





Management's Discussion and Analysis (MD&A)

For the Financial Result for the Fiscal Year Ended December 31, 2017

FINANCIAL POSITION

EXECUTIVE SUMMARY

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SIGNIFICANT EVENTS

Commercial operation of ABPR3

From a total of three SPP power plants in Amata City Industrial Estate that have scheduled COD in 2018, ABPR3 is the first gas-fired combined cycle cogeneration power that commenced COD on <u>February 1, 2018</u>. It has an installed capacity of 133 MW and sells electricity to EGAT 90 MW under a 25-year PPA. The Project was able to achieve COD as scheduled in PPA, and construction cost is in line with the budget approved by lenders.

This achievement would enable us to keep record of managing the project to <u>commence COD in time and in budget for 26 consecutive projects during the last 7 years.</u>

Investment in the industrial waste to energy power plant project

In January 2018, B.Grimm Power announced the investment in the industrial waste to energy power plant project located at Ratchaburi Industrial Estate and operated by Progress Interchem (Thailand) Co., Ltd. ("Interchem") with a contracted capacity of 4.0 MW (an installed capacity of 4.8 MW) selling electricity to PEA under a 20-year PPA with Schedule Commercial Operation Date ("SCOD") within December 31, 2019. The project received a feed-in tariff of Baht 6.08 per unit for 20 and an adder of Baht 0.70 per unit for the first 8 years. The Company purchased the shares of Interchem in the amount of 480,000 shares, which constitutes 48 percent of the registered capital of Interchem.

ADB Facility

On February 23, 2018, B.Grimm Power entered into a facility agreement with ADB (the "Lender"), pursuant to which the Lender agreed to make available to B.Grimm Power a loan facility in an aggregate amount of US\$235 million ("the Loan Facility"). The purpose of the Loan Facility is to finance B.Grimm Power's projects in the ADB developing member countries

Progress of Collaboration Agreement with Progress of Services Collaboration Agreement with Siemens

B.Grimm Power and Siemens aim to collaborate on enhancing the performance of those power plants which have been commercially operated and have Siemens gas turbines installed on the following perspectives:

- Availability to increase availability or reduce a number of maintenance days, both planned and unplanned
- 2. <u>Efficiency</u> to enhance heat rate of gas turbine as well as overall power plant performances
- 3. <u>Digitalization</u> to predict the degradation of each machine more accurate. Consequently, each plant will be able to minimize spinning reserve of capacity and have more capacity available for sales

The result of this collaboration is to eventually enhance operating margin of our gas-fired combined cycle cogeneration projects. We aim to conclude on key terms and conditions with Siemens by Q2'2018 and the first implementation will be on the coming major overhaul of ABP3 around the end of this year.

Awards and recognition

In 2017 B.Grimm has been honored with several rewards which are mentioned below:

- The Best IPO 2017 in Thailand from The Asset Triple A Country Awards 2017 – The Asset Magazine
- Best IPO Deal in Southeast Asia 2017 from 11th Annual Alpha Southeast Asia Deal & Solution Awards 2017 – Alpha Southeast Asia Magazine
- 3. Best Energy Solutions Provider from 5th Annual International Finance Awards International Finance Magazine
- Deal of the Year from ThaiBMA Best Bond Awards 2017 – the Thai Bond Market Association (ThaiBMA)

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KEY FINANCIAL HIGHLIGHT

Sales and service income, EBITDA, and NNP in 2017 hit record high; EBITDA margin enhanced to 28%

	2016	2017	% change
	million Baht	million Baht	y-on-y
Sales and service income	27,747	31,482	13.5%
EBITDA	7,494	8,725	16.4%
Net profit	2,316	3,594	55.2%
Normalized net profit (NNP)*	2,090	2,918	39.6%
NNP - Owner of the parent	1,166	1,727	48.1%
EBITDA margin (%)	27.0%	27.7%	
NNP margin (%)	7.5%	9.3%	
% NNP - Owner of the parent	55.8%	59.2%	

Remark:

Sales and Service Income

Sales and service income increased 13.5% yearon-year from Baht 27,747 million in 2016 to Baht 31,482 million in 2017, primarily due to an increase in revenue from the power plants that were fully developed and are in operation, namely BPWHA1, located in Hemraj Industrial Estate, that started COD on November 1, 2016 and ABP5, located in Amata Nakorn Industrial Estate, which started COD on June 1, 2016.

EBITDA

- EBITDA increased 16.4% year-on-year from Baht 7,494 million in 2016 to Baht 8,725 million in 2017 which is in line with an increase in revenue and improvement on EBITDA margin.
- EBITDA margin improved to 27.7% in 2017, primarily due to high efficiency of our new power plants became commercial operation in recent years, operational cost saving and an increase in Ft during the year.

Normalized net profit (NNP)

- NNP increased 39.6% year-on-year from Baht 2,090 million in 2016 to Baht 2,918 million in 2017, primarily due to improvement of our operating profit margin and significant reduction of financing cost resulting from the repayment of loan after IPO.
- NNP margin improved to 9.3% in 2017 from 7.5% in 2016, primarily due to improvement of our operating profit margin and reduction of financing cost.
- NNP attributable to owner of the parent is Baht 1,727 million in 2017 or accounted for 59.2% of NNP.

Normalized net profit = Net profit — Unrealized gain / (loss) from FX — Non-recurring income / (expense)

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REVENUE STRUCTURE

	2016	2017	% change
	million Baht	million Baht	y-on-y
Electricity sales			
Sales to EGAT	16,933	19,354	14.3%
Sales to IUs - Thailand	8,489	9,394	10.7%
Sales to IUs - Vietnam	1,217	1,189	-2.3%
Sales to PEA	44	65	48.4%
Sales to EDL	0	107	n/a
Electricity sales	26,684	30,110	12.8%
Steam sales	539	529	-1.9%
Others	524	843	61.0%
Sales and services income	27,747	31,482	13.5%

Electricity Sales to EGAT

- Electricity sales to EGAT increased 14.3% yearon-year from Baht 16,933 million in 2016 to Baht 19,354 million for in 2017.
 - The volume of electricity sold to EGAT increased 15.5% year-on-year from 5,805 GWh for 2016 to 6,706 GWh in 2017, primarily due to the inclusion of the power plants which became commercially operational during the period, namely BPWHA1 and ABP5.
 - Electricity price sales to EGAT decreased 1.0% year-on-year from 2.92 Baht/KWh in 2016 to 2.89 Baht/KWh in 2017 because the energy payment a component of the EGAT electricity tariff is indexed to the price of natural gas for which slightly decreased from 240.00 Baht/mmBtu in 2016 to 239.89 235.26 Baht/mmBtu in 2017.

Electricity sales to Industrial Users (IUs) – Thailand

- Electricity sales to industrial users in Thailand increased 10.7% year-on-year from Baht 8,489 million in 2016 to Baht 9,394 million in 2017.
 - The volume of electricity sold to industrial users in Thailand increased 12.0% year-on-year from 2,634 GWh in 2016 to 2,949 GWh in 2017, primarily due to 1) the inclusion of new industrial users of ABP5, BIP2, and BPWHA1 and 2) an increase in demand from existing customers in Amata City and Laemchabang Industrial Estate
 - Electricity price sales to IU in Thailand decreased 0.9% year-on-year from 3.22 Baht/KWh in 2016 to 3.19 Baht/KWh, primarily due to a change in natural gas price.

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REVENUE STRUCTURE

Electricity Sales to Industrial Users (IUs) – Vietnam

- Electricity sales to industrial users in Vietnam decreased 2.3% year-on-year from Baht 1,217 million in 2016 to Baht 1,189 million in 2017.
 - The volume of electricity on-sold to industrial users in Vietnam increased 3.7% year-on-year from 466 GWh in 2016 to 483 GWh in 2017, primarily due to an increase in demand load from existing customers.
 - Electricity price sales to IU in Vietnam decreased 5.7% year-on-year from 2.61 Baht /KWh in 2016 to 2.46 Baht/KWh in 2017, primarily due to a decrease in the prevailing retail tariff charged by the subsidiary of EVN which our power selling prices are set at a premium to.

Steam Sales to Industrial Users (IUs)

- Steam sales to industrial users in Thailand decreased 1.9% year-on-year from Baht 539 million in 2016 to Baht 529 million in 2017.
 - The volume of steam sold to industrial users in Thailand increased 0.5% year-onyear from 509,130 tons in 2016 to 511,673 tons in 2017, primarily due to an increase in demand of industrial users in Amata Nakorn and Amata City Industrial Estate.
 - Steam price sales to IU in Thailand decreased 2.3% year-on-year from 1,059.31 Bahtton in 2016 to 1,034.45 Bahtton in 2017, primarily due to a decrease in natural gas price as our steam price is generally adjusted to reflect changes in natural gas price.

Electricity Sales to EDL

Electricity sales to EDL in Laos was recorded at Baht 107 million in 2017 because our first hydro power projects - XXHP - achieved COD on August 1, 2017.

Other Sales and Service income

Other sales and service income increased 61.0% year-on-year from Baht 524 million in 2016 to Baht 843 million in 2017, primarily due to a record of construction revenue which is recognized based on the percentage of completion of our hydro power projects in Lao PDR, namely XXHP and Nam Che.



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REVENUE STRUCTURE

Table 1) Revenue Drivers: Sales volume

	2016	2017	% change
	GWh	GWh	y-on-y
Electricity sales to EGAT	5,805	6,706	15.5%
Electricity sales to IU - Thailand			
Amata Nakorn Industrial Estate	1,520	1,551	2.0%
Amata City Industrial Estate	327	345	5.4%
Laemchabang Industrial Estate	669	688	2.9%
Hemraj Industrial Estate	0	221	n/a
Bangkadi Industrial Park	118	145	23.0%
Electricity sales to IU - Thailand	2,634	2,949	12.0%
Electricity sales to IU - Vietnam	466	483	3.7%

	2016	2017	% change
	ton	ton	y-on-y
Steam sales to IU - Thailand			
Amata Nakorn Industrial Estate	124,744	132,244	6.0%
Amata City Industrial Estate	154,749	164,450	6.3%
Laemchabang Industrial Estate	229,636	214,979	-6.4%
Steam sales to IU - Thailand	509,130	511,673	0.5%

Table 2) Revenue Drivers: Price per Unit

Price per unit	Units	2016	2017	% change
				y-on-y
Electricity to EGAT	Baht/KWh	2.92	2.89	-1.0%
Electricity to IU - Thailand	Baht/KWh	3.22	3.19	-0.9%
Electricity to IU - Vietnam	Baht/KWh	2.61	2.46	-5.7%
Steam to IU - Thailand	Baht/Ton	1,059.31	1,034.45	-2.3%
Effective gas cost	Baht/mmBtu	240.00	239.89 235.26	-0.0% - <mark>2.0%</mark>

EXECUTIVE SUMMARY



COST STRUCTURE

	2016	2017	% change
	million Baht	million Baht	y-on-y
Cost of sales and services			
Natural gas	16,285	18,128	11.3%
Cost of electricity- Vietnam	1,084	1,061	-2.1%
O&M	1,739	1,761	1.2%
Others	638	1,193	87.0%
Cost of sales and services	19,747	22,144	12.1%
SG&A	939	1,104	17.6%
Depreciation	2,475	2,758	11.4%
Total expenses	23,160	26,006	12.3%

Natural Gas

Natural gas costs increased 11.3% year-on-year from Baht 16,285 million in 2016 to Baht 18,128 million in 2017, primarily due to an increase in gas consumption arising from the inclusion of the power plants, despite partly offset by a decrease in the average effective price of natural gas price which is tied to the weighted average price for the mass of natural gas from PTT's pool gas.

Cost of Electricity- Vietnam

Cost of electricity purchased from subsidiaries of EVN decreased 2.1% year-on-year from Baht 1,084 million in 2016 to Baht 1,061 million in 2017 in line with change in electricity sales to industrial users in Vietnam.

O&M

Operation and maintenance costs increased 1.2 % year-on-year from Baht 1,739 million for 2016 to Baht 1,761 million for 2017, primarily due to an increase in operation and maintenance costs arising from the inclusion of the new power plants described previously.

Other Cost of Sales and Service

Other cost of sales and service income increased 87.0% year-on-year from Baht 638 million for 2016 to Baht 1,193 million for 2017, primarily due to a record of construction cost which is recognized based on our actual incurred construction costs of our hydro power projects in Laos, namely XXHP and Nam Che hydro power projects.

Selling, General & Administrative Expense

Selling, general & administrative expense increased 17.6% year-on-year from Baht 939 million in 2016 to Baht 1,104 million in 2017, primarily attributable to an increase in staff to support our expansion and the inclusion business administrative expenses of the new power plants as well as an expense related to the remuneration scheme to encourage employees to commit the longterm service with the company and expenses related to IPO.



NON-OPERATING ITEMS

	2016	2017	% change
	million Baht	million Baht	y-on-y
Other revenues	172	187	8.9%
Share of profit (loss) of associates	261	256	-2.0%
Gain (Loss) on exchange rate	85	-38	-145.0%

Other Revenues

Other revenues increased 8.9% year-on-year from Baht 172 million in 2016 to Baht 187 million in 2017, primarily attributable to an increase in interest income

Share of Profit (Loss) of Associates and **Joint Ventures**

Share of profit from associates decreased 2.0% year-on-year from Baht 261 million in 2016 to Baht 256 million in 2017, primarily attributable to profits at our associate and our joint ventures namely ABPIF, **BGYSP** and **BGSENA**

Gain (Loss) on Exchange Rate

We recorded a loss on exchange rate of Baht 38 million in 2017, primarily attributable to an unrealized loss on exchange rate from trade payable.



FINANCIAL PERFORMANCE

EXECUTIVE SUMMARY



FINANCE COST AND TAX

	2016	2017	% change
	million Baht	million Baht	y-on-y
Finance cost			
Interest expense from borrowing	2,183	2,291	5.0%
Interest expense from ABPIF	594	546	-8.0%
Unrealized loss/(gain) from FX	-229	-1,113	387.1%
Other financing costs	16	328	1998.1%
Finance cost	2,563	2,053	-19.9%
Tax expense (income)			
Tax on profits for the period	194	230	18.6%
Deferred tax expense (income)	31	5	-84.5%
Tax expense (income)	225	235	4.2%

Finance Cost

- Finance costs decreased 19.9% year-on-year from Baht 2,563 million in 2016 to Baht 2,053 million in 2017. The decrease was primarily attributable to:
 - A 387.1% increase year-on-year in unrealized gain on exchange rate from financing activities relating to our U.S. dollardenominated borrowings from Baht 229 million in 2016 to Baht 1,113 million in 2017 due to an appreciation of the Baht against the U.S. dollar at the ending of each financial statement period causing reduction on finance cost; and
 - A 8.0% decrease year-on-year in interest expense from ABPIF from Baht 594 million in 2016 to Baht 546 million in 2017 based on the benefits transferred from the business operation of ABP1 and ABP2; and
 - Offset by, a 5.0% increase in interest expenses from borrowings from Baht 2,183 million in 2016 to Baht 2,291 million in 2017, primarily due to an increase in the interest incurred on the indebtedness used to fund the construction of ABP5, BGPSK and BPWHA1 after their commencement of commercial operation in 2016, partly offset by a decrease from interest expense caused by repayment of

- corporate loan of B.Grimm Power in the amount of Baht 5,960 million during Q3'2017 and a lower interest rate from bond issuance of project ABP3, ABPR1 and ABPR2 in the amount of Baht 11,482 million; and
- Other finance costs of Baht 328 million in 2017, primarily due to a bond issuance of ABP3, ABPR1 and ABPR2 to refinance its project financing facilities resulting in a write-off of deferred financing fee and a payment of prepayment fee of project financing facilities.

Tax Expense

 Income tax expense increased 4.2% year-on-year from Baht 225 million in 2016 to Baht 235 million in 2017. The increase was primarily attributable to an increase in tax on profits arising from an increase in taxable profit



NORMALIZED NET PROFIT (NNP)

	2016	2017	% change
	million Baht	million Baht	y-on-y
Net profit for the year	2,316	3,594	55.2%
Add Unrealized (gain) on FX	-226	-1,049	364.1%
Add Non-recurring expenses	0	373	n/a
Normalized net profit (NNP)	2,090	2,918	39.6%
<u>Less</u> Minority interest	-924	-1,191	28.9%
NNP - Owner of the parent	1,166	1,727	48.1%
NNP per share in 2017		0.66	
No. of shares in calculation		2,607	

- NNP increased 39.6% year-on-year from Baht 2,090 million in 2016 to Baht 2,918 million in 2017. The adjustment on NNP in 2017 was primarily attributable to:
 - An unrealized gain on exchange rate of Baht 1,049 million due to the appreciation of the Baht against the U.S. dollar at the ending of each financial statement period; and
 - Non-recurring expenses of Baht 373 million, primarily due to a related cost of bond issuance of ABP3, ABPR1 and ABPR2, a provision of inventory, expenses related to IPO and an expense related to the remuneration scheme to encourage employees to commit the long-term service with the company.



FINANCIAL POSITION



STATEMENT OF FINANCIAL POSITION

	31-Dec-2016	31-Dec-2017	% change
	million Baht	million Baht	
Cash	8,322	18,210	118.8%
Total assets	76,047	89,241	17.4%
Total interest-bearing debts	55,205	53,856	-2.4%
Total liabilities	64,513	63,497	-1.6%
Total equities	11,534	25,744	123.2%
Total equities attributable to Owner	5,900	18,653	216.2%
Net-int debt to equity (times)	4.1	1.4	

Change in Capital Structure

- Total assets increased 17.4% from Baht 76,047 million as of December 31, 2016 to Baht 89,241 million as of December 31, 2017, primarily due to an increase in cash and cash equivalents, property, plant and equipment, and intangible assets.
- Total interest-bearing debts decreased 2.4% from Baht 55,205 million as of December 31, 2016 to Baht 53,856 million as of December 31, 2017 primarily due to repayment of corporate loan of B.Grimm Power in the amount of Baht 5,960 million during Q3'2017.
- Total equities increased 123.2% from Baht 11,534 million as of December 31, 2016 to Baht 25,744 million as of December 31, 2017 primarily due to an increase in paid up equity arising from net proceed from IPO and retained earnings during the period.
- As a result of the foregoing, net interest-bearing debt to equity ratio significantly improved from 4.1 times as of December 31, 2016 to 1.4 times as of December 31, 2017



EXECUTIVE SUMMARY

PROGRESS OF PROJECTS **UNDER CONSTRUCTION**



ABBREVIATION & OUR PROJECTS

AS OF 25 JANUARY 2018



Amata B.Grimm Power (Rayong) 3		
Type of Fuel	Combined Cycle Cogeneration	
Installed Capacity	Electricity 133 MW / Steam 30 t/h	
Economic Ownership	55.5%	
COD	1 Feb 2018	
EGAT PPA	90 MW / 25 years	
% Progress	100.0%	



Amata B.Grimm Power (Rayong) 4		
Type of Fuel	Combined Cycle Cogeneration	
Installed Capacity	Electricity 133 MW / Steam 30 t/h	
Economic Ownership	55.5%	
SCOD	1 Jun 2018	
EGAT PPA	90 MW / 25 years	
% Progress	96.2%	



Amata B.Grimm Power (Rayong) 5	
Type of Fuel	Combined Cycle Cogeneration
Installed Capacity	Electricity 133 MW / Steam 30 t/h
Economic Ownership	55.5%
SCOD	1 Oct 2018
EGAT PPA	90 MW / 25 years
% Progress	86.7%



Nam Che 1 Hydro Power Project		
Type of Fuel	Hydro (Run of the river)	
Installed Capacity	15 MW	
Economic Ownership	72.0%	
SCOD	Q4'2018	
EDL PPA	15.0 MW / 25 years	
% Progress	61.2%	

ABBREVIATION & OUR PROJECTS



ABBREVIATION

EXECUTIVE SUMMARY

ADB	Asian Development Bank
COD	Commercial Operation Date
EBITDA	Earnings before Interest, Taxes, Depreciation and Amortization
EDL	Electricite Du Laos
EGAT	Electricity Generating Authority of Thailand
ERC	Energy Regulatory Commission
EPC	Engineering, Procurement and Construction
EVN	Electricity of Vietnam
FX	Foreign exchange
IPO	Initial public offering
IU	Industrial user
JV	Joint venture

KWh	Kilowatt-hour
GWh	Gigawatt-hour
mmBtu	Million Btu (unit of gas consumption)
NNP	Normalized net profit
O&M	Operations and maintenance
P.A.	Per annum
PEA	Provincial Electricity Authority (Thailand)
PPA	Power purchase agreement
PTT	PTT public Company Limited
SG&A	Selling, general & administrative expense
Y-o-Y	Year on year

OUR PROJECTS

ABPIF	Amata B.Grimm Power Plant Infrastructure Fund
ABP1	Amata B.Grimm Power 1
ABP2	Amata B.Grimm Power 2
ABP3	Amata B.Grimm Power 3
ABP4	Amata B.Grimm Power 4
ABP5	Amata B.Grimm Power 5
ABPR1	Amata B.Grimm Power (Rayong) 1
ABPR2	Amata B.Grimm Power (Rayong) 2
ABPR3	Amata B.Grimm Power (Rayong) 3
ABPR4	Amata B.Grimm Power (Rayong) 4
ABPR5	Amata B.Grimm Power (Rayong) 5

BGPSK	B.Grimm Solar Power (Sakaeo) 1
BGSENA	B.Grimm Sena Solar Power Limited
BGYSP	B.Grimm Yanhee Solar Power
BIP1	B.Grimm BIP Power 1
BIP2	B.Grimm BIP Power 2
BPLC1	B.Grimm Power (Laem Chabang) 1
BPLC2	B.Grimm Power (Laem Chabang) 2
BPWHA1	B.Grimm Power (WHA) 1
Nam Che	Nam Che 1 Hydro Power Project
XXHP	Xenamnoy 2 and Xekatam 1 Hydro Power Project





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