

# RATCH



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.

# Analyst Meeting 3Q2015

*InterContinental Hotel, Room Pinnacle 1-2 , 4th Floor  
13 November 2015*

# Agenda

## Highlights

RATCH Overview

Operating Performance

Financial Performance

Appendix

# Highlights



Hongsa Thermal Power Plant has commenced commercial operation of the unit 2 on 2 November 2015

On 14 September 2015, Moody's Rating has upgraded RATCH foreign bond credit rating (EMTN) from "Baa2" to "Baa1."

MOODY'S  
INVESTORS SERVICE

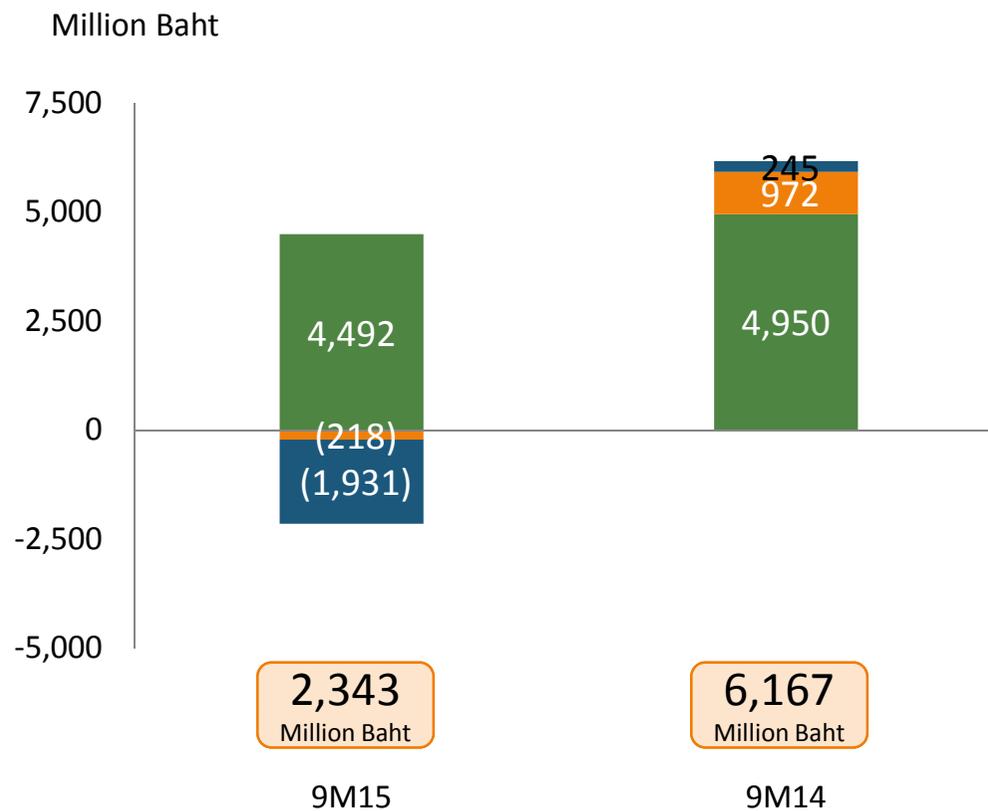
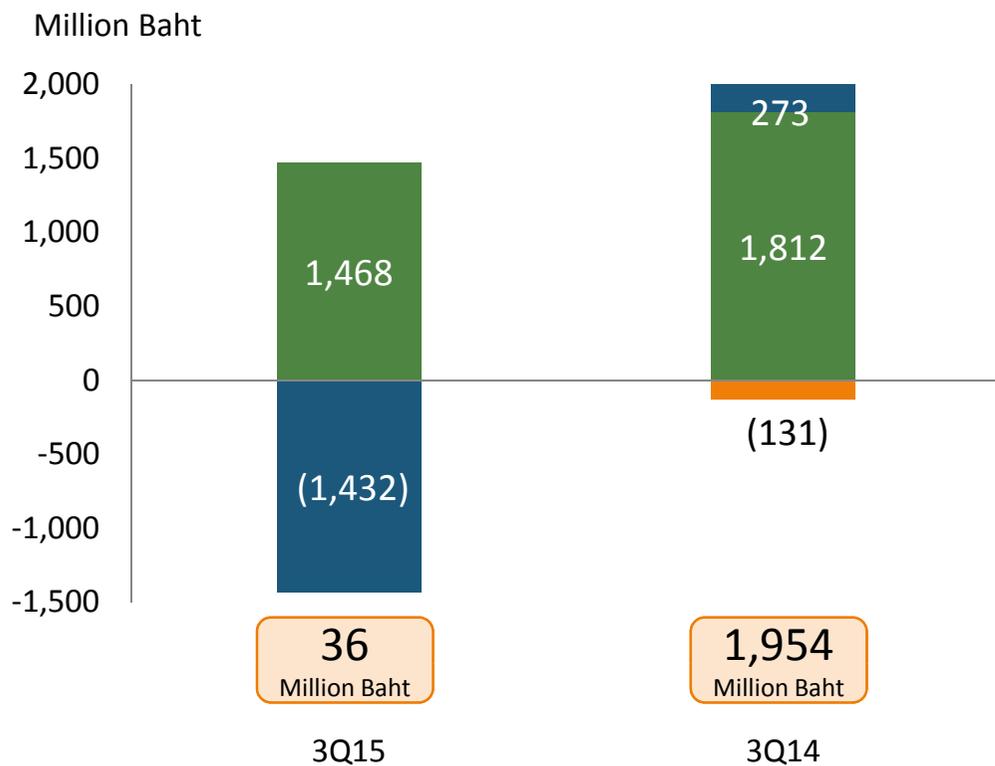
Songkhla Biomass : Biomass power plant  
Clean Energy attentive community and Quality Environment

Songkhla Biomass Power Plant has commenced commercial operation on 9 November 2015

# Profit for the period: Equity holders of the Company

➔ Profit for the period: 3Q15&3Q14

➔ Profit for the period: 9M15&9M14



■ Normal profit ■ Extraordinary items ■ FX

■ Normal profit ■ Extraordinary items ■ FX

# Agenda

Highlights

RATCH Overview

Operating Performance

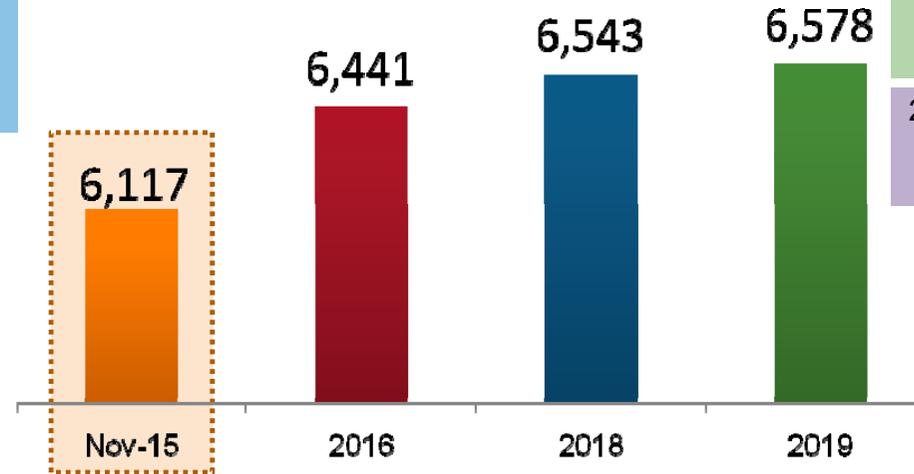
Financial Performance

Appendix

# Overview of RATCH projects

## Capacity until 2019 (Committed Projects)

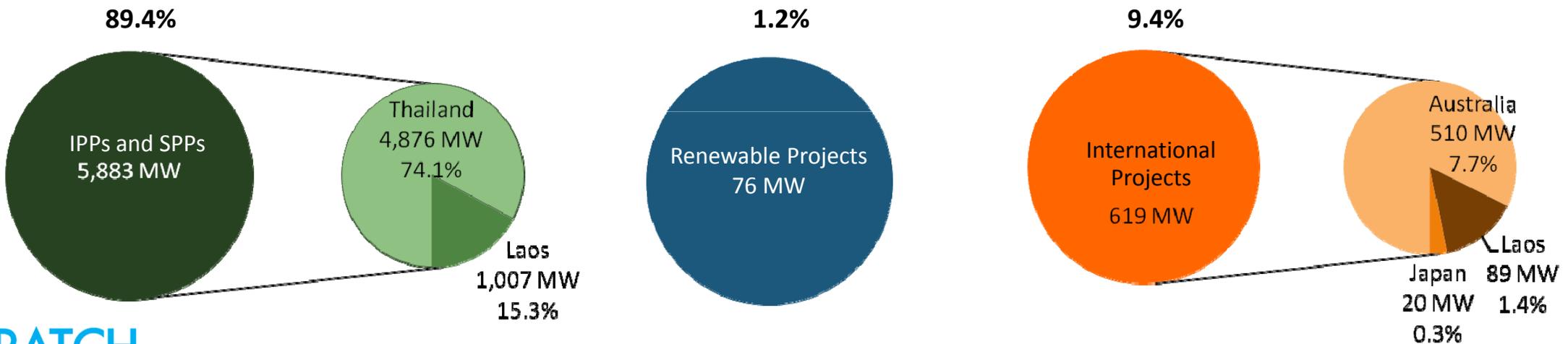
- 2016 +
- Hongsa Unit 3 250.40 MW
  - Nava Nakhon 52.80 MW
  - Solar Project in Japan 20.10 MW



- 2018 + Xe Pian – Xe Namnoy 102.50 MW

- 2019 + Berkprai Cogeneration 35 MW

## Current Breakdown of Capacity till 2019



# Portfolio by Locations

## IPPs and SPPs in Thailand

Name of Power Plant/Project	Location	Technology	Total Capacity (MW)	Capacity contributed to the Group (MW)	Terms of the PPA		
					PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
<b>In Operation</b>							
Ratchaburi Power Plant	Ratchaburi Province	Thermal	1,470	1,470 (100%)	EGAT	25 years/ 2025	Not Applicable
		Combined Cycle	2,175	2,175 (100%)	EGAT	25 years/ 2027	Not Applicable
Tri Energy Power Plant	Ratchaburi Province	Combined Cycle	700	700 (100%)	EGAT	20 years/ 2020	Not Applicable
Ratchaburi Power Power Plant	Ratchaburi Province	Combined Cycle	1,400	350 (25%)	EGAT	25 years/ 2033	Not Applicable
Pratu Tao-A Power Plant	Sukhothai Province	Gas Engine	1.68	1.68 (100%)	EGAT	5 years/ 2018	Automatic renewal for a further 5 years every 5 years
Pratu Tao-A Power Plant (Expansion)		Gas Engine (Expansion)	0.97	0.97 (100%)	PEA	5 years/ 2015	Automatic renewal for a further 5 years every 5 years
Sao Thian-A Power Plant	Sukhothai Province	Gas Engine	3.60	3.60 (100%)	PEA	5 years/ 2016	Automatic renewal for a further 5 years every 5 years
Ratchaburi World Cogeneration Project	Ratchaburi Industrial Estate, Ratchaburi Province	Cogeneration	234	93.60 (40%)	EGAT	Block 1: 25 years/ 2039 Block 2: 25 years/ 2040	Not Applicable

# Portfolio by Locations

## IPPs and SPPs in Thailand (Cont.)

Name of Power Plant/Project	Location	Technology	Total Capacity (MW)	Capacity contributed to the Group (MW)	Terms of the PPA		
					PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
<b>Under Construction</b>							
<b>Nava Nakorn Electricity Generating Project</b>	Nava Nakorn Industrial Promotion Zone, Pathumthani Province	Cogeneration	132	52.80 (40%)	EGAT	25 years/ 2041 (Expected COD: 2016)	Not Applicable
<b>Under Development</b>							
<b>Berkprai Cogeneration</b>	Ratchaburi Province	Cogeneration	100	35 (35%)	EGAT	25 years/2044 (Expected COD: 2019)	Not Applicable

# Portfolio by Locations

## Renewable Projects in Thailand

Name of Power Plant/Project	Location	Technology	Total Capacity (MW)	Capacity contributed to the Group (MW)	Terms of the PPA		
					PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
<b>In Operation</b>							
<b>Huay Bong 2 Wind-Turbine Power Plant</b>	Nakorn Ratchasima Province, Thailand	Wind-Turbine	103.5	20.70 (20%)	EGAT	5 years/ 2018	Automatic renewal for a further 5 years every 5 years
<b>Huay Bong 3 Wind-Turbine Power Plant</b>	Nakorn Ratchasima Province, Thailand	Wind-Turbine	103.5	20.70 (20%)	EGAT	5 years/ 2017	Automatic renewal for a further 5 years every 5 years
<b>Solar Power Projects (Korat 3, Korat 4, Korat 7)</b>	Nakorn Ratchasima Province, Thailand	Solar Power	18	7.2 (40%)	PEA	5 years/ 2017	Automatic renewal for a further 5 years every 5 years
<b>Solara Power Projects</b>	Nakhon Sri Ayutthaya, Nakhon Pathom, and Supanburi Provinces, Thailand	Solar Power	34.25	16.78 (49%)	PEA	Ayutthaya Province : 5 years / 2016 Suphan and Nakhon Pathom Provinces : 5 years / 2017	Automatic renewal for a further 5 years every 5 years
<b>Songkhla Biomass Power Project</b>	Songkhla Province, Thailand	Thermal	9.90	3.96 (40%)	PEA	5 years/ 2020	Automatic renewal for a further 5 years every 5 years

# Portfolio by Locations

## International Projects

Note:

(1) RAC sells the output of the Starfish Hill Wind-Turbine Power Plant and the Toora Wind-Turbine Power Plant under merchant operation contracts with spot or market prices.

Name of Power Plant/Project	Location	Technology	Total Capacity (MW)	Capacity contributed to the Group (MW)	Terms of the PPA		
					PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
<b>In Operation</b>							
<b>Nam Ngum 2 Hydroelectric Power Plant</b>	Laos	Hydro Power Plant	615	153.75 (25%)	EGAT	27 years/ 2038	Not Applicable
<b>Hongsa Thermal Project Unit 1&amp;2</b>	Laos	Lignite-Fired Power Plant	1,878 (Unit 1-3)	500.80 (40%)	EGAT & EDL	25 years/ 2040	Not Applicable
<b>Townsville Power Plant</b>	North Queensland, Australia	Combined Cycle Gas Turbine	234	187.20 (80%)	North Queensland Energy Joint Venture	20 years/ 2025	Not Applicable
<b>Kemerton Power Plant</b>	Western Australia, Australia	Open Cycle Gas/Diesel Turbine	300	240 (80%)	Verve Energy	25 years/ 2030	Not Applicable
<b>BP Kwinana Power Plant</b>	Western Australia, Australia	Cogeneration	35.40	28.32 (80%)	Verve Energy	25 years/ 2021	Subject to negotiations
<b>Starfish Hill Wind-Turbine Power Plant</b>	South Australia, Australia	Wind-Turbine	34.50	27.6 (80%)	Not Applicable <sup>(1)</sup>	Not Applicable <sup>(1)</sup>	Not Applicable <sup>(1)</sup>
<b>Toora Wind-Turbine Power Plant</b>	Victoria, Australia	Wind-Turbine	21	16.8 (80%)	Not Applicable <sup>(1)</sup>	Not Applicable <sup>(1)</sup>	Not Applicable <sup>(1)</sup>
<b>Windy Hill Wind-Turbine Power Plant</b>	Queensland, Australia	Wind-Turbine	12	9.6 (80%)	Ergon Energy	8 years/ 2015	Not Applicable

# Portfolio by Locations

## International Projects (Cont.)

Name of Power Plant/Project	Location	Technology	Total Capacity (MW)	Capacity contributed to the Group (MW)	Terms of the PPA		
					PPA Party	Tenure/ Expiry Year	Renewal/ Option to Extend
<b>Under Construction</b>							
Hongsa Thermal Project Unit 3	Laos	Lignite-Fired Power Plant	1,878 (Unit 1-3)	250.40 (40%)	EGAT & EDL	25 years/ 2040 (Expected COD: 2015-2016)	Not Applicable
Xe Pian - Xe Namnoy Project	Laos	Hydro Power Plant	410	102.5 (25%)	EGAT	27 years/ 2045 (Expected COD: 2018)	Not Applicable
<b>Under Development</b>							
Ueda Solar Farm	Nagano, Japan	Solar Power	10.83	6.50 (60%)		20 year (Expected COD: 2016)	
Iwaki Solar Farm	Fukushima, Japan	Solar Power	22.68	13.60 (60%)		20 year (Expected COD: 2016)	
<b>Related Businesses</b>							
EDL-Generation	Laos	Hydro Power Plant	881	89.05 (10.108%)			

# Agenda

Highlights

RATCH Overview

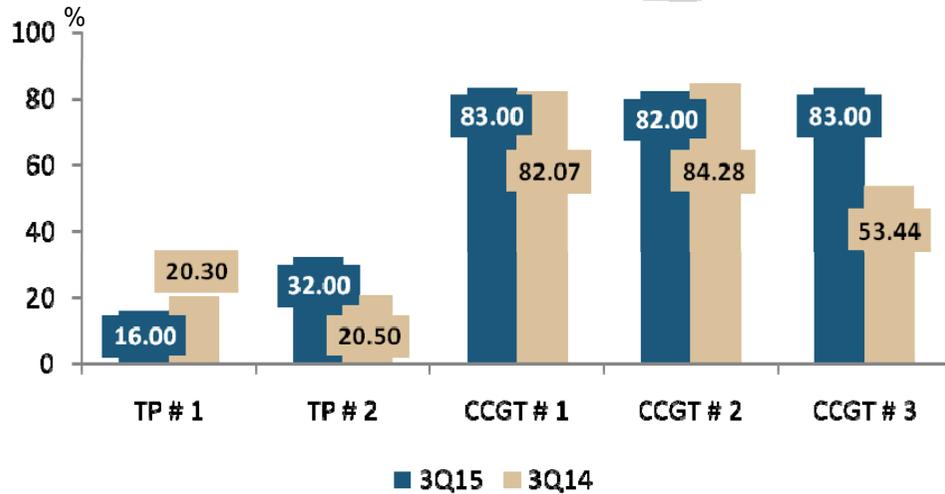
Operating Performance

Financial Performance

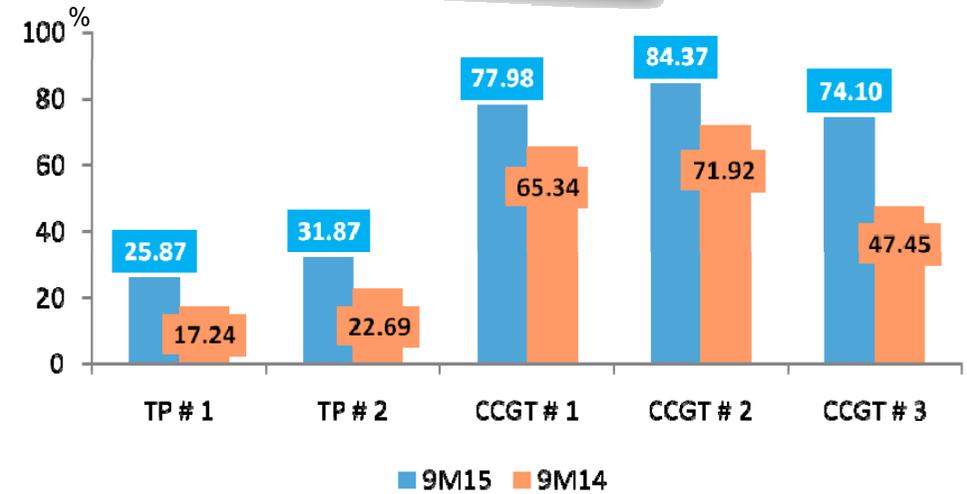
Appendix

# Operation Performance: RATCHGEN

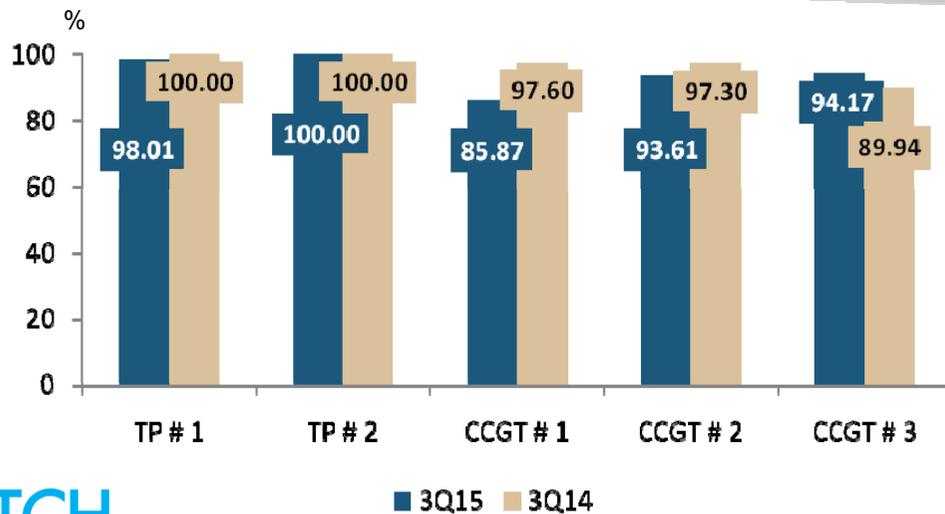
Dispatch Factor : 3Q15&3Q14



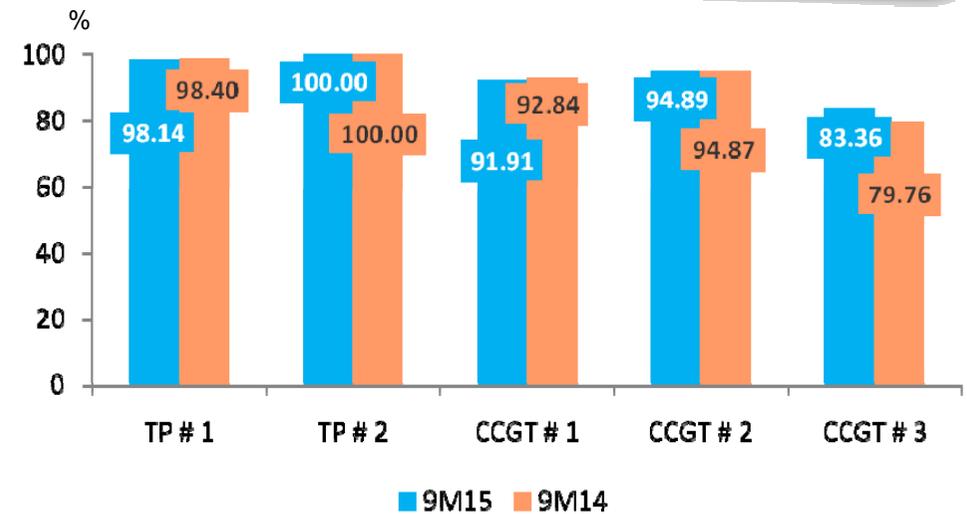
Dispatch Factor : 9M15&9M14



Equivalent Availability Factor : 3Q15&3Q14

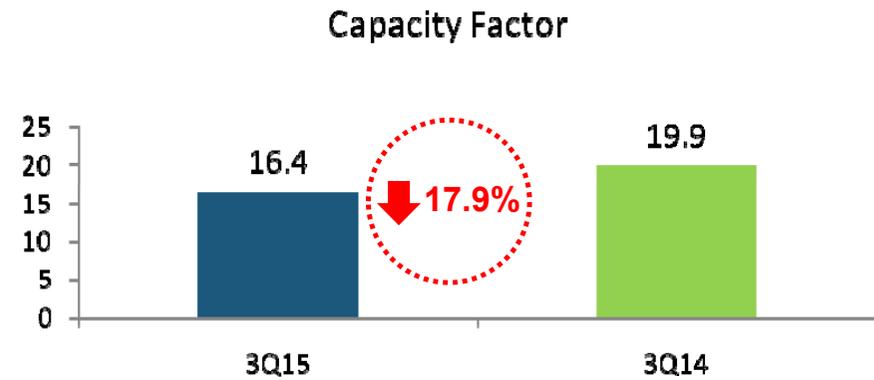
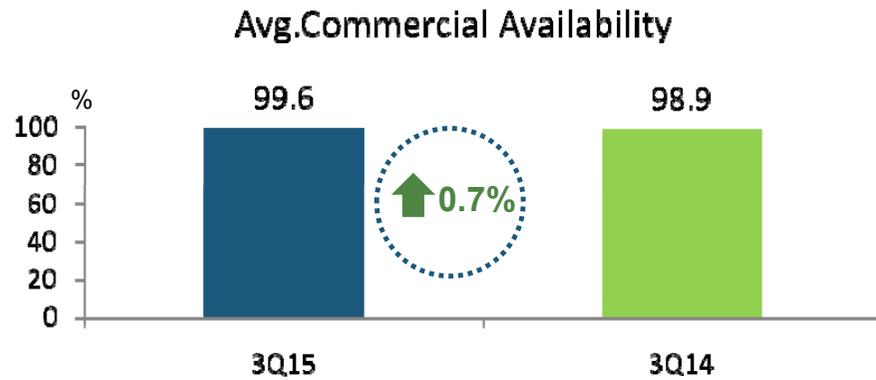


Equivalent Availability Factor : 9M15&9M14

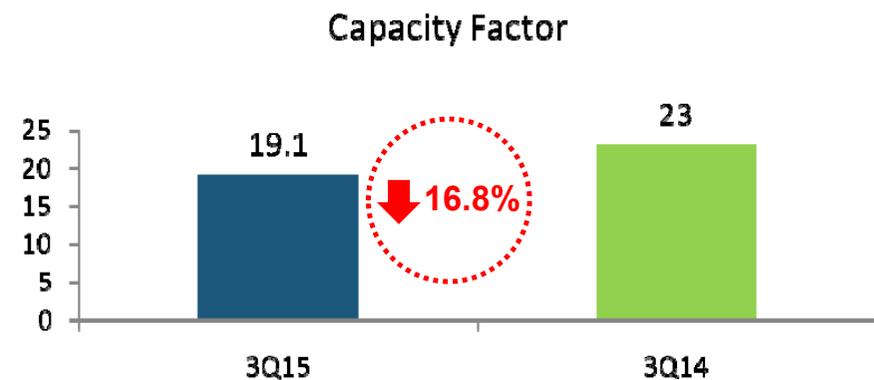


# Operation Performance: Wind Projects

## Huay Bong 2



## Huay Bong 3

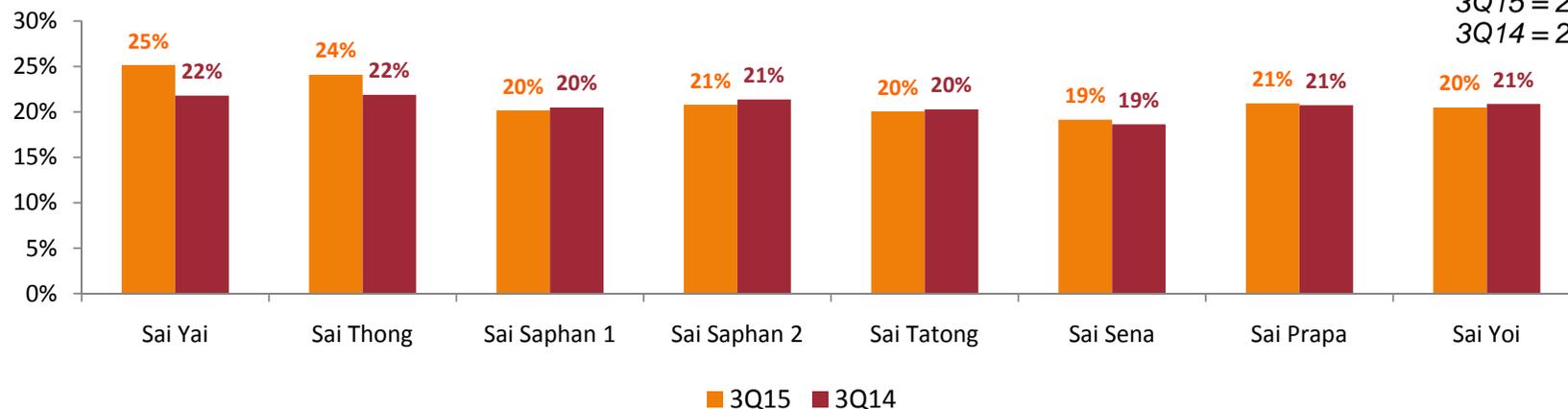


# Operation Performance: Solar Projects

Solarta

Projects	MW	3Q15 MWh/Quarter	3Q14 MWh/Quarter
Sai Yai	8	4,490	3,845
Sai Thong	5	2,688	2,415
Sai Saphan 1	5	2,249	2,259
Sai Saphan 2	2	928	942
Sai Tatong	1	448	447
Sai Sena	3	1,153	1,109
Sai Prapa	7.25	3,387	3,316
Sai Yoi	3	1,372	1,381
<b>Total</b>	<b>34.25</b>	<b>16,715</b>	<b>15,714</b>

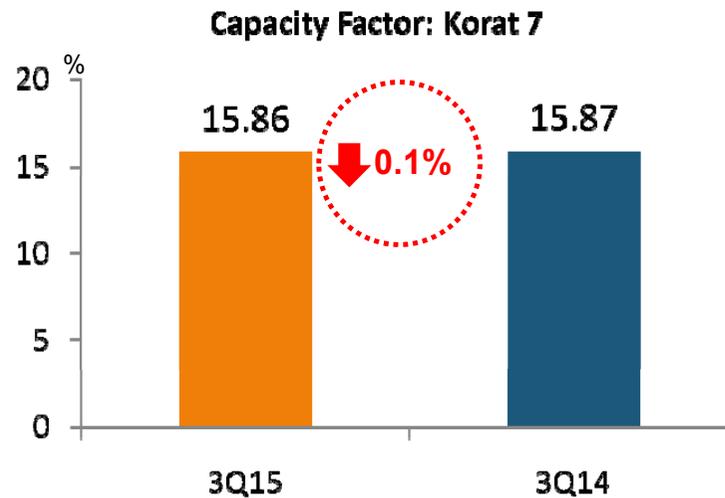
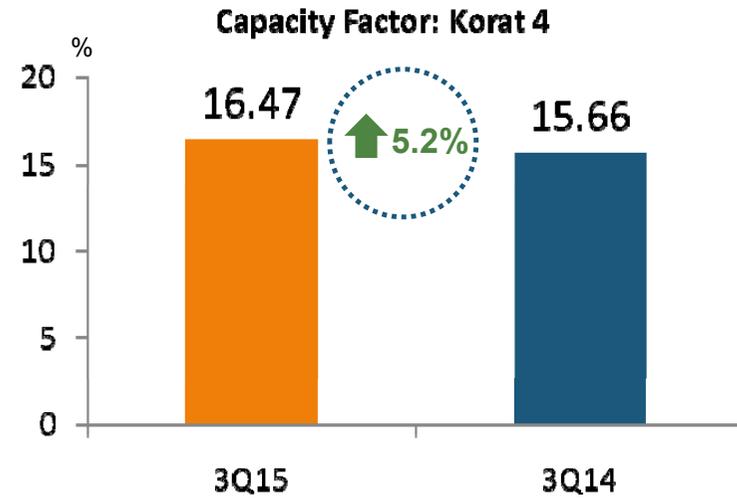
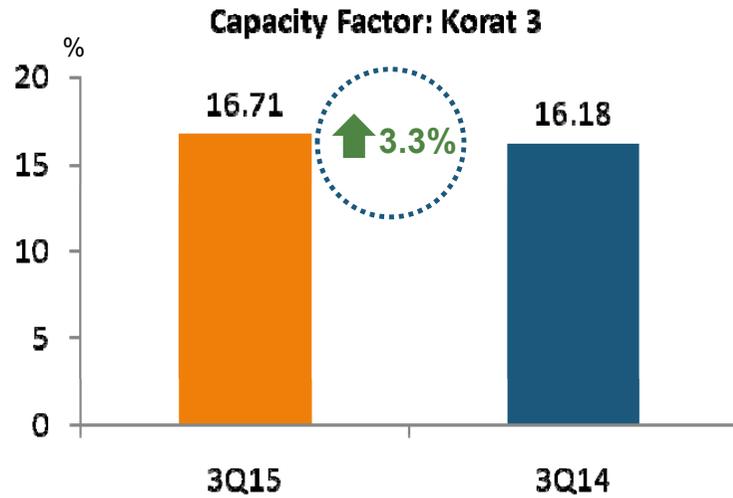
Avg. Capacity Factor



Avg. Capacity Factor  
 3Q15 = 21.35%  
 3Q14 = 20.75%

# Operation Performance: Solar Projects

## Solar Power



# Agenda

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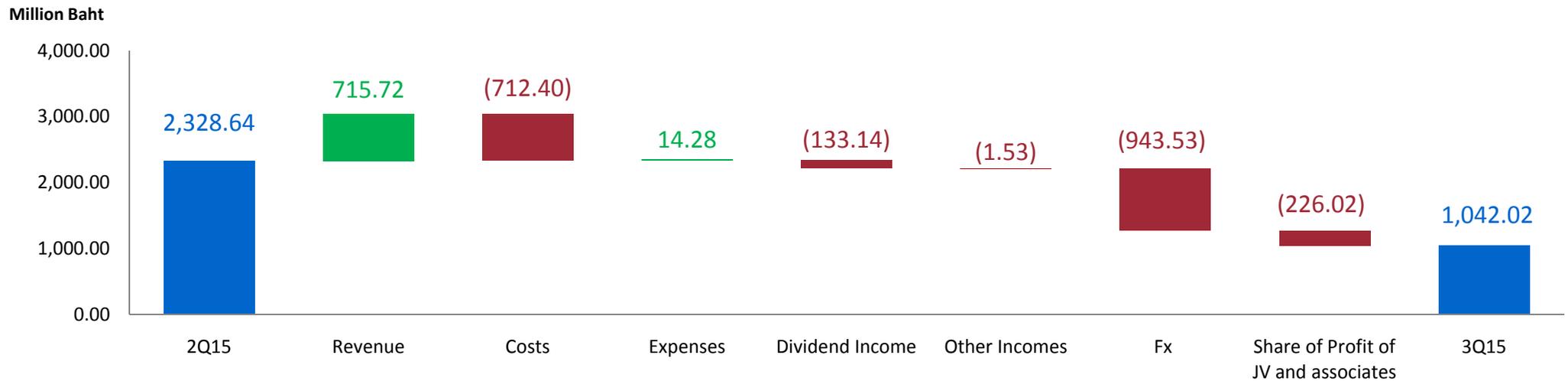
Appendix

# Income Statement

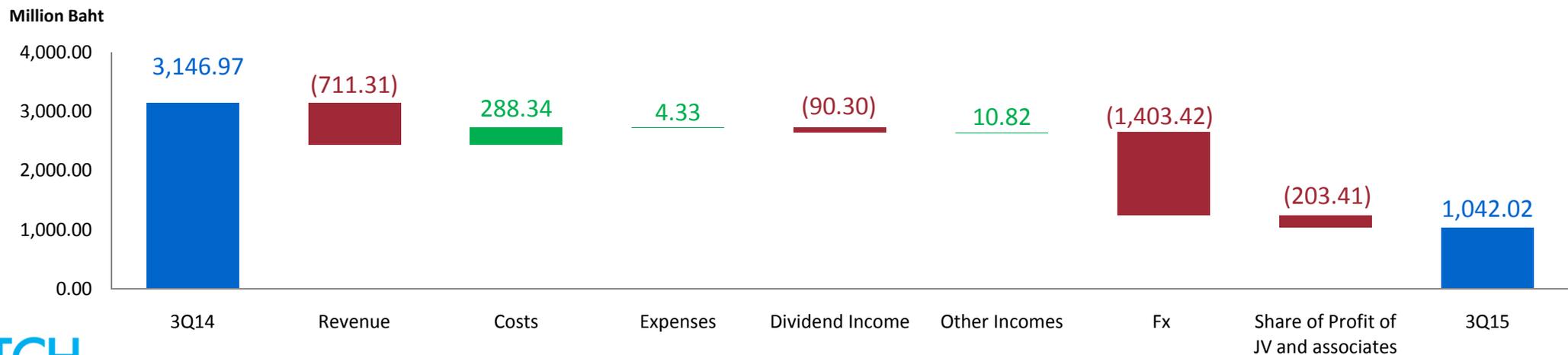
Unit : in Million Baht	3Q15	2Q15	1Q15	4Q14	3Q14	2Q14	1Q14
Revenues	14,963.02	14,381.97	15,833.48	15,336.07	15,753.81	13,733.37	11,488.91
Cost & Expenses	(12,906.37)	(12,208.25)	(13,665.10)	(14,138.54)	(13,199.04)	(11,264.19)	(9,282.81)
EBITDA before Share of Profit and FX	2,056.65	2,173.72	2,168.38	1,197.53	2,554.77	2,469.18	2,206.10
Share of profit of jointly-controlled entities and associates <i>excluding</i> gain (loss) on exchange rate	417.61	459.42	159.68	276.86	319.02	156.86	370.02
EBITDA included share profit of JV before FX	2,474.26	2,633.14	2,328.06	1,474.39	2,873.79	2,626.04	2,576.12
Gain (Loss) on exchange rate of subsidiaries	(1,150.97)	(207.44)	(232.99)	287.75	252.45	(98.35)	(93.87)
Gain (Loss) on exchange rate of JV	(281.27)	(97.06)	38.51	(22.41)	20.73	117.83	45.91
EBITDA included share profit of JV and FX	1,042.02	2,328.64	2,133.58	1,739.73	3,146.97	2,645.52	2,528.16
<i>Accounting gains on a business combination</i>	-	-	-	-	-	-	797.29
<i>Reversal of a project development provision</i>	-	-	-	-	-	306.06	-
<i>Impairment loss of goodwill and intangible assets</i>	-	-	-	(509.54)	-	-	-
<i>Disposal of Investment SE/SEC</i>	-	-	-	-	(131.17)	-	-
<i>Depreciation &amp; Amortization</i>	(326.26)	(358.15)	(318.01)	(508.70)	(363.14)	(363.06)	(360.14)
EBIT	715.76	1,970.49	1,815.57	721.49	2,652.66	2,588.52	2,965.31
Finance costs	(340.43)	(331.34)	(342.73)	(342.90)	(407.68)	(407.78)	(360.09)
Income tax expense	(362.47)	(570.03)	(348.82)	(358.27)	(327.17)	(314.98)	(268.96)
Profit for the period	12.86	1,069.12	1,124.02	20.32	1,917.81	1,865.76	2,336.26
Non-controlling interests	22.48	75.60	38.90	91.42	36.29	(18.06)	29.23
<b>Equity holders of the Company</b>	<b>35.34</b>	<b>1,144.72</b>	<b>1,162.92</b>	<b>111.74</b>	<b>1,954.10</b>	<b>1,847.70</b>	<b>2,365.49</b>

# EBITDA Growth QoQ & YoY

## EBITDA Growth (QoQ)

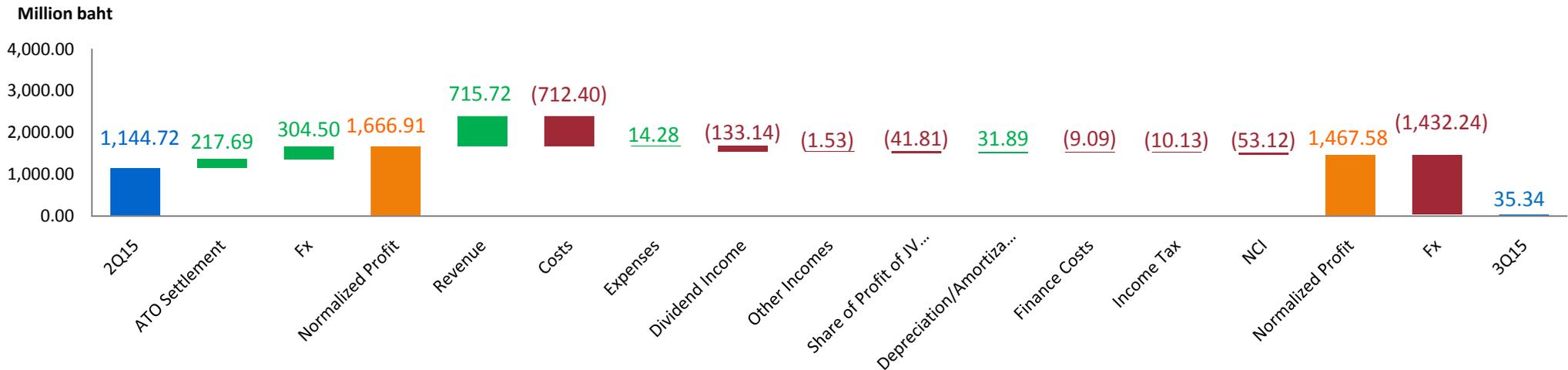


## EBITDA Growth (YoY)



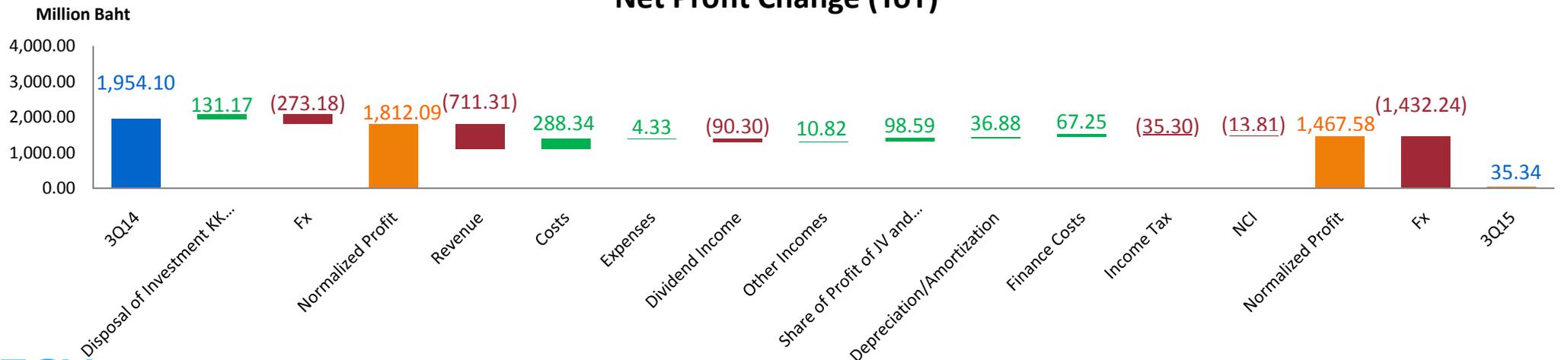
# Net Profit Growth QoQ & YoY

## Net Profit Growth (QoQ)



## Net Profit Growth (YoY)

### Net Profit Change (YoY)

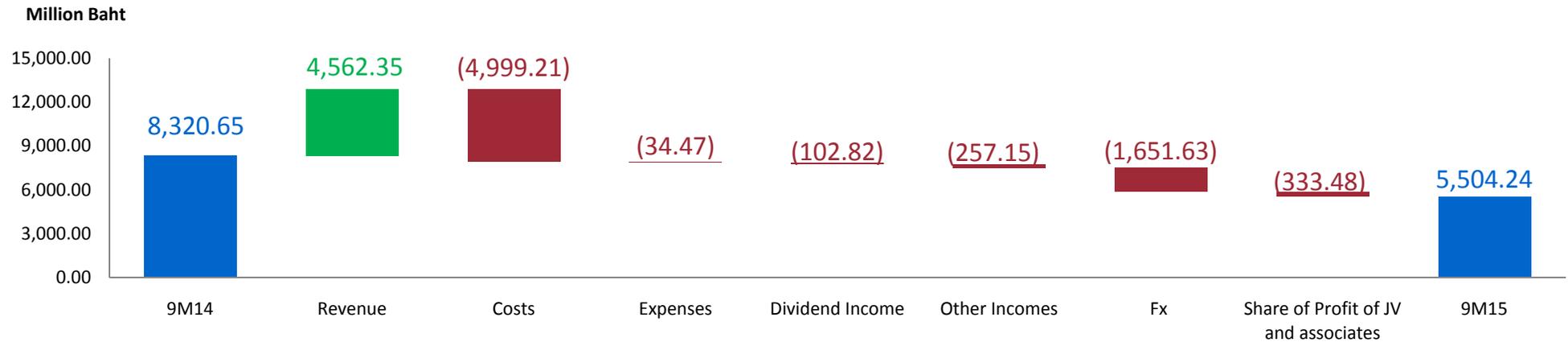


# Income Statement

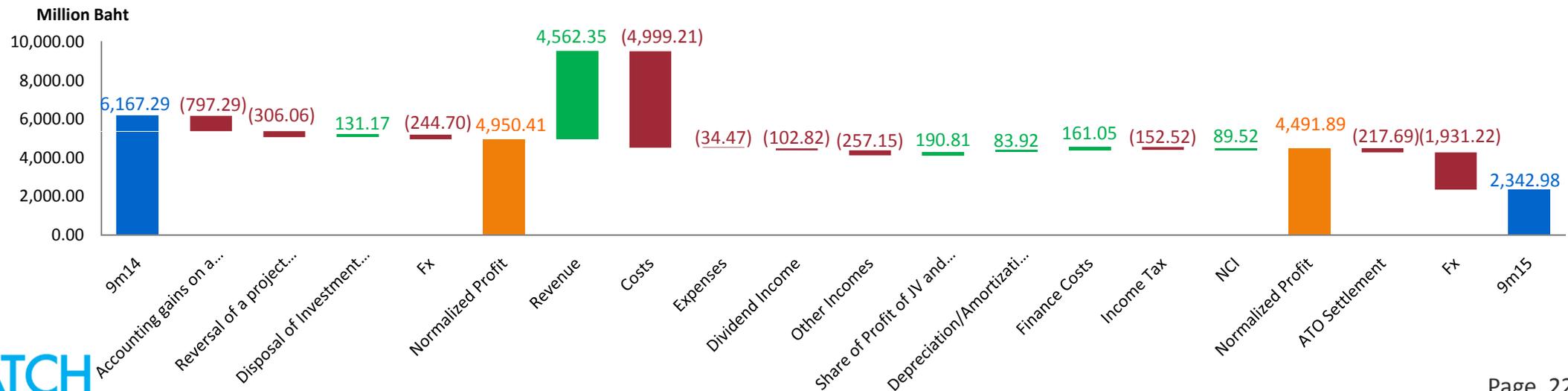
Unit : in Million Baht	9M15	9M14
Revenues	45,178.47	40,976.09
Cost & Expenses	(38,779.72)	(33,746.04)
EBITDA before Share of Profit and FX	6,398.75	7,230.05
Share of profit of jointly-controlled entities and associates <i>excluding</i> gain (loss) on exchange rate	1,036.71	845.90
EBITDA included share profit of JV before FX	7,435.46	8,075.95
Gain (Loss) on exchange rate of subsidiaries	(1,591.40)	60.23
Gain (Loss) on exchange rate of JV	(339.82)	184.47
EBITDA included share profit of JV and FX	5,504.24	8,320.65
<i>Accounting gains on a business combination</i>	-	797.29
<i>Reversal of a project development provision</i>	-	306.06
<i>Disposal of Investment SE/SEC</i>	-	(131.17)
<i>Depreciation &amp; Amortization</i>	(1,002.42)	(1,086.34)
EBIT	4,501.82	8,206.49
Finance costs	(1,014.50)	(1,175.55)
Income tax expense	(1,281.32)	(911.11)
Profit for the period	2,206.00	6,119.83
Non-controlling interests	136.98	47.46
<b>Equity holders of the Company</b>	<b>2,342.98</b>	<b>6,167.29</b>

# EBITDA & Net Profit Growth YoY

## EBITDA Growth (YoY)



## Net Profit Growth (YoY)



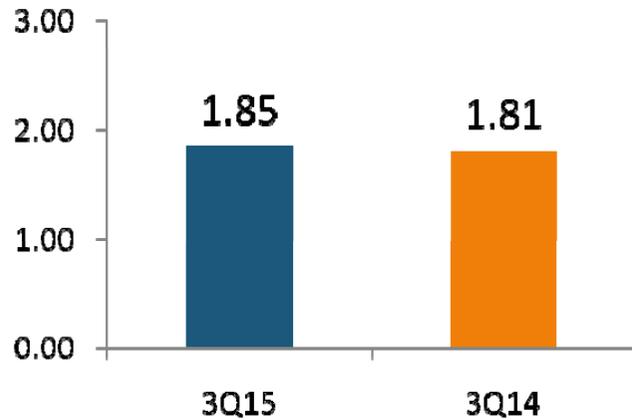
# Statements of Financial Position

As of 30 September 2015

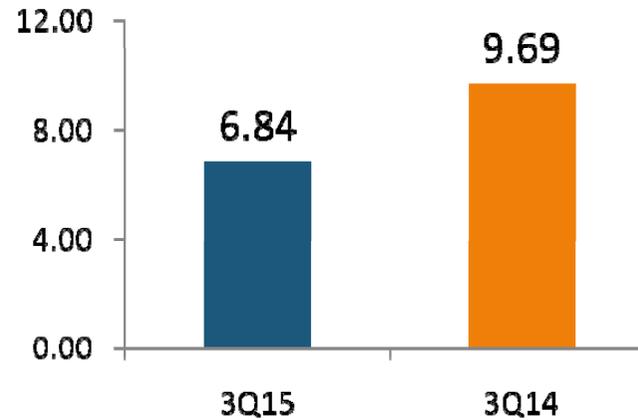
Total Assets	Million Baht	Total Liabilities & Equity	Million Baht
<b><u>Assets</u></b>		<b><u>Liabilities</u></b>	
Cash and cash equivalents	5,580.46	Loans from Related party, Financial Institutions & Debentures	24,660.19
Current investments	9,282.99	Other liabilities	13,030.08
Current Assets	13,609.17	<b>Total Liabilities</b>	<b>37,690.27</b>
Investment in Jointly-controlled entities/Associates/Others	20,225.09	<b><u>Equity</u></b>	
Financial lease receivables	28,980.37	Issued and paid-up share capital	16,031.78
Property, plant & equipments	13,752.48	Other components of equity	(1,967.27)
Other assets	5,700.76	Retained earnings	45,106.04
		<b>Total equity attributable to owners of the Company</b>	<b>59,170.55</b>
		Non-controlling interests	270.50
<b>Total Assets</b>	<b>97,131.32</b>	<b>Total Liabilities &amp; Equity</b>	<b>97,131.32</b>

# Financial Ratios\*

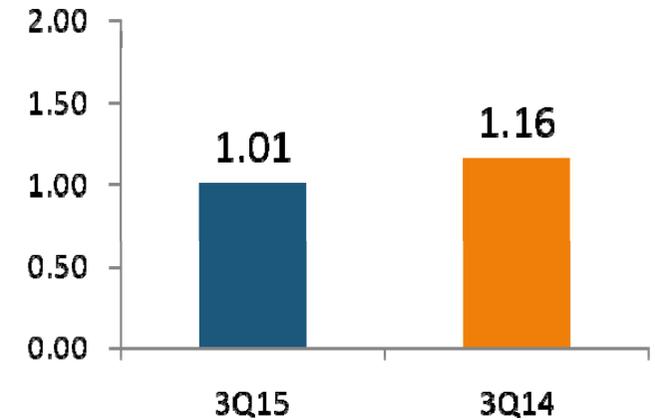
Current ratio (times)



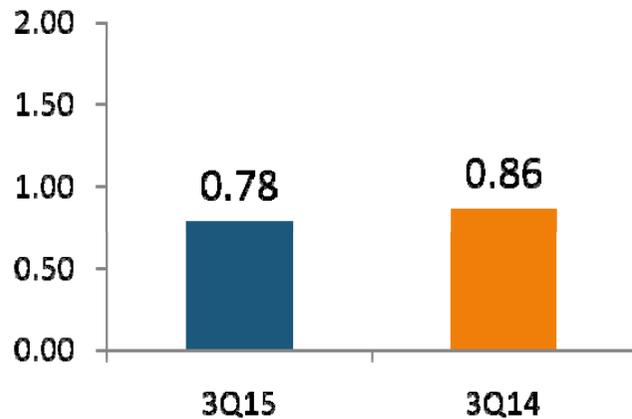
ROE (%)



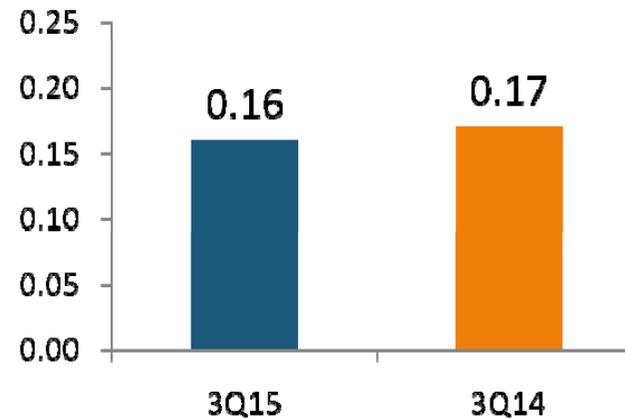
EPS (Baht per share)



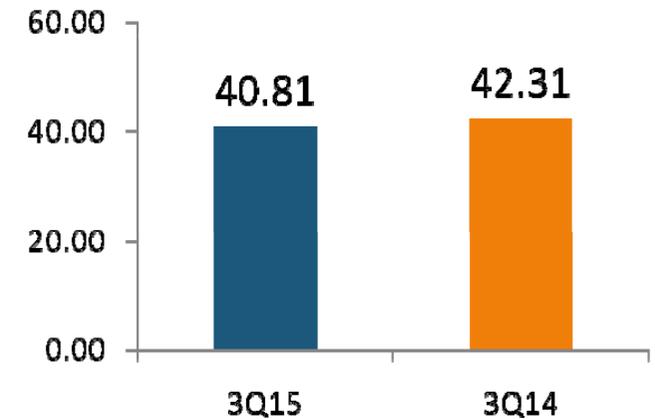
Net Debt to EBITDA\*\* (times)



Net Debt/Equity (times)



Book Value per share (Baht)



\* Not included the effect of foreign exchange rate

\*\* Included the change in lease receivable

# Agenda

Highlights

RATCH Overview

Operating Performance

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*Operating Performance*

# RATCHGEN Operating Performance

## Fuel Consumption

By Type of Power Plant	3Q15	3Q14	9M15	9M14
Fuel Consumption (TH#1-2)				
- Gas      Million MMBTU	8.93	6.58	23.34	16.64
- Heavy Oil      Million Liters	0.99	8.74	91.14	76.36
Fuel Consumption (CCGT#1-3)				
- Gas      Million MMBTU	24.78	22.28	66.76	52.32
- Diesel      Million Liters	0.06	0.10	6.91	9.67
<b>Gas Price (Average) Baht/MMBTU</b>	<b>296.71</b>	<b>319.39</b>	<b>305.69</b>	<b>331.82</b>
<b>Heavy Oil Price (Average) Baht/Liter</b>	<b>11.10</b>	<b>21.54</b>	<b>12.86</b>	<b>21.66</b>
<b>Diesel Oil Price (Average) Baht/Liter</b>	<b>10.79</b>	<b>25.58</b>	<b>22.44</b>	<b>25.33</b>

# RATCHGEN Operating Performance

## Net Generation (GWh)

By Type of Power Plant	3Q15	3Q14	9M15	9M14
<b>Net Generation (TP#1-2) (GWh)</b>	<b>880.79</b>	<b>648.56</b>	<b>2,701.23</b>	<b>1,870.73</b>
- By Gas (GWh)	876.14	614.46	2,321.73	1,567.20
- By Heavy Oil (GWh)	4.65	34.10	379.50	303.53
<b>Net Generation (CCGT#1-3) (GWh)</b>	<b>3,494.89</b>	<b>3,139.21</b>	<b>9,370.74</b>	<b>7,317.08</b>
- By Gas (GWh)	3,494.89	3,139.21	9,342.24	7,275.48
- By Diesel (GWh)	-	-	28.50	41.60
<b>Total Net Generation (GWh)</b>	<b>4,375.68</b>	<b>3,787.77</b>	<b>12,071.97</b>	<b>9,187.81</b>

 Actual Outage  
 Planned Outage

# Planned Outage at Ratchaburi Power Plant in 2014

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10												
	CCGT-11		CI (15D) 14 - 28										
	CCGT-12		CI (15D) 14 - 28										
RG	CCST-20												
	CCGT-21										CI (15D) 12 - 22		
	CCGT-22										CI (15D) 12 - 22		
RG	CCST-30												
	CCGT-31					MO (52D) 18 - 8							
	CCGT-32					MO (52D) 18 - 8							
Thermal-1													
Thermal-2													
TECO	CCST-10											MI (12D) 12 - 23	
	CCGT-11										1	MO (34D) 1 - 4	
	CCGT-12											CI (9D) 12 - 20	
RPCL	CCST-10												CI (10D) 15 - 24
	CCGT-11												CI (10D) 15 - 24
	CCGT-12												
RPCL	CCST-20	MO (33D) 3 - 8											
	CCGT-21	MO (33D) 3 - 8											
	CCGT-22	MO (33D) 3 - 8											

Thermal Plant	Minor Inspection (MI)	40 Days	Major Overhaul (MO)	57 Days		
Gas Turbine	Warranty Inspection (WI)		Combustion Inspection		Minor Inspection	Major Overhaul
	Normal (WI)	Gen.Rotor Removed (WI*)	(CI)		(MI)	(MO)
	26 Days	32 Days	15 Days		30 Days	52 Days
Steam Turbine	Warranty Inspection (WI)		Minor Inspection		Major Overhaul	
	Normal (WI**)	Gen.Rotor Removed (WI*)	(MI)		(MO)	
	26 Days	30 Days	26 Days		49 Days	



 Actual Outage  
 Planned Outage

# Planned Outage at Ratchaburi Power Plant in 2015

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10									13	MO (49D)	31	
	CCGT-11									2	MI (30D)	31	
	CCGT-12									2	MI (30D)	31	
RG	CCST-20											8	MO (49D) 26
	CCGT-21											12	CI (15D) 26
	CCGT-22											12	CI (15D) 26
RG	CCST-30				26	MO (49D)	11						
	CCGT-31				26		13						
	CCGT-32						30	CI (15D) 7					
							30	CI (15D) 13					
							30	CI (15D) 13					
RG	Thermal-1										4	MI (40D)	12
RG	Thermal-1											15	MI (40D) 24
RG	CCST-10 - CCTE												
	CCGT-11 - CCTE												
	CCGT-12 - CCTE												
RPCL	CCST-10										11	MI (30D)	9
	CCGT-11										11	MI (30D)	9
	CCGT-12										11	MI (30D)	9
RPCL	CCST-20												
	CCGT-21												
	CCGT-22												

Thermal Plant	Minor Inspection (MI)	40 Days	Major Overhaul (MO)	57 Days		
Gas Turbine	Warranty Inspection (WI)		Combustion Inspection		Minor Inspection	Major Overhaul
	Normal (WI)	Gen.Rotor Removed (WI*)	(CI)		(MI)	(MO)
	26 Days	32 Days	15 Days		30 Days	52 Days
Steam Turbine	Warranty Inspection (WI)		Minor Inspection		Major Overhaul	
	Normal (WI**)	Gen.Rotor Removed (WI*)	(MI)		(MO)	
	26 Days	30 Days	26 Days		49 Days	



# Agenda

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Appendix

*Financial Performance*

# Revenues: 3Q15 & 3Q14

Unit : in Million Baht		3Q15	3Q14	Diff	%
<b>Sales</b>		<b>13,510.13</b>	14,068.52	(558.39)	(3.97)
AP	- RG/TECO	<b>1,211.56</b>	1,381.29	(169.73)	(12.65)
	- RAC	<b>398.09</b>	455.81	(57.72)	(12.66)
EP (Fuel)	- RG/TECO	<b>11,644.71</b>	12,091.56	(446.85)	(3.70)
	- RAC	<b>237.42</b>	125.39	112.03	89.35
	- Flared Gas	<b>18.35</b>	14.47	3.88	26.81
<b>Revenue from financial leases - RG/TECO</b>		<b>1,231.23</b>	1,387.02	(155.79)	(11.23)
<b>Revenue from Rendering of services</b>		<b>55.15</b>	52.28	2.87	5.49
<b>Management service income</b>		<b>64.67</b>	62.27	2.40	3.85
<b>Dividend Income</b>		-	90.30	(90.30)	(100.00)
<b>Interest Income</b>		<b>86.06</b>	67.35	18.71	27.78
<b>Other Incomes (exc. Extraordinary items)</b>		<b>15.78</b>	26.07	(10.29)	(39.47)
<b>Total Revenues</b>		<b>14,963.02</b>	15,753.81	(790.79)	(5.02)

# Revenues: 9M15 & 9M14

Unit : in Million Baht	9M15	9M14	Diff	%
<b>Sales</b>	<b>40,517.17</b>	35,554.96	4,962.21	13.96
AP				
- RG/TECO	<b>3,568.23</b>	3,465.04	103.19	2.98
- RAC	<b>1,168.77</b>	1,348.00	(179.23)	(13.30)
EP (Fuel)				
- RG/TECO	<b>35,160.41</b>	30,257.08	4,903.33	16.21
- RAC	<b>568.38</b>	432.70	135.68	31.36
- Flared Gas	<b>51.38</b>	52.14	(0.76)	(1.46)
<b>Revenue from financial leases - RG/TECO</b>	<b>3,807.35</b>	4,229.83	(422.48)	(9.99)
<b>Revenue from Rendering of services</b>	<b>178.06</b>	155.44	22.62	14.55
<b>Management service income</b>	<b>188.20</b>	224.29	(36.09)	(16.09)
<b>Dividend Income</b>	<b>133.14</b>	235.95	(102.81)	(43.57)
<b>Interest Income</b>	<b>269.39</b>	187.57	81.82	43.62
<b>Other Incomes (exc. Extraordinary items)</b>	<b>85.17</b>	388.04	(302.87)	(78.05)
<b>Total Revenues</b>	<b>45,178.48</b>	<b>40,976.08</b>	<b>4,202.40</b>	<b>10.26</b>

# Share of profit from jointly-controlled entities: 3Q15 & 3Q14

Unit : in Million Baht	3Q15	3Q14	Diff	%
RPCL	<b>122.72</b>	235.76	(113.04)	(47.95)
SEAN	<b>(56.97)</b>	61.53	(118.50)	(192.59)
HPC	<b>(206.44)</b>	(90.30)	(116.14)	(128.62)
CRESCO	<b>(0.78)</b>	(0.53)	(0.25)	(47.17)
SOLARTA	<b>39.98</b>	37.05	2.93	7.91
KORAT 3,4,7	<b>18.07</b>	17.38	0.69	3.97
FKW	<b>34.17</b>	35.43	(1.26)	(3.56)
KR2	<b>28.61</b>	30.44	(1.83)	(6.01)
KWINANA	<b>24.34</b>	27.87	(3.53)	(12.67)
PNPC	<b>44.90</b>	(2.11)	47.01	2,227.96
RW COGEN	<b>63.22</b>	(5.40)	68.62	1,270.74
NNEG	<b>22.34</b>	(1.85)	24.19	1,307.57
Others	<b>2.18</b>	(5.52)	7.70	139.49
<b>Total Share of profit from jointly-controlled entities</b>	<b>136.34</b>	<b>339.75</b>	<b>(203.41)</b>	<b>(59.87)</b>

# Share of profit from jointly-controlled entities: 3Q15 & 3Q14

EXCL.FX

Unit : in Million Baht	3Q15	3Q14	Diff	%
RPCL	<b>202.63</b>	229.78	(27.15)	(11.82)
SEAN	<b>50.51</b>	55.00	(4.49)	(8.16)
HPC	<b>(18.44)</b>	(95.42)	76.98	80.67
CRESCO	<b>(2.67)</b>	(1.31)	(1.36)	(103.82)
SOLARTA	<b>39.97</b>	36.58	3.39	9.27
KORAT 3,4,7	<b>18.07</b>	17.38	0.69	3.97
FKW	<b>34.17</b>	35.43	(1.26)	(3.56)
KR2	<b>28.62</b>	30.25	(1.63)	95.39)
KWINANA	<b>24.34</b>	27.87	(3.53)	(12.67)
PNPC	<b>(20.50)</b>	(2.46)	(18.04)	(733.33)
RW COGEN	<b>63.45</b>	(3.48)	66.93	1,923.28
NNEG	<b>(2.74)</b>	(5.08)	2.34	46.06
Others	<b>0.20</b>	(5.52)	5.72	103.62
<b>Total Share of profit from jointly-controlled entities</b>	<b>417.61</b>	<b>319.02</b>	<b>98.59</b>	<b>30.90</b>

# Share of profit from jointly-controlled entities: 9M15 & 9M14

Unit : in Million Baht	9M15	9M14	Diff	%(32.37)
RPCL	<b>476.17</b>	669.55	(193.38)	(28.88)
SEAN	<b>33.44</b>	163.95	(130.51)	(79.60)
HPC	<b>(433.60)</b>	(142.58)	(291.02)	(204.11)
CRESCO	<b>2.26</b>	11.73	(9.47)	(80.73)
SOLARTA	<b>134.91</b>	124.90	10.01	8.01
KORAT 3,4,7	<b>60.09</b>	48.51	11.58	23.87
FKW	<b>95.17</b>	85.31	9.86	11.56
KR2	<b>78.02</b>	67.82	10.20	15.04
KWINANA	<b>61.34</b>	57.82	3.52	6.09
PNPC	<b>52.58</b>	(20.81)	73.39	352.67
RW COGEN	<b>113.27</b>	(18.24)	131.51	721.00
NNEG	<b>13.42</b>	(8.46)	21.88	258.63
Others	<b>9.81</b>	(9.13)	18.94	207.45
<b>Total Share of profit from jointly-controlled entities</b>	<b>696.88</b>	<b>1,030.37</b>	<b>(333.49)</b>	<b>(32.37)</b>

# Share of profit from jointly-controlled entities: 9M15 & 9M14

**EXCL.FX**

Unit : in Million Baht	9M15	9M14	Diff	%
RPCL	<b>580.88</b>	645.61	(64.73)	(10.03)
SEAN	<b>169.89</b>	142.04	27.85	19.61
HPC	<b>(203.17)</b>	(271.79)	68.62	25.25
CRESCO	<b>(2.11)</b>	8.39	(10.50)	(125.15)
SOLARTA	<b>134.90</b>	124.43	10.47	8.41
KORAT 3,4,7	<b>60.09</b>	48.51	11.58	23.87
FKW	<b>95.16</b>	85.30	9.86	11.56
KR2	<b>78.02</b>	67.58	10.44	15.45
KWINANA	<b>61.34</b>	57.82	3.52	6.09
PNPC	<b>(35.19)</b>	(30.02)	(5.17)	(17.22)
RW COGEN	<b>113.53</b>	(11.47)	125.00	1,089.80
NNEG	<b>(16.97)</b>	(11.37)	(5.60)	(49.25)
Others	<b>0.34</b>	(9.13)	9.47	103.72
<b>Total Share of profit from jointly-controlled entities</b>	<b>1,036.71</b>	<b>845.90</b>	<b>190.81</b>	<b>22.56</b>

# Cost and Expenses: 3Q15 & 3Q14

Unit : in Million Baht	3Q15	3Q14	Diff	%
<b>Cost of Sale and rendering of services</b>	<b>12,563.60</b>	12,851.93	(288.33)	(2.24)
– Fuel Cost : RG/ TECO	<b>11,532.28</b>	11,959.48	(427.20)	(3.57)
– Fuel Cost : RAC	<b>4.96</b>	4.69	0.27	5.76
– Fuel Cost : Flared Gas	<b>2.96</b>	2.25	0.71	31.56
– Operation & Maintenance	<b>404.80</b>	425.98	(21.18)	(4.97)
– Repairing Expense (CSA)	<b>268.20</b>	220.73	47.47	21.51
– Spare parts	<b>164.01</b>	68.80	95.21	138.39
– Insurance Premium	<b>92.18</b>	77.08	15.10	19.59
– Standby Charge	<b>51.78</b>	50.51	1.27	2.51
– Others	<b>42.43</b>	42.41	0.02	0.05
<b>Selling and Admin- Expenses</b>	<b>342.77</b>	347.11	(4.34)	(1.25)
<b>Total Cost and Expenses (excluded depreciation &amp; amortization)</b>	<b>12,906.37</b>	<b>13,199.04</b>	<b>(292.67)</b>	<b>(2.22)</b>

# Cost and Expenses: 9M15 & 9M14

Unit : in Million Baht	9M15	9M14	Diff	%
<b>Cost of Sale and rendering of services</b>	<b>37,718.02</b>	32,718.81	4,999.21	15.28
– Fuel Cost : RG/ TECO	<b>34,835.94</b>	29,968.94	4,867.00	16.24
– Fuel Cost : RAC	<b>12.73</b>	24.69	(11.96)	(48.44)
– Fuel Cost : Flared Gas	<b>8.26</b>	8.06	0.20	2.48
– Operation & Maintenance	<b>1,204.44</b>	1,284.52	(80.08)	(6.23)
– Repairing Expense (CSA)	<b>744.16</b>	595.97	148.19	24.87
– Spare parts	<b>347.54</b>	318.79	28.75	9.02
– Insurance Premium	<b>279.58</b>	219.03	60.55	27.64
– Standby Charge	<b>156.11</b>	171.06	(14.95)	(8.74)
– Others	<b>129.26</b>	127.75	1.51	1.18
<b>Selling and Admin- Expenses</b>	<b>1,061.70</b>	1,027.22	34.48	3.36
<b>Total Cost and Expenses (excluded depreciation &amp; amortization)</b>	<b>38,779.72</b>	<b>33,746.04</b>	<b>5,033.68</b>	<b>14.92</b>

# Gain (Loss) From Foreign Exchange Rate

Unit : in Million Baht	3Q15	3Q14	9M15	9M14
Gain from Foreign Exchange Rate	(1,432.24)	273.18	(1,931.23)	244.71
<b>The Company and Subsidiaries</b>	<b>(1,150.97)</b>	<b>252.45</b>	<b>(1,591.41)</b>	<b>60.24</b>
- RH	90.31	(2.85)	120.67	(15.69)
- RH Inter	(1,192.43)	262.60	(1,641.76)	62.38
- RG / RE / RL	(48.85)	(7.70)	(70.32)	9.15
- TECO (100% from February 2014)	-	0.40	-	4.40
<b>Jointly-controlled entities and Associates</b>	<b>(281.27)</b>	<b>20.73</b>	<b>(339.82)</b>	<b>184.47</b>
- SEAN (33.33%)	(107.48)	6.53	(136.45)	21.91
- RPCL (25%)	(79.91)	5.98	(104.71)	23.94
- HPC (40%)	(188.00)	5.12	(230.43)	129.21
- PNPC (40%)	65.40	0.35	87.77	9.21
- Others (CRESCO, RW Cogen, FKW, KR2, NNEG, Solarta, RICI)	28.72	2.75	44.00	0.20

Foreign Exchange Rate as at 30 September 2015 = 36.359 Baht/USD and as at 30 September 2014 = 32.368 Baht/USD

# Agenda

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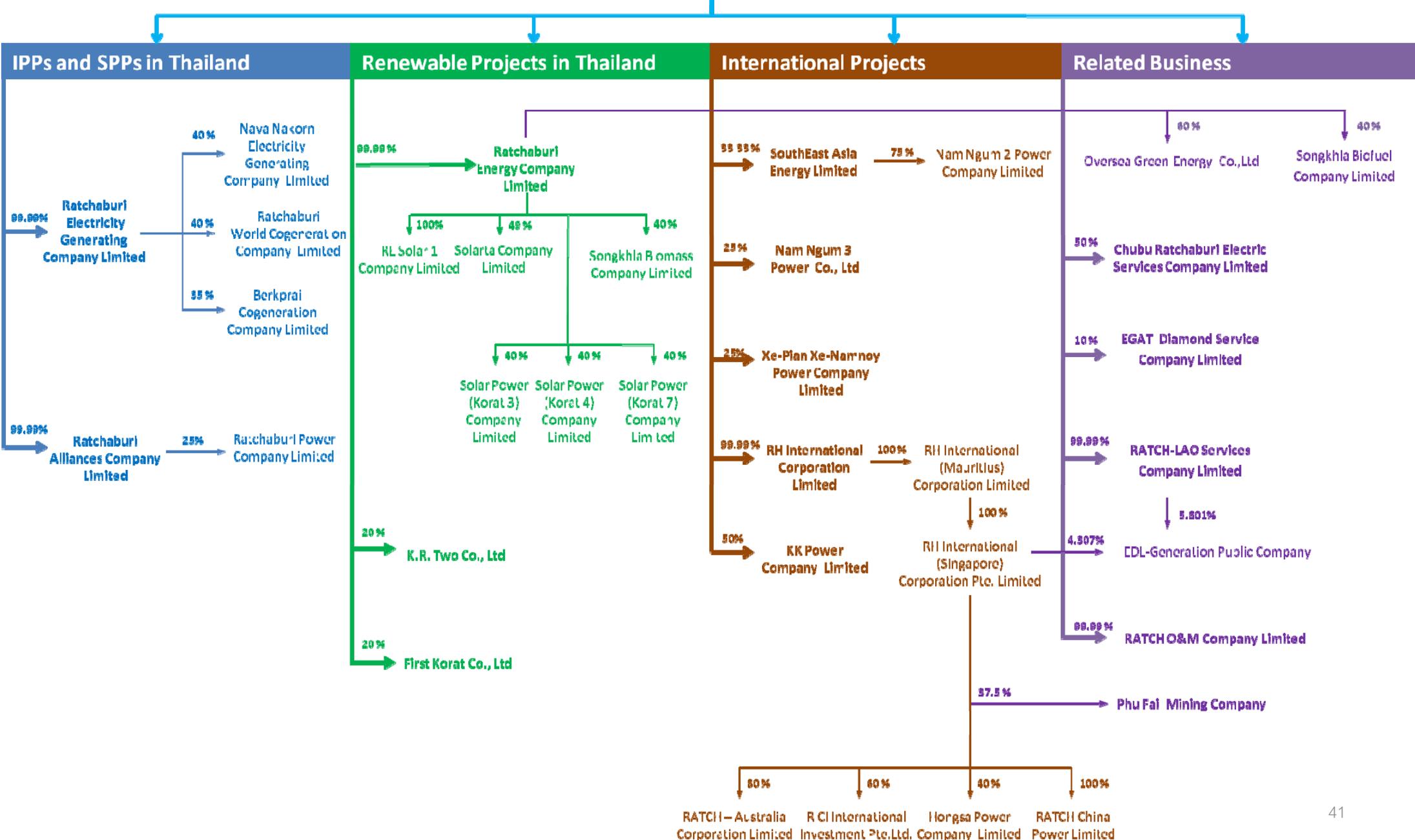
Appendix

*RATCH Projects*

# New Company Structure

as of November 2015

**RATCH**



# IPPs and SPPs in Thailand: Gas



*In Operation*



## Ratchaburi Power Plant (RATCHGEN)

Location	Ratchaburi Province
Technology	Thermal & Combined Cycle
Total Capacity	3,645 MW (holds 100%)
PPA	25-Year
COD	<ul style="list-style-type: none"> <li>• TH#1-2 : 31 Oct 2000</li> <li>• CCGT #1-2 : 18 Apr 2002</li> <li>• CCGT#3 : 1 Nov 2002</li> </ul>
Partner	Ratchaburi Electricity Generating Company Limited holds 100%



## Tri Energy Power Plant (TECO)

Location	Ratchaburi Province
Technology	Combined Cycle
Total Capacity	700 MW (holds 100%)
PPA	20-Year
COD	1 July 2000
Partner	Ratchaburi Electricity Generating Company Limited holds 100%



## Ratchaburi Power Plant (RPCL)

Location	Ratchaburi Province
Technology	Combined Cycle
Total Capacity	1,400 MW (350 MW holds 25 %)
PPA	25-Year
COD	Block 1: 1 March 2008 Block 2: 1 June 2008
Partner	<ul style="list-style-type: none"> <li>• Ratchaburi Alliances Company Limited holds 25%</li> <li>• Power Assets holds 25%</li> <li>• Chubu Electric Power Company International B.V. holds 15%</li> <li>• PTT PCL holds 15%</li> <li>• Union Energy Company Limited holds 10%</li> <li>• Toyota Tsusho Corporation holds 10%</li> </ul>

# IPPs and SPPs in Thailand: Gas



*In Operation*



## Pratu Tao-A & Pratu Tao-A (Expansion)

Location	Sukhothai Province
Technology	Gas Engine
Total Capacity	2.65 MW (holds 100%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	Pratu Tao-A : 27 June 2007 Pratu Tao-A (Expansion) : In 2010
Partner	Ratchaburi Energy Company Limited holds 100%



## Sao Thian-A Project

Location	Sukhothai Province
Technology	Gas Engine
Total Capacity	3.6 MW (holds 100%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	26 January 2012
Partner	Ratchaburi Energy Company Limited holds 100%



## Ratchaburi World Cogeneration (RW Cogen)

Location	Ratchaburi Province
Technology	Cogeneration
Total Capacity	234 MW (93.60 MW holds 40%)
PPA	25-Year
COD	Unit 1: November 2014, Unit 2: March 2015
Partner	<ul style="list-style-type: none"> <li>Ratchaburi Electricity Generating Company Limited holds 40%</li> <li>Major Shareholder Group of Thai Agri Food PCL holds 60%</li> </ul>

# IPPs and SPPs in Thailand: Gas



## Under Construction



### Nava Nakhon Electricity Generating (NNEG)

Location	Pathum Thani Province
Technology	Cogeneration
Total Capacity	132 MW (52.80 MW holds 40%)
PPA	25-Year
Progress	87% as of October 2015
Expected COD	In 2016
Project Cost	THB 6,000 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"> <li>Ratchaburi Electricity Generating Company Limited holds 40%</li> <li>PTT holds 30%</li> <li>Nava Nakhon holds 30%</li> </ul>

## Under Development

### Berkprai Cogeneration (Former name: Ratchaburi Cogeneration)

Location	Ratchaburi Province
Technology	Cogeneration
Total Capacity	100 MW (35 MW holds 35%) Steam Generation 15 ton/hour
PPA	25-Year
Expected COD	In 2019
Project Cost	THB 4,700 Million
Debt to Equity	3 : 1
Partner	<ul style="list-style-type: none"> <li>Ratchaburi Electricity Generating Company Limited holds 35%</li> <li>Rajburi Sugar Company Limited 65%</li> </ul>

# Renewable Projects in Thailand: Wind



*In Operation*



Huay Bong 2 Wind-Turbine Power Project	
Location	Nakorn Ratchasima Province
Technology	Wind-Turbine
Total Capacity	103.5 MW (20.7 MW holds 20%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	8 February 2013
Project Cost	THB 6,100 Million
Debt to Equity	70 : 30
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 20%</li> <li>• Aeolus Power holds 60%</li> <li>• Chubu Electric Power Korat, BV holds 20%</li> </ul>

Huay Bong 3 Wind-Turbine Power Project	
Location	Nakorn Ratchasima Province
Technology	Wind-Turbine
Total Capacity	103.5 MW (20.7 MW holds 20%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	14 November 2012
Project Cost	THB 6,500 Million
Debt to Equity	70 : 30
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 20%</li> <li>• Aeolus Power holds 60%</li> <li>• Chubu Electric Power Korat, BV holds 20%</li> </ul>

# Renewable Projects in Thailand: Solar



*In Operation*



Solar Power Project (Korat 3, Korat 4, Korat 7)	
Location	Nakorn Ratchasima Province
Technology	Solar Power
Total Capacity	18 MW (7.2 MW holds 40%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	<ul style="list-style-type: none"> <li>• Korat 3: 9 March 2012</li> <li>• Korat 4: 14 May 2012</li> <li>• Korat 7: 30 May 2012</li> </ul>
Partner	<ul style="list-style-type: none"> <li>• Ratchaburi Energy Company Limited holds 40%</li> <li>• Solar Power holds 60%</li> </ul>

Solarta Power Project	
Location	Ayutthaya Province
Technology	Solar Power Generation
Total Capacity	34.25 MW (16.78 MW holds 49%)
PPA	5 years with automatic renewal for a further 5 years every 5 years
COD	<ul style="list-style-type: none"> <li>• Ayutthaya Province : 7 April 2011</li> <li>• Suphan Buri Province : In 2012</li> <li>• Nakon Pathom Province : In 2012</li> </ul>
Partner	<ul style="list-style-type: none"> <li>• Ratchaburi Energy Company Limited holds 49%</li> <li>• Yanhee Power holds 51%</li> </ul>

# Renewable Projects in Thailand: Biomass



*In Operation*



## Songkhla Biomass Power Project

Location	Songkhla Province
Technology	Thermal Power Plant
Total Capacity	9.9 MW (3.96 MW holds 40%)
PPA	5-Year (Automatic Renewal)
COD	9 November 2015
Project Cost	THB 846 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"><li>• Ratchaburi Energy Company Limited holds 40%</li><li>• Precise Power Producer holds 40%</li><li>• Assiddeek Saving Cooperative holds 20%</li></ul>

# International Projects : Hydro



*In Operation*



## Num Ngum 2 Hydroelectric Power Plant (NN2)

Location	Lao PDR
Technology	Hydro Power Plant
Total Capacity	615 MW (153.75 MW holds 25%)
PPA	27-Year
IOD / COD	In 2011 / In 2013
Partner	<ul style="list-style-type: none"> <li>• SEAN* holds 75%</li> <li>• GOL holds 25%</li> </ul>

\* Remark: SEAN's shareholder consist of

- RATCH holds 33.33%
- Bangkok Expressway PCL holds 16.67%
- CH. Karnchang holds 38%
- P.T. Construction & Irrigation 5.33%
- Shlapak Development Company holds 5.33%
- Team Consulting Engineering and Management 1.34%



## EDL-Generation Public Company (EDL-Gen)

Location	Lao PDR
Technology	Hydro Power Plant
Total Capacity	881 MW (89.05 MW holds 10.108%)
Shareholders	<ul style="list-style-type: none"> <li>• RATCH-Lao holds 5.801%</li> <li>• RH International (Singapore) Corporation Pte. Limited holds 4.307%</li> <li>• EDL holds 75%</li> <li>• Others holds 14.892%</li> </ul>

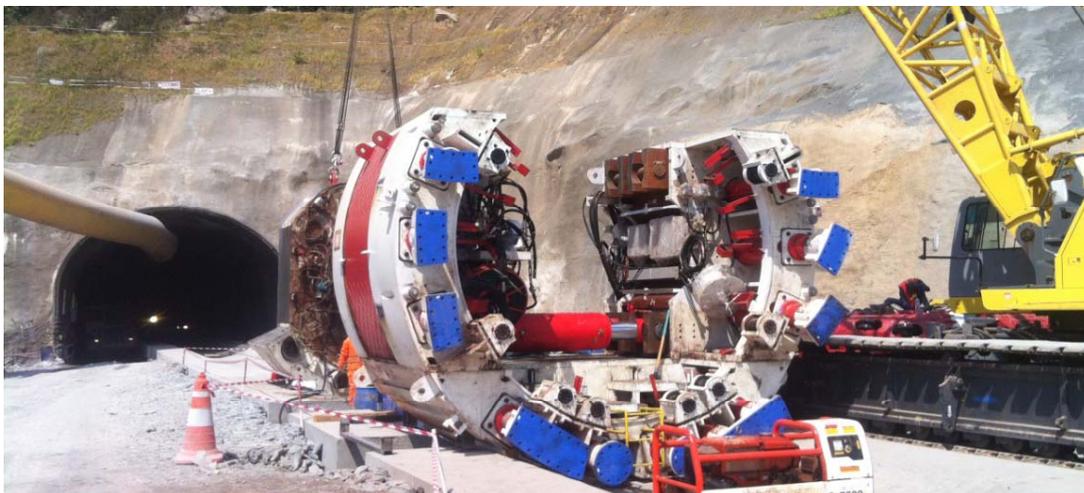
# International Projects : Hydro



## Under Construction

### Xe Pian - Xe Namnoy Project

Location	Lao PDR
Technology	Hydro Power Plant
Total Capacity	410 MW (102.5 MW holds 25%)
PPA	27-year
Progress	25.32% as of September 2015
Expected COD	In 2018
Project Cost	USD 1,020 Million
Debt to Equity	70 : 30
Partner	RATCH holds 25% SK Engineering holds 26% Korea Western Power holds 25% Lao PDR holds 24%



# International Projects : Coal



*In Operation unit 1&2*

*Under Construction unit 3*

Hongsa Thermal Project	
Location	Lao PDR
Technology	Lignite-Fired
Total Capacity	1,878 MW (751.2 MW holds 40%)
PPA	25-Year
COD	Unit 1 : 2 June 2015 / Unit 2 : 2 November 2015
Expected COD	Unit 3 : In 2016
Progress	98.6% as of September 2015
Project Cost	USD 3,710 Million
Debt to Equity	75 : 25
Partner (Power Plant )	RATCH holds 40% Banpu Power holds 40% Lao PDR holds 20%
Partner (Phu Fai Mining)	RATCH holds 37.5% Banpu Power holds 37.5% Lao PDR holds 25%



# International Projects : Gas



*In Operation*



## Townsville Power Plant

Location	North Queensland
Technology	Combined Cycle Gas Turbine
Total Capacity	234 MW (187.20 MW holds 80%)
COD	In 1999

All output sold under a 20 year PPA to AGL / Arrow, expiring in 2025

## Kemerton Power Plant

Location	Western Australia
Technology	Open Cycle Gas / Diesel Turbine
Total Capacity	300 MW (240 MW holds 80%)
COD	In 2005

All capacity sold under a 25 Year PPA to Verve Energy, expiring in 2030

## BP Kwinana Power Plant

Location	Western Australia
Technology	Co-generation
Total Capacity	35.4 MW (28.32 MW holds 80%)
COD	In 1996

Energy and Services Agreement (ESA) with BP and a PPA (power only) with Verve Energy, both expiring in 2021

# International Projects : Gas



*In Operation*



Toora	
Location	Victoria
Commissioned	In 2002
Total Capacity	21 MW (16.80 MW holds 80%)
Contracting Party	Merchant

Starfish Hill	
Location	South Australia
Commissioned	In 2003
Total Capacity	34.5 MW (27.60 MW holds 80%)
Contracting Party	Merchant

Windy Hill	
Location	Queensland
Commissioned	In 2000
Total Capacity	12 MW (9.60 MW holds 80%)
Contracting Party	Ergon Energy, expiry date in August 2015

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# Q&A

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