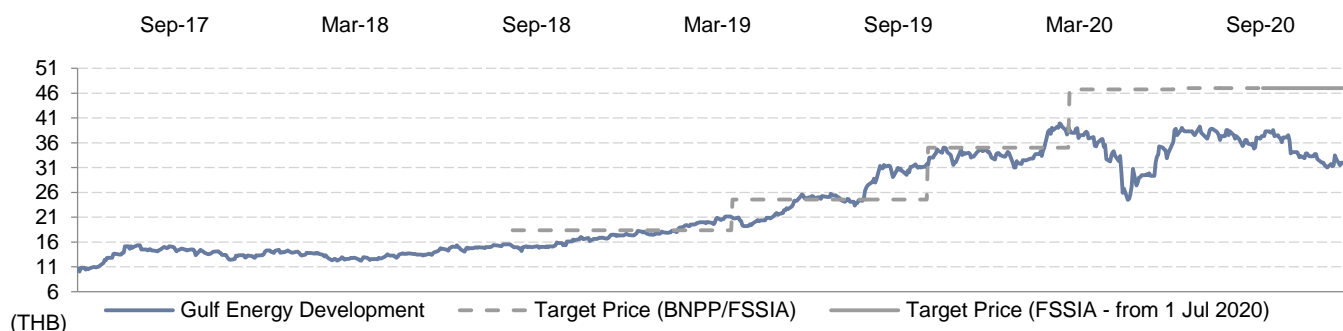
The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s)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

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### History of change in investment rating and/or target price

#### Gulf Energy Development (GULF TB)



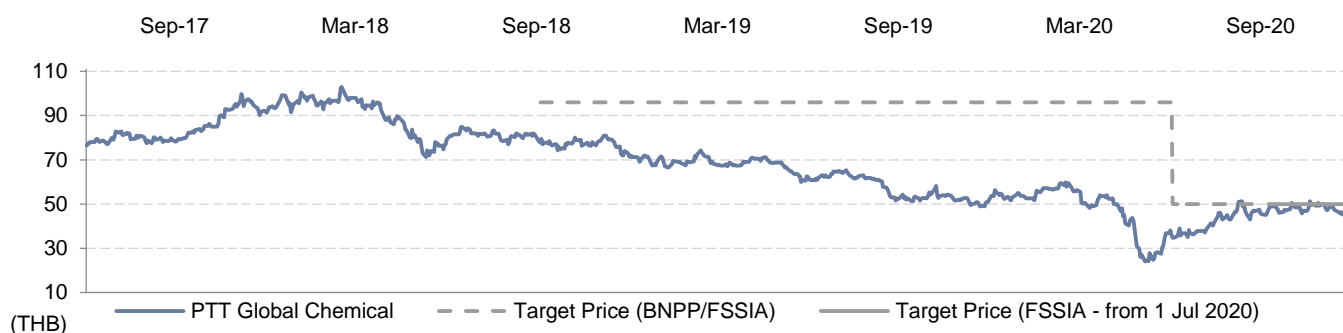
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
15-Nov-2018	BUY	18.40	10-Oct-2019	BUY	35.00	22-Apr-2020	BUY	47.00
08-May-2019	BUY	24.60	30-Jan-2020	BUY	46.80			

Suwat Sinsadok started covering this stock from 15-Nov-2018

Price and TP are in local currency

Source: FSSIA estimates

#### PTT Global Chemical (PTTGC TB)



Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
09-Oct-2018	BUY	96.00	09-Apr-2020	BUY	50.00	-	-	-

Suwat Sinsadok started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

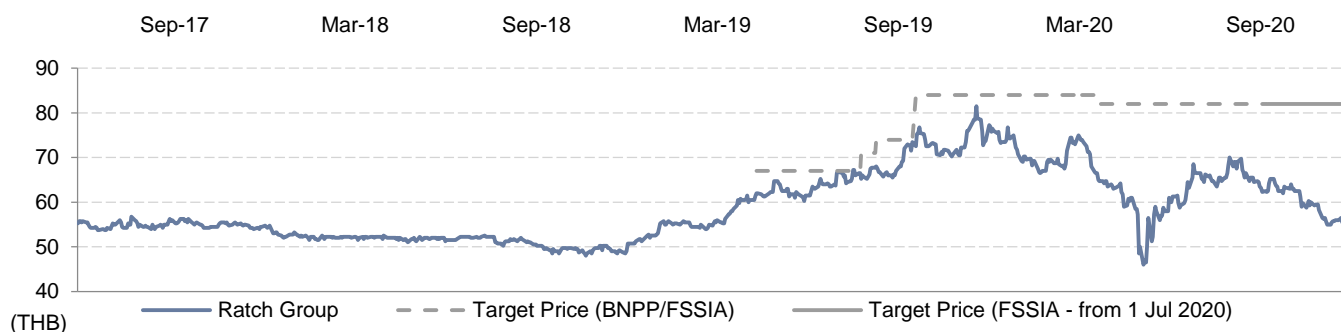
**B.Grimm Power (BGRIM TB)**

Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
13-Aug-2019	BUY	36.00	11-Oct-2019	BUY	53.00	25-Feb-2020	BUY	77.00
28-Aug-2019	BUY	49.00	31-Jan-2020	BUY	81.00	22-May-2020	BUY	75.00

Suwat Sinsadok started covering this stock from 13-Aug-2019

Price and TP are in local currency

Source: FSSIA estimates

**Ratch Group (RATCH TB)**

Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
18-Apr-2019	BUY	67.00	30-Jul-2019	HOLD	74.00	04-Feb-2020	BUY	82.00
17-Jul-2019	HOLD	71.00	02-Sep-2019	BUY	84.00			

Suwat Sinsadok started covering this stock from 18-Apr-2019

Price and TP are in local currency

Source: FSSIA estimates

Company	Ticker	Price	Rating	Valuation & Risks
Gulf Energy Development	GULF TB	THB 31.75	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 CODs.
PTT Global Chemical	PTTGC TB	THB 43.50	BUY	The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin.
B.Grimm Power	BGRIM TB	THB 44.50	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.
Ratch Group	RATCH TB	THB 54.00	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) delays in starting new projects.

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

All share prices are as at market close on 10-Sep-2020 unless otherwise stated.

## RECOMMENDATION STRUCTURE

### Stock ratings

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

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

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

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

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

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

### Industry Recommendations

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

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

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

### Country (Strategy) Recommendations

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

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

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