

– Translation –

Gulf Energy Development Public Company Limited
Management Discussion and Analysis of the Company's Performance
For the Second Quarter Ended June 30, 2019



The Management Discussion and Analysis of the Company's Performance (the "MD&A") is intended to present and analyze the Company's results of operations and financial position at the end of the accounting period. Such information may change in the future. The MD&A is primarily prepared in Thai. In cases where the content in the translation contains any conflict or is interpreted differently from the Thai version, the Thai version shall prevail.

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Definition

Company	Gulf Energy Development Public Company Limited
Group	The Company, its subsidiaries, its associates and its joint ventures
7SPPs	7 SPPs under GJP consisting of GKP1, GKP2, GTLC, GCRN, GNNK, GNLL and GNK2
EGAT	The Electricity Generating Authority of Thailand
EPC	Engineering, procurement and construction
GBL	Gulf BL Co., Ltd., a power project operator under the subsidiary of GMP
GBP	Gulf BP Co., Ltd., a power project operator under the subsidiary of GMP
GJP	Gulf JP Company Limited, an associate in which the Company has a 40.0% equity interest
GMP	Gulf MP Company Limited, a subsidiary in which the Company has a 70.0% equity interest
GNC	Gulf NC Co., Ltd., a power project operator under the subsidiary GMP
GNLL	Gulf NLL Co., Ltd., a power project operator under the subsidiary GJP
GNLL2	Gulf NLL2 Co., Ltd., a power project operator under the subsidiary GMP
GNS	Gulf JP NS Co., Ltd., a power project operator under the associate GJP
GPD	Gulf PD Co., Ltd., a power project operator under the subsidiary of IPD
GSRC	Gulf SRC Co., Ltd., a power project operator under the subsidiary of IPD
GTS1	Gulf TS1 Co., Ltd., a power project operator under the subsidiary GMP
GTS2	Gulf TS2 Co., Ltd., a power project operator under the subsidiary GMP
GTS3	Gulf TS3 Co., Ltd., a power project operator under the subsidiary GMP
GTS4	Gulf TS4 Co., Ltd., a power project operator under the subsidiary GMP
Gulf WHA MT	Gulf WHA MT Natural Gas Distribution Company Limited, a joint venture in which the Company has a 35.0% equity interest
GUT	Gulf JP UT Co., Ltd., a power project operator under the associate GJP
GVTP	Gulf VTP Co., Ltd., a power project operator under the subsidiary GMP
HITEC	Thai Industrial Estate Corp., Ltd.
IPD	Independent Power Development Company Limited, a subsidiary in which the Company has a 70.0% equity interest
IPP	Independent Power Producer in which capacity sold to EGAT is more than 90 megawatts
Mitsui	Mitsui & Co., Ltd.
PEA	The Provincial Electricity Authority
SPP	Small Power Producer in which capacity sold to EGAT is more than 10 megawatts but not more than 90 megawatts
TFRIC 4	Revenue recognition standard applied for the IPPs to record revenue from availability payment as income from financial lease
WHA	WHA Energy Co., Ltd.
YoY	Comparison of performance between this accounting period and the previous year

1. Executive Summary

1.1 Key events in Q2'19

GNRV1, the eleventh SPP out of twelve SPP projects under GMP, began commercial operation

On May 1, 2019, GNRV1, one of the SPP project out of twelve SPPs under GMP, with a total installed power generation capacity of 128.2 megawatts and total installed steam generation capacity of 10.0 tons per hour, began commercial operation as scheduled. The project has signed a 25-year PPA with EGAT to supply 90.0 megawatts of electricity and has entered into long-term agreements to supply the remaining electricity and steam to industrial users, per the details below.

Power project	Industrial estate/ Industrial park	Province	Installed capacity		Equity stake	Equity installed capacity		Commercial operation date
			Power	Steam		Power	Steam	
			(Megawatts)	(Tons/hour)		(Megawatts)	(Tons/hour)	
GNRV1	Suranari Industrial Estate	Nakorn Ratchasima	128.2	10.0	70.0%	89.8	7.0	May 1, 2019
Total			128.2	10.0		89.8	7.0	

As of June 30, 2019, the Company has a total of eleven SPP projects under the GMP group in operation with an equity installed power generation capacity of 821.7 megawatts and an equity installed steam generation capacity of 122.4 tons per hour.

Revenue recognition from TTCIZ-02 Solar Power Project in Vietnam which commenced commercial operation in Q2'19

On March 6, 2019, TTCIZ-01 Solar Power Project ("TTCIZ-01"), with installed power generation capacity of 68.8 megawatts and a joint venture in which the Company indirectly holds 49.0% shares through Gulf International Holding Pte. Ltd ("GIH") and which supplies power to Vietnam Electricity ("EVN"), commenced commercial operation. Following this event on April 19, 2019, TTCIZ-02 Solar Power Project ("TTCIZ-02"), with installed power generation capacity of 50.0 megawatts and a subsidiary in which the Company indirectly holds 90.0% shares through GIH, began supplying power to EVN. Both TTCIZ-01 and TTCIZ-02 are located in Tay Ninh province, Vietnam, with project costs of approximately USD 65 million and USD 50 million, respectively. Both projects have 20-year PPAs with EVN under agreed tariff of US 9.35 cents/kWh.

Increase in the proportion of shares in the Mekong Project in Vietnam

The Company foresees the rapid growth of electricity demand in Vietnam and has determined that the Mekong Wind Power Joint Stock Company ("Mekong Project") has the potential to support Vietnam's electricity demand in the future. On April 25, 2019, GIH entered into a Share Purchase Agreement and Shareholders' Agreement with Ms. Huynh Bich Ngoc to increase its proportion of shares in the Mekong Project from 49% to 95%. The share transfer was completed on June 10, 2019.

The Mekong Project is located in Binh Dai district, Ben Tre province, Vietnam with an aggregate installed capacity of approximately 340 megawatts, comprising of an offshore wind farm project (310 megawatts) and a solar farm project (30 megawatts). The project cost is approximately USD 650 million and the project will generate and sell electricity to EVN for a term of 20 years. In this regard, the offshore wind farm project

will commence construction in the third quarter of 2019 and will gradually commence commercial operation between 2021 and 2023.

The establishment of Bangkok Smart Energy Company Limited




On April 24, 2019, the Company's Board of Directors' Meeting resolved to approve the establishment of Bangkok Smart Energy Company Limited ("BSE") as a holding company investing in the power distribution system and district cooling system for One Bangkok Project, which is Thailand's largest real estate project located in Central Bangkok. On July 2, 2019, the Company entered into a Shareholders' Agreement with two investment partners, namely Mitsui & Co., Ltd. and Tokyo Gas Engineering Solutions Corporation, and as of July 10, 2019, each party holds 33.33% in BSE.

Commercial operation of natural gas distribution project NGD4


WHA Eastern Seaboard NGD4 Company Limited ("NGD4"), a joint venture in which the Company indirectly holds 35% equity stake through Gulf WHA MT Natural Gas Distribution Company Limited ("Gulf WHA MT") and which operates a natural gas distribution project serving industrial users in the WHA Eastern Seaboard Industrial Estate 4, Pluak Daeng district, Rayong province, commenced its commercial operation on June 11, 2019. The NGD4 project has a project cost of approximately 234 million baht and an installed capacity of 2,000,000 mmbtu/year. It entered into a gas sales agreement with PTT Public Company Limited and gas sales agreements with industrial users for a term of 10 years, with the option to renew every 10 years.

1.2 Progress of projects under construction and development

Domestic Projects

	<ul style="list-style-type: none"> As at the end of June 2019, one gas-fired SPP power projects under GMP currently under construction, namely GNV2, had construction progress at 99.9%. On July 1, 2019, GNRV2, with an installed power generation capacity of 128.2 megawatts and an installed steam generation capacity of 10.0 tons per hour, began commercial operation as scheduled.
	<ul style="list-style-type: none"> The GCG biomass SPP, located in Chana district, Songkhla province with an installed power generation capacity of 25.0 megawatts, began construction as scheduled, with progress at approximately 69.0% at the end of June 2019. The project is expected to begin commercial operation in March 2020 as scheduled.
	<ul style="list-style-type: none"> The 2,650-megawatt gas-fired IPP power project, GSRC, began construction on December 3, 2018, with progress at approximately 30.0% as of the end of June 2019. The project has a scheduled commercial operation date between 2021 and 2022.
	<ul style="list-style-type: none"> The 2,650-megawatt gas-fired IPP power project, GPD, is currently in the process of negotiating the financial arrangements for approximately 38,000 million baht. The lenders consist of both Thai and overseas lenders including Japan Bank for International Corporation (JBIC) and Asian Development Bank (ADB). The financial agreement is expected to be signed within Q3'19 to Q4'19.

Overseas Projects

	<ul style="list-style-type: none"> ● The Mekong Wind Power Project with an installed power generation capacity of up to 310 megawatts, located in Vietnam, is divided into three construction phases with scheduled commercial operation dates (“SCOD”) as follows: <ul style="list-style-type: none"> ● Phase 1, up to 30 megawatts approx. SCOD in 2021 ● Phase 2, up to 49 megawatts approx. SCOD in 2021 ● Phase 3, up to 231 megawatts approx. SCOD between 2022-2023 ● Phase 1 has already signed the PPA with EVN on July 17, 2019 and construction will start in the third quarter of 2019. The other phases of the project are in the process of applying for various permits as planned.
	<ul style="list-style-type: none"> ● The gas-fired Duqm Independent Power and Water Project (DIPWP), located in Oman with an installed power generation capacity of 326 megawatts, began construction in August 2018 with progress at approximately 37.5% as of the end of June 2019.

1.3 Summary of performance for Q2'19

Key financial information	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Revenue from sales and management fee	4,019.5	6,554.0	7,144.1	77.7%	9.0%	7,455.1	13,698.1	83.7%
Share of profit from an associate and joint ventures	(58.9)	895.1	1,062.2	n.a.	18.7%	1,241.0	1,957.3	57.7%
Profit for the period	(554.1)	1,820.6	2,256.1	n.a.	23.9%	1,611.4	4,076.7	153.0%
Profit attributable to owners of the parent	(438.0)	1,292.7	1,603.3	n.a.	24.0%	1,269.7	2,896.0	128.1%
Less: gain (loss) on exchange rate attributable to owners of the parent	(1,232.8)	435.9	618.0	n.a.	41.8%	(281.0)	1,053.9	n.a.
Profit attributable to owners of the parent before gain (loss) on exchange rate (Core profit)	794.8	856.7	985.4	24.0%	15.0%	1,550.7	1,842.1	18.8%
Share of profit (loss) from an associate – GJP exclude gain (loss) on exchange rate	706.6	654.9	656.7	-7.1%	0.3%	1,401.4	1,311.6	-6.4%
Basic earnings per share (baht)	(0.21)	0.61	0.75	n.a.	23.0%	0.60	1.36	126.7%

1.3.1 Revenue from sales and services

- **Revenue from sales and services increased by 9.0% QoQ** from 6,554 million baht in Q1'19 to **7,144.1 million baht in Q2'19** from the commercial operation of GNRV1 (128.2 megawatts) on May 1, 2019 and the revenue recognition from 11 SPPs in Q2'19 compared to 10 SPPs in Q1'19. In addition, projects which began commercial operation between 2016 and 2017 were able to sell more electricity to industrial users. Furthermore, the Company recorded revenue from TTCIZ-02 (50.0 megawatts) in Vietnam which commenced commercial operation on April 19, 2019 as well.

In this regard, this revenue growth already reflects the impact from EGAT's 500kV transmission line maintenance in Rayong province for 37 days (from end of May until end of June 2019), which resulted in a decline in electricity sales by approximately 5.0% QoQ of 6 SPPs in Rayong province, namely GVTP, GTS1, GTS2, GTS3, GTS4 and GNLL2. Nonetheless, EGAT will purchase more electricity from the 6 SPPs in the second half of 2019 to ensure that the volume of electricity purchased is not less than the minimum take stipulated in the PPA, which will cause the revenues of the 6 SPPs to recover in the second half of 2019.

- **Revenue from sales and services increased by 77.7% YoY** from 4,019.5 million baht in Q2'18 to **7,144.1 million baht in Q2'19** from the revenue recognition of ten SPPs which had gradually begun commercial operation from 2017 until Q2'19, compared to revenue recognized from only six SPPs in Q2'18. The revenue growth reflects the impact from electricity sales to EGAT of the SPPs in Rayong province, which declined by 5.7% YoY from the 500 kV transmission line maintenance.

1.3.2 Share of profit from the associate GJP before gain (loss) on exchange rate

- **Share of profit from the associate GJP before gain (loss) on exchange rate increased 0.3% QoQ** from 654.9 million baht in Q1'19 to **656.7 million baht in Q2'19** primarily from the increase in profit from the 2 IPPs, namely GNS and GUT, which saw a surge in the volume of electricity sold to EGAT of 125.0% QoQ, resulting in an improved heat rate. Profit from the 7 SPPs was similar to the previous quarter with a 0.1% QoQ increase despite lower volumes of electricity and steam sold by 0.8% QoQ. The 7 SPPs obtained a higher profit margin was due to the lower natural gas cost, which decreased

by approximately 2.7% QoQ (from 282.2 baht/mmbtu in Q1'19 to 274.6 baht/mmbtu in Q2'19) while Ft rates remained flat at (0.1160) baht/kilowatt-hour.

- **Share of profit from the associate GJP before gain (loss) on exchange rate decreased 7.1% YoY** from 706.6 million baht in Q2'18 to **656.7 million baht in Q2'19** mainly from the lowered availability payment rate (APR) of the 2 IPPs compared to the same quarter in the previous year. In addition, although the 2 IPPs were able to dispatch more electricity to EGAT by up to 357.5% YoY and heat rate also improved, profit from the 7 SPPs decreased slightly by 1.3% YoY from the decrease in volume of electricity sold to both EGAT and industrial users by approximately 2.9% YoY (*please see more details in Section 2.4.3*). Furthermore, the 7 SPPs had higher natural gas cost from the increase in the average price of natural gas by 9.6% YoY, from 250.4 baht/mmbtu in Q2'18 to 274.6 baht/mmbtu in Q2'19 while Ft increased slightly from (0.1590) baht/kWh in Q2'18 to (0.1160) baht/kWh in Q2'19.

1.3.3 Core profit

- **Core profit increased 15.0% QoQ** from 856.7 million baht in Q1'19 to **985.4 million baht** in Q2'19 from:
 - 1) Profit from GMP group which increased 9.5% QoQ from the 11 SPPs under GMP group in Q2'19 compared to 10 SPPs in Q1'19, coupled with improved profit margins from lower natural gas cost while Ft rate remained flat (*please refer to Section 1.3.2*). In this regard, these figures reflect the impact from the lower profit of the 6 SPPs in Rayong province which was impacted by EGAT's transmission line maintenance.
 - 2) Profit from power projects in Vietnam of 35.7 million baht in Q2'19, mainly from the TTCIZ-01 and TTCIZ-02 Solar Power Projects which are already operating, compared to 7.2 million baht of share of profit recognized in Q1'19 in which only TTCIZ-01 was in operation.
 - 3) Share of profit from GJP group which increased slightly by 0.3% QoQ as discussed in Section 1.3.2.
- **Core profit increased 24.0% YoY** from 794.8 million baht in Q2'18 to **985.4 million baht** in Q2'19 primarily from the GMP group, which grew 70.8% YoY from the commercial operation of 11 SPPs compared to 6 SPPs in Q2'18. In addition, profit was recorded from the solar power projects in Vietnam in Q2'19, while these projects were under construction in the same quarter of the previous year. Meanwhile, share of profit from GJP group decreased 7.1% YoY as discussed in Section 1.3.2.

1.3.4 Net profit attributable to the owners of the parent

- **Net profit attributable to the owners of the parent increased 24.0% QoQ** from 1,292.7 million baht in Q1'19 to **1,603.3 million baht** in Q2'19 primarily due to the recognition of unrealized gain (loss) on exchange rate resulting from the translation of USD-denominated loans to Thai Baht using the exchange rate at the end of the period compared to that of the previous period. In Q2'19, the Group recognized unrealized profit of **618.0 million baht** compared to 435.9 million baht in Q1'19, resulting from the appreciation of Thai Baht by 1.06 baht/USD from 31.98 baht/USD at the end of Q1'19 to 30.92 baht/USD at the end of Q2'19.
- **Net profit attributable to the owners of the parent recovered from a net loss of 438.0 million baht in Q2'18 to net profit of 1,603.3 million baht in Q2'19** mainly from the recognition of unrealized gain on exchange rate of **618.0 million baht** in Q2'19 compared to the unrealized loss on exchange

rate of 1,232.8 million baht in Q2'18, resulting from the appreciation of Thai Baht by 2.41 baht/USD from 33.33 baht/USD at the end of Q2'18 to 30.92 baht/USD at the end of Q2'19.

1.3.5 The Company's financial position

- **Total assets as of June 30, 2019 was 129,185.7 million baht, an increase of 5,517.0 million baht or 4.5%** from December 31, 2018. The increase was mainly from the construction of SPPs under the GMP group, GSRC, GCG and projects under construction in Vietnam and Oman.
- **Total liabilities as of June 30, 2019 was 82,482.9 million baht, an increase of 3,602.5 million baht or 4.6%** from December 31, 2018. The increase was mainly attributable to increase in long-term loan drawdowns for the construction of GSRC and the aforementioned power projects, including the increase in debentures of approximately 1,500 million baht from the issuances and offerings of debentures of 7,500 million baht in Q1'19 to repurchase the existing debentures of 6,000 million baht.
- **Total equity as of June 30, 2019 was 46,702.7 million baht, an increase of 1,914.5 million baht or 4.3%** from December 31, 2018 mainly from the increase in net profit for the period and from the increase in paid-up capital from non-controlling interests.
- **Debt to equity ratio of 1.77 times from 1.76 times** as of December 31, 2018.

2. Analysis of the Group's Results of Operations for the Second Quarter of 2019

2.1 Revenue structure

Revenue structure	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Revenue from sales	3,944.5	6,476.6	7,066.6	79.2%	9.1%	7,305.1	13,543.2	85.4%
Revenue from electricity sold to EGAT and PEA	2,988.3	4,969.2	5,261.5	76.1%	5.9%	5,503.5	10,230.7	85.9%
Revenue from electricity sold to EVN*	-	-	46.4	n.a.	n.a.	-	46.4	n.a.
Revenue from electricity sold to industrial users	825.9	1,345.9	1,589.7	92.5%	18.1%	1,583.7	2,935.6	85.4%
Revenue from steam sold to industrial users	130.2	161.5	169.1	29.8%	4.7%	217.9	330.6	51.7%
Revenue from management fee	75.0	77.5	77.5	3.3%	0.0%	150.0	155.0	3.3%
Share of profit from an associate and JVs	(58.9)	895.1	1,062.2	n.a.	18.7%	1,241.0	1,957.3	57.7%
Dividend income	59.0	-	57.6	-2.5%	n.a.	59.0	57.6	-2.5%
Interest income	59.8	44.9	62.2	4.0%	38.5%	101.8	107.1	5.2%
Other income	1.0	2.1	5.6	444.2%	171.9%	7.2	7.6	5.9%
Total revenues	4,080.4	7,496.1	8,331.6	104.2%	11.1%	8,864.1	15,827.7	78.6%

Remarks: * indicates revenue from sales by TTCIZ-02 solar power project in which the Company indirectly holds 90% stake

2.1.1 Revenue from sales

Although revenue from sales in Q2'19 of the 6 SPPs in Rayong province declined by 5.0% QoQ from lower volume of electricity purchased by EGAT due to the 500kV transmission line maintenance from the end of May to end of June 2019, overall revenue from sales in Q2'19 increased by 9.1% QoQ from the commercial operation of GNRV1 in May 2019 coupled with revenue recognition from 73 days of electricity sales in the amount of 46.4 million baht from TTCIZ-02 in Vietnam, which commenced commercial operation on April 19, 2019.

Compared to Q2'18, revenue from sales increased by 3,122.1 million baht or 79.2% YoY from the revenue recognition of 11 SPPs under GMP group which gradually commenced commercial operation between 2017 until Q2'19 compared to only 6 SPPs in Q2'18.

Volume of electricity and steam sold by SPPs under GMP

Volume of electricity and steam sold	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
				% YoY	% QoQ			% YoY
Power projects under GMP								
Volume of electricity sold to EGAT (gigawatt-hour)	991.5	1,518.7	1,611.5	62.5%	6.1%	1,856.7	3,130.2	68.6%
Volume of electricity sold to industrial users (gigawatt-hour)	255.6	419.3	467.7	83.0%	11.5%	490.2	910.8	85.8%
Volume of steam sold (thousand tons)	143.9	174.6	180.5	25.4%	3.4%	246.7	355.1	43.9%

Volume of electricity sold by solar power project TTCIZ-02

Volume of electricity sold (megawatt-hour)	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
				% YoY	% QoQ			% YoY
TTCIZ-02	-	-	15,789.7	n.a.	n.a.	-	15,789.7	n.a.

2.1.2 Revenue from management fee

In Q2'19, the Company recorded revenue from management fee, which is revenue received from the provision of management services by the Company to its associate GJP, in the amount of 77.5 million baht, flat QoQ and an increase of 3.3% YoY as stipulated in the service agreement.

2.1.3 Other income

Dividend income in Q2'19 was 57.6 million baht, from dividend paid by SPCG and EDL-GEN. This was a slight decrease compared to 59.0 million baht in the same quarter from the previous year, as the Company sold some SPCG shares in 2018.

2.2 Cost and expense structure

Cost of sales structure	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Cost of sales	(2,929.2)	(4,957.6)	(5,366.5)	83.2%	8.2%	(5,413.5)	(10,324.0)	90.7%
<i>Fuel cost</i>	(2,372.6)	(4,126.8)	(4,358.8)	83.7%	5.6%	(4,354.5)	(8,485.6)	94.9%
<i>Operations and Maintenance</i>	(108.5)	(143.2)	(163.1)	50.4%	13.9%	(203.0)	(306.3)	50.9%
<i>Depreciation</i>	(328.2)	(487.2)	(578.8)	76.4%	18.8%	(616.5)	(1,066.0)	72.9%
<i>Other costs</i>	(119.9)	(200.3)	(265.7)	121.6%	32.7%	(239.5)	(466.1)	94.6%
Cost of service	(53.1)	(33.0)	(47.2)	-11.1%	42.9%	(98.8)	(80.2)	-18.8%
Total cost of sales and service	(2,982.3)	(4,990.6)	(5,413.7)	81.5%	8.5%	(5,512.3)	(10,404.3)	88.7%
Selling and administrative expenses	(397.9)	(366.1)	(411.0)	3.3%	12.3%	(628.1)	(777.1)	23.7%
Total operating costs and administrative expenses	(3,380.2)	(5,356.7)	(5,824.7)	72.3%	8.7%	(6,140.4)	(11,181.3)	82.1%

2.2.1 Cost of sales

Cost of sales in Q2'19 was 5,366.5 million baht, an increase of 8.2% QoQ from the realization of cost of sales from GNRV1 which commenced commercial operation on May 1, 2019. Average price of natural gas decreased slightly from 282.2 baht/mmbtu in Q1'19 to 274.6 baht/mmbtu in Q2'19.

Operations and maintenance costs in Q2'19 stood at 163.1 million baht, an increase of 13.9% QoQ and 50.4% YoY, in line with the increase in the number of power projects under GMP group.

Compared to Q2'18, cost of sales in Q2'19 increased by 2,437.4 million baht or 83.2% YoY from the increase in the volume of electricity and steam sold by 11 SPPs under GMP group compared to 6 SPPs in Q2'18, coupled with an increase in average price of natural gas from 250.4 baht/mmbtu in Q2'18 to 274.6 baht/mmbtu in Q2'19, or equivalent to a 9.6% YoY increase.

2.2.2 Cost of service

Cost of service is a cost incurred from the Company providing management services to its associate GJP. In Q2'19, cost of service was 47.2 million baht, an increase of 14.2 million baht or 42.9% QoQ from the increase in provision for employee benefits in accordance with the Labour Protection Act (No. 7), B.E. 2562 which stipulates that employees who are terminated by the Company and have served for a continuous period of 20 years or more shall be paid a compensation in the amount not less than the last rate of wages for 400 days (from 300 days), which became effective on May 5, 2019. Compared to Q2'18, cost of service decreased by 5.9 million baht or 11.1% YoY which was caused by the Company's ability to allocate personnel providing management services to GJP more efficiently, resulting in the aftermentioned lower cost.

2.2.3 Administrative expenses

In Q2'19, administrative expenses were 411.0 million baht, an increase of 12.3% QoQ and 3.3% YoY as a result of the increase in provision for employee benefits as referenced in Section 2.2.2, in addition to increases in expenses to support CSR activities and advertising and public relations activities.

2.3 Finance costs

Finance costs in Q2'19 were 696.8 million baht, and increase of 9.9% QoQ mainly attributable to an increase in interest expense from the recognition of interest expenses after commencing commercial operation of one additional SPP under GMP group in Q2'19.

Compared to Q2'18, finance costs increased 57.7% YoY from an increase in interest expense from the recognition of interest expenses after commencing commercial operation of the SPPs under GMP group from 6 SPPs in Q2'18 to 11 SPPs in Q2'19 in addition to the increased interest expenses from the issuances and offerings of debentures on January 25, 2019.

Finance costs	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Interest expense	(394.5)	(572.9)	(643.4)	63.1%	12.3%	(796.8)	(1,216.2)	52.6%
Guarantee fee	(24.3)	(15.2)	(8.0)	-67.1%	-47.4%	(57.7)	(23.2)	-59.8%
Commitment fee	(9.0)	(24.2)	(21.2)	136.4%	-12.3%	(19.4)	(45.4)	134.2%
Others	(14.2)	(22.0)	(24.3)	71.5%	10.3%	(38.3)	(46.3)	20.7%
Total finance costs	(441.9)	(634.3)	(696.8)	57.7%	9.9%	(912.3)	(1,331.1)	45.9%

2.4 Net profit and net profit before gain on exchange rate (Core profit)

Profit for the period	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Gross profit	1,037.2	1,563.5	1,730.5	66.8%	10.7%	1,942.7	3,293.9	69.6%
Gross profit from sales	1,015.3	1,519.0	1,700.2	67.5%	11.9%	1,891.5	3,219.2	70.2%
Gross profit from services	21.9	44.5	30.3	38.3%	-31.9%	51.2	74.7	45.9%
Profit for the period	(554.1)	1,820.6	2,256.1	n.a.	23.9%	1,611.4	4,076.7	153.0%
Profit attributable to owners of the parent	(438.0)	1,292.7	1,603.3	n.a.	24.0%	1,269.7	2,896.0	128.1%
Less: gain (loss) on exchange rate attributable to owners of the parent	(1,232.8)	435.9	618.0	n.a.	41.8%	(281.0)	1,053.9	n.a.
Profit attributable to owners of the parent before gain on exchange rate (Core profit)	794.8	856.7	985.4	24.0%	15.0%	1,550.7	1,842.1	18.8%
Gross profit margin (Sales)	25.7%	23.3%	24.1%	-6.5%	3.3%	25.9%	23.7%	-8.5%
Gross profit margin (Services)	29.2%	57.4%	39.1%	33.9%	-31.9%	34.2%	48.2%	41.2%

2.4.1 Profit attributable to owners of the parent and Core Profit

Please see more details in Section 1.3.

2.4.2 Gross profit

Gross profit in Q2'19 was 1,730.5 million baht, an increase of 167.0 million baht or 10.7% QoQ, and an increase of 693.3 million baht or 66.8% YoY, respectively. The increase was caused primarily by an increase in gross profit from the electricity and steam sales business whereby there was 1

additional project under GMP which commenced commercial operation compared to Q1'19 and 5 additional projects which began operation compared to Q2'18. Gross profit margin from sales increased QoQ from 23.3% in Q1'19 to 24.1% in Q2'19 due to lower cost of sales from lower natural gas price while Ft rates remained stable. Nonetheless, gross profit margin decreased compared to the same quarter in the previous year from 25.7% in Q2'18 to 24.1% in Q2'19 from the increase in natural gas price of approximately 9.6% YoY while Ft rates increased slightly by 4.3 satang/kWh.

Gross profit from services decreased by 14.2 million baht or 31.9% QoQ from the increase in cost of service from the aforementioned provision for employee benefits while revenue remained flat, causing gross profit margin from services to decline from 57.4% in Q1'19 to 39.1% in Q2'19.

Nonetheless, compared to Q2'18, gross profit increased by 8.4 million baht or 38.3% YoY as the Company was able to manage cost of services more efficiently, resulting in higher gross profit margin from services in Q2'18 which stood at 29.2%.

2.4.3 Share of profit from an associate and joint ventures

Share of profit from an associate and joint ventures	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Share of profit from the associate GJP	(58.7)	894.5	1,052.3	n.a.	17.6%	1,241.3	1,946.8	56.8%
Share of profit from the joint venture Gulf WHA MT	(0.3)	(1.4)	(0.4)	29.6%	-75.5%	(0.3)	(1.8)	535.7%
Share of profit from the joint venture for projects in Vietnam	-	7.2	14.9	n.a.	106.1%	-	22.1	n.a.
Share of profit from the joint venture for a project in Oman	-	(5.2)	(4.6)	n.a.	-11.5%	-	(9.9)	n.a.
Total share of profit from an associate and joint ventures	(58.9)	895.1	1,062.2	n.a.	18.7%	1,241.0	1,957.3	57.7%
Less: gain on exchange rate from share of profit from the associate GJP	(765.3)	239.6	395.6	n.a.	65.1%	1,550.7	1,842.1	18.8%
Share of profit from an associate and joint ventures before gain on exchange rate	706.6	654.9	656.7	-7.1%	0.3%	1,401.4	1,311.6	-6.4%

Remarks: * indicates share of profit from TTICZ-01 solar power project and Mekong Project in which the Company indirectly holds 49% stake in each project

The Group recorded a share of profit from an associate and joint ventures in Q2'19 of 1,062.2 million baht, an increase of 167.1 million baht or 18.7% QoQ, and an increase of 1,121.1 million baht YoY, a recovery from a loss of 58.9 million baht in Q2'18, respectively. The majority of the share of profit was from the contribution from GJP, of which, before effects from exchange rate, the Group's share of profit in Q2'19 was 656.7 million baht, an increase of 1.9 million baht or 0.3% QoQ and a decrease of 49.9 million baht or 7.1% YoY, respectively (please see more details in Section 1.3).

From the table showing GJP's volume of electricity, steam and chilled water sold, it appears that in Q2'19, the IPPs had a significant increase in volume of electricity sold to EGAT of 125.0% QoQ and 357.7% YoY while the SPPs had a slight decrease in volume of electricity sold to EGAT of 0.8% QoQ compared to Q1'19 and a decrease of 4.4% compared to the same quarter in 2018. The volume of electricity sold to industrial users by the SPPs decreased by 0.8% QoQ and increased 3.4% YoY from the increase in industrial users from the year before. Nonetheless, the volume of chilled water

sold to industrial users decreased by 7.0% QoQ and decreased by 10.8% YoY as industrial users consumed less chilled water.

The following table shows volume of electricity, steam and chilled water sold by power projects under GJP

Volume of electricity, steam and chilled water sold	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
				% YoY	% QoQ			
IPPs								
Volume of electricity sold (gigawatt-hour)	902.0	1,833.8	4,126.4	357.5%	125.0%	2,838.2	5,960.2	110.0%
7 SPPs								
Volume of electricity sold to EGAT (gigawatt-hour)	1,140.9	1,099.5	1,090.6	-4.4%	-0.8%	2,258.1	2,190.1	-3.0%
Volume of electricity sold to industrial users (gigawatt-hour)	276.8	288.4	286.1	3.4%	-0.8%	550.9	574.4	4.3%
Volume of steam sold (thousand tons)	67.7	69.4	65.5	-3.1%	-5.6%	134.5	134.9	0.3%
Volume of chilled water (million refrigeration tons)	7.8	7.5	6.9	-10.8%	-7.0%	15.5	14.4	-6.7%

Volume of electricity sold by solar power project TTCIZ-01

Volume of electricity sold (megawatt-hour)	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
				% YoY	% QoQ			
TTCIZ-01	-	7,677.7	27,204.6	n.a.	254.3%	-	34,882.3	n.a.

2.4.4 Gain from exchange rate

Gain (loss) on exchange rate primarily results from loans for the power projects under the GMP group that were denominated in a foreign currency (USD), in which the Group is required to record unrealized gain (loss) on exchange rate incurred from translating long-term debts denominated in USD to Thai Baht using the exchange rate at the end of the accounting period. In cases where the Thai Baht appreciates against USD, the Group will record a gain on exchange rate, as the Group's amount of outstanding debts converted to Thai Baht is lower. The reverse will occur if the Thai Baht depreciates against USD. However, since the long-term debts have not reached the due dates yet, such gain (loss) on exchange rate is only recognized as unrealized gain (loss).

The exchange rates at the end of Q2'18, Q1'19 and Q2'19 were equal to 33.3278, 31.9785 and 30.7443 baht/USD, respectively (the Thai Baht in Q1'19 appreciated compared to Q2'18, and appreciated in Q2'19 compared to Q1'19). As a result, the Group recognized a gain on exchange rate in Q2'19 of 443.7 million baht, an increase of 38.7% QoQ from the gain on exchange rate of 319.8 million baht in Q1'19, and an increase of 1,262.7 million baht YoY from the loss on exchange rate in Q2'18 of 819.0 million baht.

Nonetheless, in this report, the Group separates effects from unrealized exchange rate of the associate (GJP) in Q2'19 of 395.6 million baht and the Company's subsidiaries (mainly GMP) of 222.4 million baht, resulting in a total unrealized gain (loss) from exchange rate attributable to the owners of the parent of 618.0 million baht. This will explain the Group's performance accurately and appropriately. Details of which are set forth as follows:

Gain (loss) on exchange rate	Q2'18	Q1'19	Q2'19	Change		6M'18	6M'19	Change
	<i>Mil Baht</i>	<i>Mil Baht</i>	<i>Mil Baht</i>	<i>% YoY</i>	<i>% QoQ</i>	<i>Mil Baht</i>	<i>Mil Baht</i>	<i>% YoY</i>
Gain (loss) on exchange rate	(819.0)	319.8	443.7	<i>n.a.</i>	38.7%	(210.5)	763.6	<i>n.a.</i>
Less: Gain (loss) on exchange rate attributable to non-controlling interests	(351.5)	123.5	221.3	<i>n.a.</i>	79.2%	(89.7)	344.9	<i>n.a.</i>
Gain (loss) on exchange rate attributable to the owners of the parent	(467.5)	196.3	222.4	<i>n.a.</i>	13.3%	(120.8)	418.7	<i>n.a.</i>
Add: Gain (loss) on exchange rate attributable to share of profit from an associate	(765.3)	239.6	395.6	<i>n.a.</i>	65.1%	(160.2)	635.2	<i>n.a.</i>
Total gain (loss) from exchange rate attributable to owners of the parent	(1,232.8)	435.9	618.0	<i>n.a.</i>	41.8%	(281.0)	1,053.9	<i>n.a.</i>

3. Analysis of the Group's Financial Position as of June 30, 2019

The following table shows the Group's financial position in respect to the consolidated financial statements

Financial position	As of December 31, 2018	As of June 30, 2019	Change
	<i>Mil Baht</i>	<i>Mil Baht</i>	%
Cash, cash equivalents and short-term investment	18,793.5	15,634.8	-16.8%
Trade accounts receivable	3,512.1	4,873.8	38.8%
Investments in an associate and joint ventures	21,658.9	21,908.4	1.2%
Advance payments for land and power plant construction	5,417.5	4,485.2	-17.2%
Property, plant and equipment, net	67,664.2	74,309.4	9.8%
Other assets	6,622.4	7,974.0	20.4%
Total assets	123,668.7	129,185.7	4.5%
Accounts payable for power plant construction	5,504.0	1,794.6	-67.4%
Trade accounts payable	1,177.6	1,538.6	30.7%
Interest-bearing debts due in 1 year	9,649.2	3,801.1	-60.6%
Interest-bearing debts due over 1 year	59,882.5	72,341.1	20.8%
Other liabilities	3,844.7	3,007.5	12.8%
Total liabilities	78,880.4	82,482.9	4.6%
Issued and paid-up capital	10,666.5	10,666.5	0.0%
Share premium	20,889.3	20,889.3	0.0%
Unappropriated retained earnings	3,923.9	4,212.6	7.4%
Other equity	1,057.2	999.7	-5.4%
Total equity attributable to owners	36,536.9	36,768.1	0.6%
Non-controlling interests	8,251.3	9,934.6	20.4%
Total equity	44,788.2	46,702.7	4.3%
Debt to equity	1.76	1.77	

3.1 Total assets

Total assets as of June 30, 2019 was 129,185.7 million baht, an increase of 5,517.0 million baht or 4.5% from December 31, 2018. The increase was attributable to the following factors:

- 1) Significant increase in assets include:
 - An increase in property, plant and equipment, net of 9.8% or 6,645.2 million baht, of which approximately 80% was from the construction of gas-fired SPPs under GMP group and gas-fired IPP (GSRC). The remaining 20% came from the construction work of TTCIZ-02, Mekong Project and GCG.
 - An increase in trade accounts receivable of 38.8% or 1,361.7 million baht primarily from the SPPs under GMP group in which 3 power projects began commercial operation in the first 6 months of 2019.
- 2) Significant decrease in assets include:
 - A decrease in cash and cash equivalents and deposits at financial institutions used as collateral of 16.8% from the dividends paid and investments in and/or shareholder loans to Vietnam and Oman projects.

3.2 Total liabilities

Total liabilities as of June 30, 2019 was 82,482.9 million baht, an increase of 3,602.5 million baht or 4.6% from December 31, 2018. The increase was attributable to the following factors:

- 1) Significant increase in liabilities include:
 - An increase in long-term loans from financial institutions of 5,221.7 million baht primarily from the drawdowns for the construction of GSRC power project under IPD group.
 - Increase in debentures of 1,501.4 million baht from the issuances of new debentures of 7,492.8 million baht which offset with the repayments of existing debentures of 5,991.4 million baht (net of transaction fees).
 - Increase in trade accounts payable of 361.0 million baht from SPPs under GMP group in which 3 additional power projects commenced commercial operation compared to in 2018.
- 2) Significant decrease in liabilities include:
 - Accounts payable for power plant construction decreased by 3,709.4 million baht from the payment of construction costs per milestone for GSRC during the period and there were no outstanding payables as of June 30, 2019.

3.3 Total equity

Total equity as of June 30, 2019 was 46,702.7 million baht, an increase of 1,914.5 million baht or 4.3% from December 31, 2018 due to two main factors:

- An increase in non-controlling interests of 1,683.3 million baht from the increase in paid-up capital of Mitsui group, WHA group and HITEC group as well as the increase in non-controlling interests of TTC Group from the additional investment in TTCIZ-02 and Mekong Project and the increase in net profit from operations during the period.
- Retained earnings attributable to owners of the parent increased by 336.2 million baht as the Group recorded an increase in net profit for the period of 2,896.0 million baht offset with dividend payment of 2,559.8 million baht.

3.4 Capital structure

As of June 30, 2019, the Group had a debt to equity ratio of 1.77 times, a slight increase from 1.76 times as of December 31, 2018 primarily as the Company had increased liabilities from the loan drawdowns for construction of GSRC and the issuances of debentures in quarter 1. Nonetheless, the Company also recognized revenue from 11 SPPs under GMP group which gradually commenced commercial operation, resulting in a stable debt-to-equity ratio compared to the end of the previous year. Furthermore, most of the Company's liabilities have terms of over 15 years, which reflects the Company's strong financial position and ability to take out more loans to support future growth opportunities for the Company.