

– Translation –

**Gulf Energy Development Public Company Limited**  
**Management Discussion and Analysis of the Company's Performance**  
For the Third Quarter Ended September 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
<b>Group</b>	The Company, its subsidiaries, its associates and its joint ventures
<b>7SPPs</b>	7 SPPs under GJP consisting of GKP1, GKP2, GTLC, GCRN, GNNK, GNLL and GNK2
<b>12SPPs</b>	12 SPPs under GMP consisting of GVTP, GTS1, GTS2, GTS3, GTS4, GNC, GBL, GBP, GNLL2, GNPM, GNRV1 and GNRV2
<b>EGAT</b>	The Electricity Generating Authority of Thailand
<b>EPC</b>	Engineering, procurement and construction
<b>EVN</b>	Electricity Vietnam Corporation
<b>GBL</b>	Gulf BL Co., Ltd., a power project operator under the subsidiary of GMP
<b>GBP</b>	Gulf BP Co., Ltd., a power project operator under the subsidiary of GMP
<b>GEC Group</b>	Gulf Electric Public Company Limited and its subsidiaries, its associates and its joint ventures
<b>GJP</b>	Gulf JP Company Limited, an associate in which the Company has a 40.0% equity interest
<b>GMP</b>	Gulf MP Company Limited, a subsidiary in which the Company has a 70.0% equity interest
<b>GNC</b>	Gulf NC Co., Ltd., a power project operator under the subsidiary GMP
<b>GNLL</b>	Gulf NLL Co., Ltd., a power project operator under the subsidiary GJP
<b>GNLL2</b>	Gulf NLL2 Co., Ltd., a power project operator under the subsidiary GMP
<b>GNS</b>	Gulf JP NS Co., Ltd., a power project operator under the associate GJP
<b>GPD</b>	Gulf PD Co., Ltd., a power project operator under the subsidiary of IPD
<b>GSRC</b>	Gulf SRC Co., Ltd., a power project operator under the subsidiary of IPD
<b>GTS1</b>	Gulf TS1 Co., Ltd., a power project operator under the subsidiary GMP
<b>GTS2</b>	Gulf TS2 Co., Ltd., a power project operator under the subsidiary GMP
<b>GTS3</b>	Gulf TS3 Co., Ltd., a power project operator under the subsidiary GMP
<b>GTS4</b>	Gulf TS4 Co., Ltd., a power project operator under the subsidiary GMP
<b>Gulf WHA MT</b>	Gulf WHA MT Natural Gas Distribution Company Limited, a joint venture in which the Company has a 35.0% equity interest
<b>GUT</b>	Gulf JP UT Co., Ltd., a power project operator under the associate GJP
<b>GVTP</b>	Gulf VTP Co., Ltd., a power project operator under the subsidiary GMP
<b>HITEC</b>	Thai Industrial Estate Corp., Ltd.
<b>IPD</b>	Independent Power Development Company Limited, a subsidiary in which the Company has a 70.0% equity interest
<b>IPP</b>	Independent Power Producer in which capacity sold to EGAT is more than 90 megawatts
<b>Mekong</b>	Mekong Wind Power Joint Stock Company
<b>Mitsui</b>	Mitsui & Co., Ltd.
<b>PEA</b>	The Provincial Electricity Authority
<b>SPP</b>	Small Power Producer in which capacity sold to EGAT is more than 10 megawatts but not more than 90 megawatts
<b>TFRIC 4</b>	Revenue recognition standard applied for the IPPs to record revenue from availability payment as income from financial lease
<b>TTCIZ-01</b>	TTC Green Energy Investment Joint Stock Company
<b>TTCIZ-02</b>	TTC Energy Development Investment Joint Stock Company
<b>WHA</b>	WHA Energy Co., Ltd.

## 1. Executive Summary

### 1.1 Key events in Q3'19

#### **12 SPPs under GMP Group**

##### ***GNRV2, the twelfth SPP under GMP, began commercial operation***

On July 1, 2019, GNRV2, the last 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)	
GNRV2	Suranari Industrial Estate	Nakorn Ratchasima	128.2	10.0	70.0%	89.8	7.0	July 1, 2019
<b>Total</b>			<b>128.2</b>	<b>10.0</b>		<b>89.8</b>	<b>7.0</b>	

As of September 30, 2019, all 12 SPP projects under the GMP group has already commenced operation with an equity installed power generation capacity of 911.5 megawatts and an equity installed steam generation capacity of 129.4 tons per hour. The Group was able to complete construction for all 12SPPs by the scheduled commercial operation dates between 2017 to 2019 and within the budget for all projects.

#### **Vietnam**

##### ***Increase in the proportion of shares in TTCIZ-01 Solar Power Project in Vietnam***

Following the increase in the proportion of shares in TTCIZ-02 Solar Power Project with installed power generation capacity of approximately 50.0 megawatts and the Mekong Project with total installed power generation capacity of approximately 340.0 megawatts, the Company has determined that TTCIZ-01 Solar Power Project ("TTCIZ-01") has the potential to generate more electricity than initially expected and yield a decent return in addition to having the capability to support Vietnam's electricity demand in the future. On July 30, 2019, Gulf International Holding Pte. Ltd. ("GIH"), which is a subsidiary of the Company, entered into a Share Purchase Agreement and Shareholders' Agreement with Thanh Thanh Cong Group ("TTC Group") to increase its proportion of shares in TTCIZ-01 from 49% to 90%. The share transfer is expected to be completed in the fourth quarter of 2019, after obtaining approval from relevant government authorities. In this regard, the Company's current shareholding in renewable projects in Vietnam is summarized as follows:

Power project	Type of Project	Installed Capacity (Megawatts)	Province	Equity Stake		Commercial operation date
				Old	New	
TTCIZ-01	Solar farm	68.8	Tay Ninh	49.0	<b>90.0*</b>	March 6, 2019
TTCIZ-02	Solar farm	50.0	Tay Ninh	49.0	<b>90.0</b>	April 19, 2019
Mekong	Solar farm	30.0	Ben Tre	49.0	<b>95.0</b>	[2020-2021]
	Wind farm	310.0				
<b>Total</b>		<b>458.8</b>				

**Remarks:** \*The share transfer is expected to be completed in the fourth quarter of 2019, after obtaining approval from relevant government authorities

***Execution of the power purchase agreement between Mekong and Vietnam Electricity Corporation (“EVN”) for Offshore Wind Power Project Phase 1 with installed power generation capacity of 30 megawatts***

On July 17, 2019, Mekong Wind Power Joint Stock Company (in which the Company indirectly holds 95% shares), which operates the Mekong Offshore Wind Power Project with total installed power generation capacity of 310 megawatts, entered into the 20-year power purchase agreement with EVN for Offshore Wind Power Project Phase 1 with installed power generation capacity of 30 megawatts, under agreed terms of a USD-equivalent tariff of approximately US9.80 cent/kWh.

***Execution of the Cooperation Agreement to develop gas-fired power project and LNG terminal in Ninh Thuan province, Vietnam***

On November 2, 2019, the Company entered into the Cooperation Agreement with the Ninh Thuan Provincial People's Committee for the development of a gas-fired power project with installed power generation capacity of approximately 6,000 megawatts along with an LNG terminal with capacity of 6 million tons per annum to be located in Ca Na sub-district, Thuan Nam district, Ninh Thuan province in the Southeastern region of Vietnam. Under the Cooperation Agreement, both parties agree to extend their cooperation to the exchange of studies, expertise, and know-how in the field of gas-fired power plants and LNG terminal, financing capacities and any related matter, for the development of the Integrated LNG-to-power project up to the maximum capacity of the Project which approved to be located in Ca Na by the government. Furthermore, both parties agree to accelerate the Project to be completed in order to meet the electricity demand in accordance with Vietnam's Power Development Plan.

**Map Ta Phut Industrial Port Development Phase 3 Project**

***Execution of the Public Private Partnership (“PPP”) Contract for the Map Ta Phut Industrial Port Development Phase 3 Project (“Map Ta Phut Phase 3 Project”)***

On October 1, 2019, Gulf MTP LNG Terminal Company Limited (“Gulf MTP LNG Terminal”), a subsidiary in which the Company holds 70.0% shares, entered into a PPP contract with the Industrial Estate Authority of Thailand for the Map Ta Phut Phase 3 Project with contract terms of 30 years. The total project cost is approximately 40,900 million baht, comprised of

- 1) design and construction of the infrastructure, including dredging and land reclamation of approximately 1,000 rai with investment cost of approximately 12,900 million baht. The construction period of infrastructure will not exceed 3 years (or to be completed within 2023) and the private entity will receive fixed annual payments from IEAT for a period of 30 years, and
- 2) the right to construct the port and LNG terminal (superstructure) on approximately 200 rai of the reclaimed land to facilitate shipment of LNG volume of not less than 5 million tons per annum and up to 10.8 million tons per annum at a later stage. The LNG terminal phase 1 has an investment cost not exceeding 28,000 million baht which is expected to be completed by approximately 2025. The private entity will receive LNG terminal fee from off-takers.

**Laem Chabang Port Development Phase 3 Project**

***Bid submission for the Laem Chabang Port Development Phase 3 Project***

On March 29, 2019, the Company jointly submitted the bidding documents for the Laem Chabang Port Development Phase 3 Project with PPP Tank Terminal Company Limited and China Harbour Engineering Company Limited (“GPC Consortium”) for the design, construction, and operation and maintenance of 2 container berths (F1 and F2 terminals) with capacity of approximately 4 million TEU (Twenty-foot

equivalent unit) per year, with shareholding of 40.0%, 30.0% and 30.0%, respectively. Subsequently on April 23, 2019, the Port Authority of Thailand and Eastern Economic Corridor Policy Committee announced that GPC Consortium was the sole bidder to pass the qualifications for the Laem Chabang Port Development Phase 3 Project. This project is currently under the consideration of the Administrative Court.

**Bang Pa-In – Nakhon Ratchasima (M6) and Bang Yai – Kanchanaburi (M81) Intercity Motorway Projects**

***Bid submission for the Bang Pa-In – Nakhon Ratchasima (M6) and Bang Yai – Kanchanaburi (M81) Intercity Motorway Projects***

On June 27, 2019, the Company, together with BTS Group Holdings Public Company Limited, Sino-Thai Engineering and Construction Public Company Limited and RATCH Group Public Company Limited (“BGSR JV”), submitted the bidding documents for the joint investment in the operation and maintenance of the Bang Pa-In – Nakhon Ratchasima (M6) and Bang Yai – Kanchanaburi (M81) Intercity Motorway Projects. On August 19, 2019, the Department of Highways announced that BGSR JV proposed the lowest payment and was determined as the winning bidder.

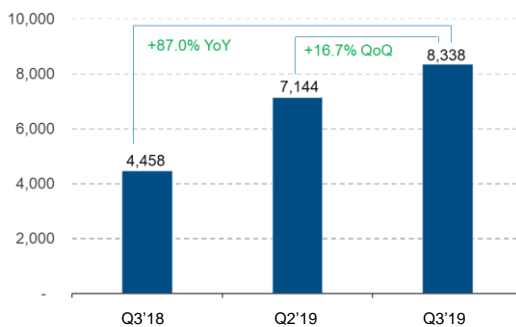
## 1.2 Progress of projects under construction and development

	<ul style="list-style-type: none"> <li>• <b>The GCG biomass SPP</b>, located in Chana district, Songkhla province with an installed power generation capacity of 25.0 megawatts, began construction as scheduled, with progress at approximately 85.3% at the end of September 2019. The project is expected to begin commercial operation in March 2020 as scheduled.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>The 2,650-megawatt gas-fired IPP power project, GSRC</b>, began construction on December 3, 2018, with progress at approximately 39.5% as of the end of September 2019. The project has a scheduled commercial operation date between 2021 and 2022.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>The 2,650-megawatt gas-fired IPP power project, GPD</b>, is currently in the process of negotiating the financial arrangements for approximately 36,000 million baht for a term of 23 years. 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 November 2019 and the project has a scheduled commercial operation date between 2023 and 2024.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>The gas-fired Duqm Independent Power and Water Project (DIPWP)</b>, located in Oman with an installed power generation capacity of 326 megawatts, began construction in August 2018 with progress at approximately 40.3% as of the end of September 2019.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>The Mekong Wind Power Project with an installed power generation capacity of up to 310 megawatts</b>, located in Vietnam, is divided into eight construction phases with scheduled commercial operation dates ("SCOD") as follows:             <ul style="list-style-type: none"> <li>• Phase 1: 30 megawatts approx. SCOD in end 2020</li> <li>• Phases 2-3: 98 megawatts approx. SCOD in mid 2021</li> <li>• Phases 4-8: 182 megawatts approx. SCOD in end 2021</li> </ul> </li> <li>• Phase 1 has already signed the PPA with EVN on July 17, 2019 and substation work and transmission line work has already started since July 2019, with progress as planned at 22% and 8%, respectively. The other phases of the project are in the process of applying for various permits as planned.</li> </ul>

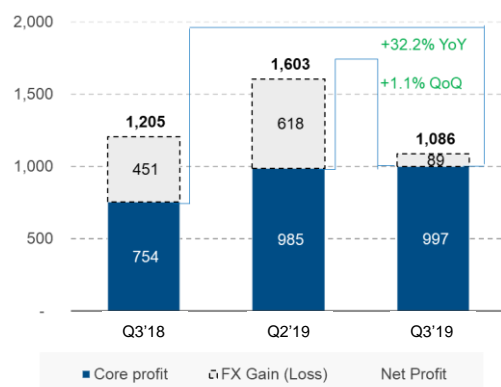
### 1.3 Summary of performance for Q3'19

Key financial information	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Revenue from sales and management fee	4,458.3	7,144.1	8,337.7	87.0%	16.7%	11,913.4	22,035.8	85.0%
Share of profit from an associate and joint ventures	937.6	1,062.2	630.9	-32.7%	-40.6%	2,178.6	2,588.2	18.8%
<b>Profit attributable to owners of the parent</b>	<b>1,205.2</b>	<b>1,603.3</b>	<b>1,085.7</b>	<b>-9.9%</b>	<b>-32.3%</b>	<b>2,474.9</b>	<b>3,981.8</b>	<b>60.9%</b>
Less: gain (loss) on exchange rate attributable to owners of the parent	451.1	618.0	89.1	-80.2%	-85.6%	170.1	1,143	572.0%
<b>Profit attributable to owners of the parent before gain (loss) on exchange rate (Core profit)</b>	<b>754.1</b>	<b>985.4</b>	<b>996.6</b>	<b>32.2%</b>	<b>1.1%</b>	<b>2,304.8</b>	<b>2,838.7</b>	<b>23.2%</b>
Share of profit (loss) from an associate – GJP exclude gain (loss) on exchange rate	655.1	656.7	575.1	-12.2%	-12.4%	2,056.5	1,886.7	-8.3%
Basic earnings per share (baht)	0.56	0.75	0.51	-8.9%	-32.0%	1.16	1.87	61.2%

Revenue from sales and management fee (Mil Baht)



Core Profit/ Profit attributable to owners of the parent (Mil Baht)



- **Revenue from sales and management fee increased 16.7% QoQ from 7,144 million baht to 8,338 million baht** from the full quarter revenue recognition of 12SPPs under GMP group and TTCIZ-02 Solar Power Project in Vietnam in Q3'19 compared to 11 SPPs in Q2'19 and TTCIZ-02, which began operations on April 19, 2019
- **Core profit increased 1.1% QoQ from 985 million baht to 997 million baht** from:
  - Full quarter profit from 12SPPs under GMP group, in which all 12 projects were in operation in Q3'19.
  - Electricity sold to EGAT and industrial users by the 12 SPPs in this quarter were significantly higher than the previous quarter, especially for the 6 power projects located in Rayong province. Furthermore, the reduction in the natural gas price while Ft remained stable resulted in improved gross profit margin.
  - Increase in profit from GMP group was able to offset the decrease in profit from GJP group as a result of major overhaul of 3 power projects from the 7SPPs in Q3'19, as well as offset the loss from other projects under development
- **Net profit fell by 32.3% QoQ from 1,603 million baht to 1,086 million baht** due to the recognition of unrealized gain on exchange rate which decreased from the slight appreciation of the Thai Baht compared to the previous quarter. The recording of such profit is an accounting transaction which has no impact on the cash flow and performance of the Group at all.

### 1.3.1 Revenue from sales and services

- **Revenue from sales and services increased by 16.7% QoQ** from 7,144.1 million baht in Q2'19 to **8,337.7 million baht in Q3'19** from the full quarter revenue recognition of all 12 SPPs under GMP group compared to 11 SPPs in Q2'19. All 12 power projects were able to sell more electricity to EGAT and industrial users compared to the previous quarter, with a 19.7% and 9.1% increase, respectively. Electricity sales to EGAT increased significantly QoQ as EGAT purchased more electricity from the 6 SPPs located in Rayong province in Q3'19 to offset the impact to the power projects located in Rayong province from EGAT's 500kV transmission line maintenance for 37 days in the last quarter (from end of May until end of June 2019).
- **Revenue from sales and services increased by 87.0% YoY** from 4,458.3 million baht in Q3'18 to **8,337.7 million baht in Q3'19** from the revenue recognition of 12 SPPs under GMP which had gradually begun commercial operation from 2017 until Q3'19 in addition to the revenue recognition from TTCIZ-02 Solar Power Project (50.0 megawatts) in Vietnam which commenced commercial operation on April 19, 2019, compared to revenue recognized from only 7 SPPs in Q3'18. The SPPs which gradually began commercial operation over the past 3 years were able to expand the industrial customer base as well as increase the volume of electricity and steam sold (average of 8% - 10% per project).

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

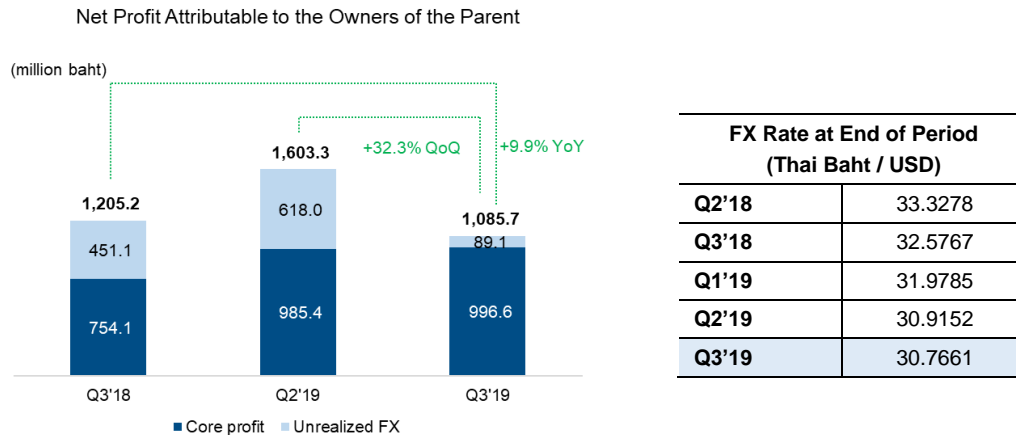
- **Share of profit from the associate GJP before gain (loss) on exchange rate decreased 12.4% QoQ** from 656.7 million baht in Q2'19 to **575.1 million baht in Q3'19** primarily due to the major overhaul of the 3 power projects under the 7SPPs, namely GKP2, GNK2 and GNLL. Nonetheless, share of profit from the IPPs, namely GNS and GUT, increased slightly at 2.4% QoQ from the higher availability payment compared to the previous quarter (*please see more details in Section 2.4.3*)
- **Share of profit from the associate GJP before gain (loss) on exchange rate decreased 12.2% YoY** from 655.1 million baht in Q3'18 to **575.1 million baht in Q3'19** mainly from the major overhaul of the 3 power projects under the 7SPPs as aforementioned and the lower availability payment rate (APR) of the 2 IPPs compared to the same quarter in the previous year, although the 2 IPPs were able to dispatch more electricity to EGAT by up to 47.6% YoY and heat rate also improved.

### 1.3.3 Core profit

- **Core profit increased 1.1% QoQ** from 985.4 million baht in Q2'19 to **996.6 million baht** in Q3'19 from:
  - 1) Profit from GMP group which increased 27.4% QoQ from the 12 SPPs under GMP group and from the increase in volume of electricity sold to EGAT, which increased 24.6% QoQ to offset the decrease in volume of electricity sold by 6 power projects in Rayong province (GVTP, GTS1, GTS2, GTS3, GTS4 and GNLL2) from the transmission line maintenance in Q2'19, coupled with lower natural gas cost from 274.6 baht/mmbtu in Q2'19 to 268.7 baht/mmbtu in Q3'19 while Ft rate remained flat at (0.1160) baht/kWh.
  - 2) Share of profit from GJP group which decreased by 12.4% QoQ as discussed in Section 1.3.2.
- **Core profit increased 32.2% YoY** from 754.1 million baht in Q3'18 to **996.6 million baht** in Q3'19 primarily from the GMP group, which grew 263.4% YoY from the commercial operation of all 12 SPPs

compared to 7 SPPs in Q3'18. In addition, profit was recorded from the solar power projects in Vietnam in Q3'19, while these projects were under construction in the same quarter of the previous year. Meanwhile, share of profit from GJP group decreased 12.2% 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 decreased 32.3% QoQ** from 1,603.3 million baht in Q2'19 to **1,085.7 million baht** in Q3'19 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 Q3'19, the Group recognized unrealized profit of **89.1 million baht** compared to 618.0 million baht in Q2'19 from the slight appreciation of the Thai Baht from 30.92 baht/USD at the end of Q2'19 to **30.77** baht/USD at the end of Q3'19, compared to the stronger appreciation of the Thai Baht by 1.06 baht/USD in Q2'19 (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 decreased by 9.9% YoY** from 1,205.2 million baht in Q3'18 to **1,805.7 million baht in Q3'19** as a result of the recognition of unrealized gain on exchange rate of **89.1 million baht** from 451.1 million baht in Q3'18 due to the slight appreciation of Thai Baht by 0.15 baht/USD QoQ compared to the appreciation by 0.75 baht/USD at the end of Q3'18 (from 33.33 baht/USD at the end of Q2'18 to 32.58 baht/USD at the end of Q3'18).

### 1.3.5 The Company's financial position

- **Total assets as of September 30, 2019 was 130,565.96 million baht, an increase of 6,897.3 million baht or 5.6%** from December 31, 2018. The increase was mainly from the increase in value of the SPPs under GMP group and construction of GSRC, GCG and projects under construction in Vietnam.
- **Total liabilities as of September 30, 2019 was 82,332.8 million baht, an increase of 3,452.4 million baht or 4.4%** 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 September 30, 2019 was 48,233.1 million baht, an increase of 3,444.9 million baht or 7.7%** 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 1.71 times from 1.76 times** as of December 31, 2018.

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

### 2.1 Revenue structure

Revenue structure	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Revenue from sales	4,383.4	7,066.6	8,258.1	88.4%	16.9%	11,688.4	21,801.3	86.5%
Revenue from electricity sold to EGAT and PEA	3,282.1	5,261.5	6,297.4	91.9%	19.7%	8,785.5	16,528.1	88.1%
Revenue from electricity sold to EVN*	-	46.4	54.1	n.a.	16.6%	-	100.4	n.a.
Revenue from electricity sold to industrial users	948.8	1,589.7	1,734.4	82.8%	9.1%	2,532.5	4,670.0	84.4%
Revenue from steam sold to industrial users	152.5	169.1	172.3	13.0%	1.9%	370.4	502.9	35.8%
Revenue from management fee	75.0	77.5	79.5	6.0%	2.7%	225.0	234.5	4.2%
Share of profit from an associate and JVs	937.6	1,062.2	630.9	-32.7%	-40.6%	2,178.6	2,588.2	18.8%
Dividend income	44.9	57.6	43.0	-4.3%	-25.4%	103.9	100.5	-3.3%
Interest income	33.1	62.2	39.3	18.7%	-36.8%	134.9	146.4	8.5%
Other income	0.9	5.6	0.4	-52.3%	-92.5%	8.1	8.1	-0.4%
<b>Total revenues</b>	<b>5,474.8</b>	<b>8,331.6</b>	<b>9,051.3</b>	<b>65.3%</b>	<b>8.6%</b>	<b>14,339.0</b>	<b>24,878.9</b>	<b>73.5%</b>

**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

Revenue from sales in Q3'19 increased 16.9% QoQ from the full quarter revenue recognition of the 12 SPPs under GMP group compared to 11 SPPs in Q2'19. Electricity sales to EGAT from all 12 SPPs increased by 19.7% QoQ as EGAT purchased more electricity from the 6 SPPs located in Rayong province in Q3'19 to offset the impact from EGAT's 500kV transmission line maintenance for 37 days in Q2'19 from end of May until end of June 2019. Furthermore, the Company recorded revenue from electricity sold to industrial users which increased 9.1% QoQ and full quarter revenue from TTCIZ-02 (50.0 megawatts) in Vietnam which commenced commercial operation on April 19, 2019, which increased 16.6% QoQ.

Compared to Q3'18, revenue from sales increased by 3,874.7 million baht or 88.4% YoY from the revenue recognition of 12 SPPs under GMP group which gradually commenced commercial operation between 2017 until Q3'19 in addition to the revenue recognition from TTCIZ-02 compared to only 7 SPP power plants in Q3'18. Furthermore, the SPPs which gradually began commercial operation over the past 3 years were able to expand the industrial customer base as well as increase the volume of electricity and steam sold.

### Volume of electricity and steam sold by SPPs under GMP

Volume of electricity and steam sold	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
				% YoY	% QoQ			
<b>Power projects under GMP</b>								
Volume of electricity sold to EGAT (gigawatt-hour)	1,042.7	1,611.5	2,008.7	92.6%	24.6%	2,899.3	5,140.2	77.3%
Volume of electricity sold to industrial users (gigawatt-hour)	285.5	467.7	538.8	88.7%	15.2%	775.7	1,448.0	86.7%
Volume of steam sold (thousand tons)	152,464	180,485	193,992	27.2%	7.5%	399,123	549,044	37.6%

### Volume of electricity sold by solar power project TTCIZ-02

Volume of electricity sold (megawatt-hour)	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
				% YoY	% QoQ			
TTCIZ-02	-	15,800	18,687	n.a.	18.3%	-	34,487	n.a.

#### 2.1.2 Revenue from management fee

In Q3'19, the Company recorded revenue from management fee, which is revenue received from the provision of management services by the Company to its associate GJP and to SPPs under GEC Group, in the amount of 79.5 million baht, an increase of 2.7% QoQ and an increase of 6.0% YoY.

#### 2.1.3 Other income

Dividend income in Q3'19 was 43.0 million baht, from dividend paid by SPCG. This was a slight decrease compared to 44.9 million baht in the same quarter from the previous year.

## 2.2 Cost and expense structure

Cost of sales structure	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
<b>Cost of sales</b>	<b>(3,304.7)</b>	<b>(5,366.5)</b>	<b>(6,271.1)</b>	<b>89.8%</b>	<b>16.9%</b>	<b>(8,718.2)</b>	<b>(16,595.1)</b>	<b>90.3%</b>
Fuel cost	(2,688.7)	(4,358.8)	(5,163.8)	92.1%	18.5%	(7,043.2)	(13,649.5)	93.8%
Operations and Maintenance	(122.0)	(163.1)	(195.8)	60.5%	20.0%	(325.0)	(502.1)	54.5%
Depreciation	(349.2)	(578.8)	(659.2)	88.8%	13.9%	(965.7)	(1,725.2)	78.6%
Other costs	(144.8)	(265.7)	(252.4)	74.2%	-5.0%	(384.4)	(718.4)	86.9%
Cost of service	(32.4)	(47.2)	(37.5)	15.7%	-20.6%	(131.2)	(117.7)	-10.3%
<b>Total cost of sales and service</b>	<b>(3,337.1)</b>	<b>(5,413.7)</b>	<b>(6,308.6)</b>	<b>89.0%</b>	<b>16.5%</b>	<b>(8,849.4)</b>	<b>(16,712.8)</b>	<b>88.9%</b>
Selling and administrative expenses	(403.4)	(411.0)	(407.4)	1.0%	-0.9%	(1,031.5)	(1,184.5)	14.8%
<b>Total operating costs and administrative expenses</b>	<b>(3,740.5)</b>	<b>(5,824.7)</b>	<b>(6,716.0)</b>	<b>79.5%</b>	<b>15.3%</b>	<b>(9,880.9)</b>	<b>(17,897.3)</b>	<b>81.1%</b>

#### 2.2.1 Cost of sales

Cost of sales in Q3'19 was 6,271.1 million baht, an increase of 16.9% QoQ from the realization of cost of sales from GNRV2 which commenced commercial operation on July 1, 2019. Average price of natural gas decreased slightly from 274.6 baht/mmbtu in Q2'19 to 268.7 baht/mmbtu in Q3'19.

Operations and maintenance costs in Q3'19 stood at 195.8 million baht, an increase of 20.0% QoQ and 60.5% YoY, in line with the increase in the number of power projects under GMP group.

Compared to Q3'18, cost of sales in Q3'19 increased by 89.8% YoY from the increase in the volume of electricity and steam sold by 12 SPPs under GMP group compared to 7 SPPs in Q3'18.

### 2.2.2 Cost of service

Cost of service is a cost incurred from the Company providing management services to its associate GJP and to SPPs under GEC Group. In Q3'19, cost of service was 37.5 million baht, a decrease of 9.7 million baht or 20.6% QoQ due to absence of 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 (in Q2'19). Compared to Q3'18, cost of service increased by 5.1 million baht or 15.7% YoY from the increase in salary as well as the provision for employee benefits.

### 2.2.3 Administrative expenses

In Q3'19, administrative expenses were 407.4 million baht, a decrease of 0.9% QoQ primarily from the absence of the increase in provision for employee benefits as referenced in Section 2.2.2.

Compared to Q3'18, administrative expenses in Q3'19 increased 1.0% YoY as the Company saw increases in expenses to support CSR activities and advertising and public relations activities.

## 2.3 Finance costs

Finance costs in Q3'19 were 778.5 million baht, an increase of 11.7% 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 Q3'19.

Compared to Q3'18, finance costs increased 73.5% YoY from an increase in interest expense from the recognition of interest expenses after commencing commercial operation of the SPPs under GMP group from 7 SPPs in Q3'18 to 12 SPPs in Q3'19 in addition to the increased interest expenses from the issuances and offerings of debentures on January 25, 2019.

Finance costs	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Interest expense	(404.8)	(643.4)	(723.9)	78.8%	12.5%	(1,201.6)	(1,940.1)	61.5%
Guarantee fee	(23.0)	(8.0)	(9.3)	-59.6%	16.3%	(80.7)	(32.5)	-59.8%
Commitment fee	(7.2)	(21.2)	(20.1)	180.8%	-5.4%	(26.5)	(65.5)	146.8%
Others	(13.8)	(24.3)	(25.2)	82.6%	3.9%	(52.2)	(71.5)	37.1%
<b>Total finance costs</b>	<b>(448.7)</b>	<b>(696.8)</b>	<b>(778.5)</b>	<b>73.5%</b>	<b>11.7%</b>	<b>(1,361.0)</b>	<b>(2,109.6)</b>	<b>55.0%</b>

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

Profit for the period	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	Mil Baht	Mil Baht	Mil Baht	% YoY	% QoQ	Mil Baht	Mil Baht	% YoY
Gross profit	1,121.3	1,730.5	2,029.1	81.0%	17.3%	3,064.0	5,323.0	73.7%
Gross profit from sales	1,078.7	1,700.2	1,987.0	84.2%	16.9%	2,970.2	5,206.2	75.3%
Gross profit from services	42.6	30.3	42.1	-1.3%	38.9%	93.8	116.8	24.5%
Profit for the period	1,593.5	2,256.1	1,635.2	2.6%	-27.5%	3,204.9	5,711.9	78.2%
<b>Profit attributable to owners of the parent</b>	<b>1,205.2</b>	<b>1,603.3</b>	<b>1,085.7</b>	<b>-9.9%</b>	<b>-32.3%</b>	<b>2,474.9</b>	<b>3,981.8</b>	<b>60.9%</b>
Less: gain (loss) on exchange rate attributable to owners of the parent	451.1	618.0	89.1	-80.2%	-85.6%	170.1	1,143.0	572.0%
<b>Profit attributable to owners of the parent before gain on exchange rate (Core profit)</b>	<b>754.1</b>	<b>985.4</b>	<b>996.6</b>	<b>32.2%</b>	<b>1.1%</b>	<b>2,304.8</b>	<b>2,838.7</b>	<b>23.2%</b>
Gross profit margin (Sales)	24.6%	24.1%	24.1%	-0.5%	0.0%	25.4%	23.9%	-1.5%
Gross profit margin (Services)	56.8%	39.1%	52.9%	-3.9%	13.8%	41.7%	49.8%	8.1%

### 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 Q3'19 was 2,029.1 million baht, an increase of 298.6 million baht or 17.3% QoQ, and an increase of 907.8 million baht or 81.0% 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 Q2'19 and 5 additional projects which began operation compared to Q3'18. Nonetheless, gross profit margin from sales remained flat QoQ at 24.1% and decreased YoY from 24.6% in Q3'18 to 24.1% in Q3'19 as the increase in depreciation was higher than the increase in sales, coupled with higher natural gas price from 265.5 baht/mmbtu in Q3'18 to 268.7 baht/mmbtu in Q3'19 while Ft rates increased slightly by 4.3 satang/kWh.

Gross profit from services increased by 11.8 million baht or 38.9% QoQ from the increase in cost of service coupled with the absence of the aforementioned provision for employee benefits in Q3'19. As a result, gross profit margin from services improved significantly from 39.1% in Q2'19 to 52.9% in Q3'19.

Nonetheless, compared to Q3'18, gross profit decreased by 1.3% YoY from the increase in salary and provision for employee benefits, resulting in lower gross profit margin from services in Q3'18 which stood at 56.8%.

### 2.4.3 Share of profit from an associate and joint ventures

Share of profit from an associate and joint ventures	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
	<i>Mil Baht</i>	<i>Mil Baht</i>	<i>Mil Baht</i>	% YoY	% QoQ	<i>Mil Baht</i>	<i>Mil Baht</i>	% YoY
Share of profit from the associate GJP	937.4	1,052.3	629.7	-32.8%	-40.2%	2,178.7	2,576.5	18.3%
Share of profit from the joint venture Gulf WHA MT	(0.5)	(0.4)	(1.1)	134.8%	208.6%	(0.7)	(2.9)	286.5%
Share of profit from the joint venture for projects in Vietnam	0.7	14.9	6.3	875.4%	-57.4%	0.7	28.5	4280.0%
Share of profit from the joint venture for a project in Oman	-	(4.6)	(4.1)	<i>n.a.</i>	-12.7%	-	(13.9)	<i>n.a.</i>
<b>Total share of profit from an associate and joint ventures</b>	<b>937.6</b>	<b>1,062.2</b>	<b>630.9</b>	<b>-32.7%</b>	<b>-40.6%</b>	<b>2,178.6</b>	<b>2,588.2</b>	<b>18.8%</b>
Less: gain on exchange rate from share of profit from the associate GJP	282.3	395.6	54.6	-80.7%	-86.2%	122.1	689.8	464.9%
<b>Share of profit from an associate and joint ventures before gain on exchange rate</b>	<b>655.1</b>	<b>656.7</b>	<b>575.1</b>	<b>-12.2%</b>	<b>-12.4%</b>	<b>2,056.5</b>	<b>1,886.7</b>	<b>-8.3%</b>

**Remarks:** \* indicates share of profit from TTICZ-01 solar power project in which the Company indirectly holds 49% stake and Mekong Project in which the Company indirectly held 49% between January – May 2019

The Group recorded a share of profit from an associate and joint ventures in Q3'19 of 630.9 million baht, a decrease of 40.6% QoQ, and a decrease of 32.7% YoY. 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 Q3'19 was 575.1 million baht, a decrease of 12.4% QoQ and a decrease of 12.2% YoY, respectively.

From the table showing GJP's volume of electricity, steam and chilled water sold, it appears that although the IPPs (GNS and GUT) had a decrease in volume of electricity sold to EGAT of 67.7% QoQ in Q3'19, share of profit from the IPPs increased 2.4% QoQ from the higher availability payment compared to the previous quarter. Nevertheless, the SPPs had a decrease in volume of electricity sold to EGAT of 5.1% QoQ due to the major overhaul of the 3 power projects under 7SPPs, namely GKP2, GNK2 and GNLL, in Q3'19 which resulted in a decrease in the overall share of profit from GJP.

Compared to the same period in the previous year, the IPPs saw an increase in the volume of electricity sold to EGAT of 47.6% YoY in Q3'19. Nonetheless, the lower availability payment rate (APR) of both IPPs, in addition to the 6.0% YoY decrease in volume of electricity sold to EGAT by the SPPs as a result of the major overhaul of the aforementioned 3 power projects, lead to the decrease in overall share of profit from GJP in Q3'19 from Q3'18.

The volume of electricity sold to industrial users by the SPPs increased by 4.3% QoQ from the increase in electricity demand and increased 3.7% YoY from the increase in industrial users from the year before. Nonetheless, the volume of chilled water sold to industrial users decreased by 5.7% QoQ and decreased by 7.8% YoY from the major overhaul of the 3 power projects as mentioned previously.

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	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
				% YoY	% QoQ			
<b>IPPs</b>								
Volume of electricity sold (gigawatt-hour)	903.0	4,126.4	1,332.8	47.6%	-67.7%	3,741.2	7,293.0	94.9%
<b>7 SPPs</b>								
Volume of electricity sold to EGAT (gigawatt-hour)	1,101.8	1,090.6	1,035.5	-6.0%	-5.1%	3,359.9	3,225.7	-4.0%
Volume of electricity sold to industrial users (gigawatt-hour)	287.5	286.1	298.3	3.7%	4.3%	838.4	872.9	4.1%
Volume of steam sold (thousand tons)	66,773	65,532.7	60,323	-9.7%	-8.0%	201,321	193,860	-3.7%
Volume of chilled water (million refrigeration tons)	7.1	6.9	6.6	-7.8%	-5.7%	22.6	15.3	-32.2%

Volume of electricity sold by solar power project TTCIZ-01

Volume of electricity sold (megawatt-hour)	Q3'18	Q2'19	Q3'19	Change		9M'18	9M'19	Change
				% YoY	% QoQ			
TTCIZ-01	-	27,205	25,107	n.a.	-7.7%	-	59,990	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 Q3'18, Q2'19 and Q3'19 were equal to 32.5767, 30.9152 and 30.7661 baht/USD, respectively (the Thai Baht in Q2'19 appreciated compared to Q3'18, and appreciated in Q3'19 compared to Q2'19). As a result, the Group recognized a gain on exchange rate in Q3'19 of 70.0 million baht, a decrease of 84.2% QoQ from the gain on exchange rate of 443.7 million baht in Q2'19, and a decrease of 77.3% YoY from the loss on exchange rate in Q3'18 of 308.5 million baht.

Nonetheless, in this report, the Group separates effects from unrealized exchange rate of the associate (GJP) in Q3'19 of 54.6 million baht and the Company's subsidiaries (mainly GMP) of 34.5 million baht, resulting in a total unrealized gain (loss) from exchange rate attributable to the owners of the parent of 89.1 million baht. This will explain the Group's performance accurately and appropriately. Details of which are set forth as follows:

<b>Gain (loss) on exchange rate</b>	<b>Q3'18</b>	<b>Q2'19</b>	<b>Q3'19</b>	<b>Change</b>		<b>9M'18</b>	<b>9M'19</b>	<b>Change</b>
	<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	308.5	443.7	70.0	-77.3%	-84.2%	98.0	833.6	750.5%
<b>Less:</b> Gain (loss) on exchange rate attributable to non-controlling interests	139.7	221.3	35.5	-74.6%	-83.9%	50.0	380.4	660.1%
Gain (loss) on exchange rate attributable to the owners of the parent	168.8	222.4	34.5	-79.6%	-84.5%	48.0	453.2	844.9%
<b>Add:</b> Gain (loss) on exchange rate attributable to share of profit from an associate	282.3	395.6	54.6	-80.7%	-86.2%	122.1	689.8	464.9%
<b>Total gain (loss) from exchange rate attributable to owners of the parent</b>	<b>451.1</b>	<b>618.0</b>	<b>89.1</b>	<b>-80.2%</b>	<b>-85.6%</b>	<b>170.1</b>	<b>1,143.0</b>	<b>572.0%</b>

### 3. Analysis of the Group's Financial Position as of September 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 September 30, 2019	Change
	<i>Mil Baht</i>	<i>Mil Baht</i>	%
Cash, cash equivalents and short-term investment	18,793.5	14,475.5	-23.0%
Trade accounts receivable	3,512.1	5,498.8	56.6%
Investments in an associate and joint ventures	21,658.9	22,503.6	3.9%
Advance payments for land and power plant construction	5,417.5	4,337.6	-19.9%
Property, plant and equipment, net	67,664.2	74,779.9	10.5%
Other assets	6,622.4	8,970.5	35.5%
<b>Total assets</b>	<b>123,668.7</b>	<b>130,566.0</b>	<b>5.6%</b>
Accounts payable for power plant construction	5,504.0	2,168.2	-60.6%
Trade accounts payable	1,177.6	1,868.9	58.7%
Interest-bearing debts due in 1 year	9,649.2	3,230.8	-66.5%
Interest-bearing debts due over 1 year	59,882.5	72,154.5	20.5%
Other liabilities	3,844.7	2,910.4	9.1%
<b>Total liabilities</b>	<b>78,880.4</b>	<b>82,332.8</b>	<b>4.4%</b>
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	5,298.3	35.0%
Other equity	1,057.2	935.5	-11.5%
<b>Total equity attributable to owners</b>	<b>36,536.9</b>	<b>37,789.6</b>	<b>3.4%</b>
Non-controlling interests	8,251.3	10,443.6	26.6%
<b>Total equity</b>	<b>44,788.2</b>	<b>48,233.2</b>	<b>7.7%</b>
<b>Debt to equity</b>	<b>1.76</b>	<b>1.71</b>	<b>-3.01%</b>

### 3.1 Total assets

**Total assets as of September 30, 2019 was 130,566.0 million baht, an increase of 6,897.3 million baht or 5.6%** 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 10.5% or 7,115.7 million baht, from the increase in value of 12SPPs power plants under GMP group and TTCIZ-02, as well as the construction work of gas-fired IPP (GSRC) and GCG.
  - An increase in trade accounts receivable of 56.6% or 1,986.7 million baht primarily from the SPPs under GMP group in which 4 power projects began commercial operation in the first 9 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 23.0% or 4,318.0 million baht from the dividends paid and shareholder loans to Vietnam and Oman projects.
  - A decrease in advance payments for land and power plant construction of 19.9% or 1,079.9 million baht from the payment of construction costs per milestone for GSRC.

### 3.2 Total liabilities

**Total liabilities as of September 30, 2019 was 82,332.8 million baht, an increase of 3,452.4 million baht or 4.4%** 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 4,778.4 million baht primarily from the drawdowns for the construction of GSRC power project under IPD group.
  - Increase in debentures of 1,502.2 million baht from the issuances of new debentures of 7,493.6 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 691.3 million baht from SPPs under GMP group in which 4 additional power projects commenced commercial operation compared to in 2018.
- 2) Significant decrease in liabilities include:
  - Accounts payable for power plant construction decreased by 3,335.8 million baht from the payment of construction costs per milestone during the period.

### 3.3 Total equity

**Total equity as of September 30, 2019 was 48,233.2 million baht, an increase of 3,445.0 million baht or 7.7%** from December 31, 2018 due to two main factors:

- An increase in non-controlling interests of 2,192.3 million baht was 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 1,421.9 million baht as the Group recorded an increase in net profit for the period of 3,981.8 million baht offset with dividend payment of 2,559.9 million baht.

### 3.4 Capital structure

**As of September 30, 2019, the Group had a debt to equity ratio of 1.71 times**, a slight decrease 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 Q1'19. Nonetheless, the Company also recognized profits from 12 SPPs under GMP group which gradually commenced commercial operation, resulting in a lower 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.