

# RATCH



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.

## Analyst Meeting 3Q2013

14 November 2013

# Agenda

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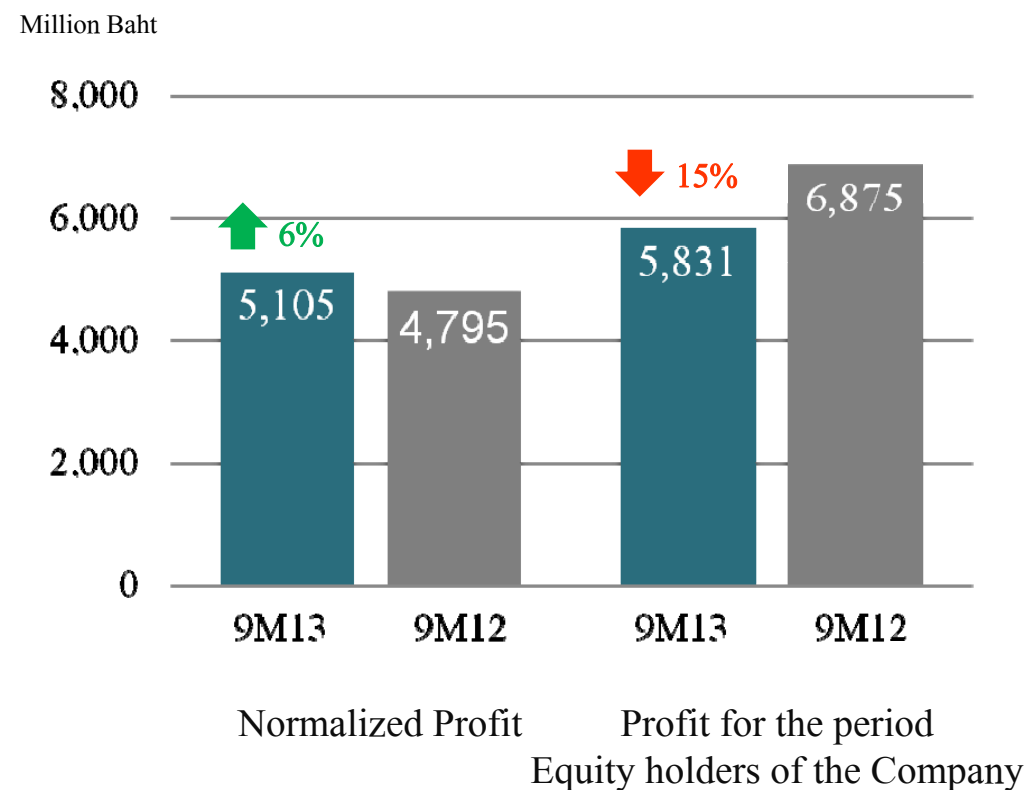
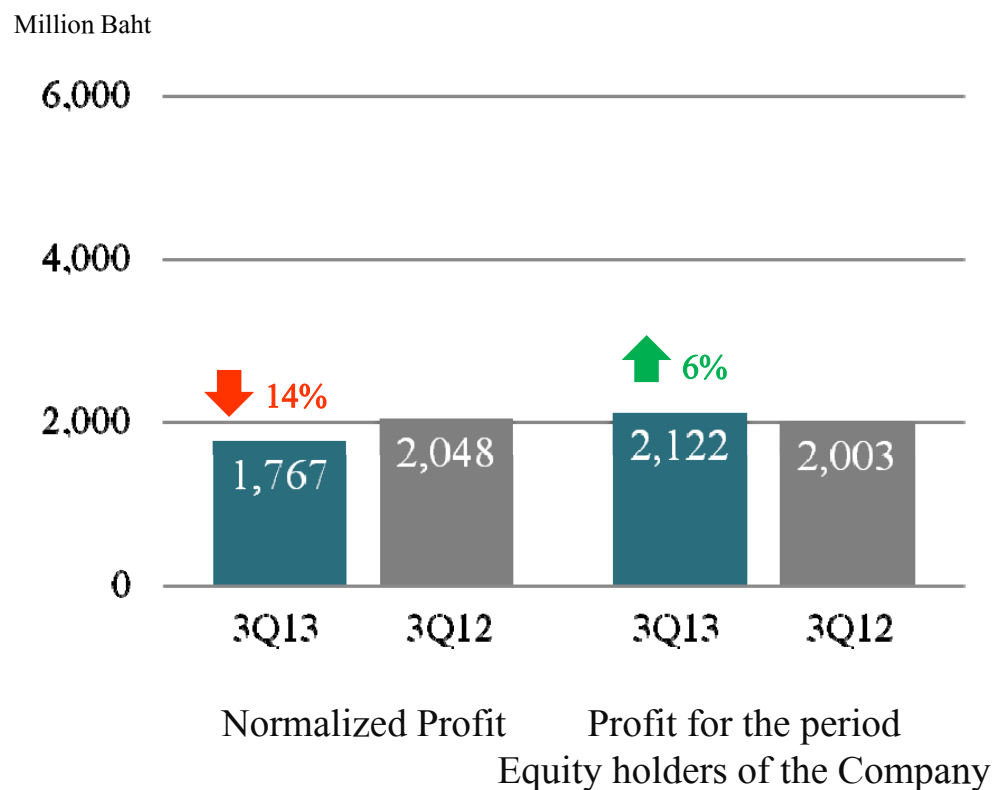
- Highlights
- Project Highlights
- Operating Performance
- Financial Performance
- Appendix

# Highlights

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## Profit for the period Equity holders of the Company



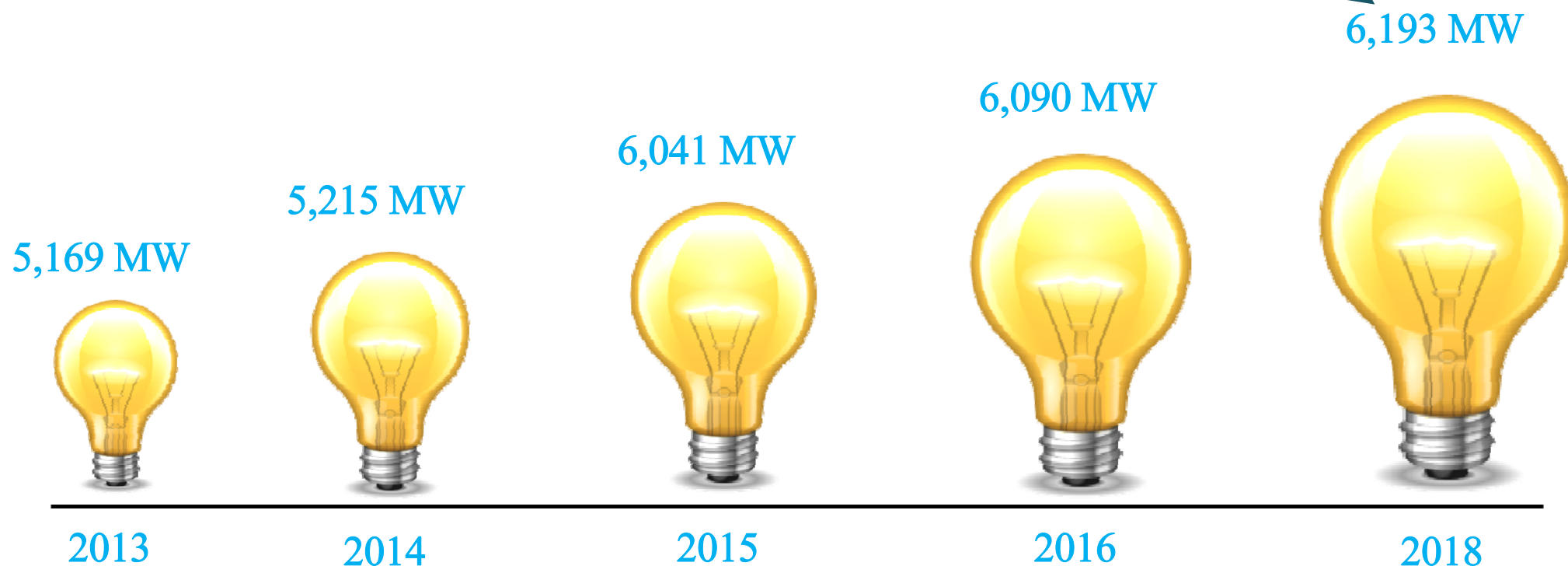
# Project Highlights

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# Overview of RATCH projects

20% brighter by 2018



RW Cogen#1 (Gas) = 42 MW  
Songkhla Biomass = 3.96 MW

Hongsa (Coal) = 751.20 MW  
RW Cogen#2 (Gas) = 42 MW  
Khao Kor (Wind) = 33.11 MW

NNEG (Gas) = 48.80 MW

Xe Pian – Xe Namnoy  
(Hydro) = 102.50 MW

# Portfolio by core business and locations

## End of 2013

Location	Power Generation			Renewable Energy		Grand Total
	Gas	Hydro	Capital Investment	Wind	Solar	
Thailand	4,351.25	-	-	41.40	23.98	4,416.63
Laos	-	153.75	89.05	-	-	242.80
Australia	455.52	-	-	54.00	-	509.52
<b>Total</b>	<b>4,806.77</b>	<b>153.75</b>	<b>89.05</b>	<b>95.40</b>	<b>23.98</b>	<b>5,168.95</b>

## Project from 2014 to 2018

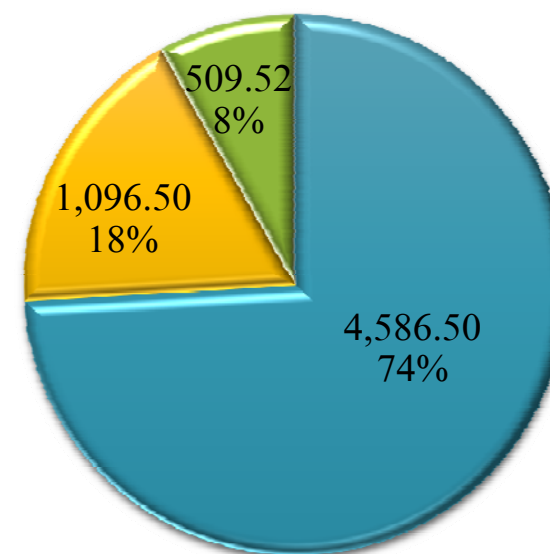
Location	Power Generation			Renewable Energy		Grand Total
	Gas (SPP)	Coal	Hydro	Wind	Biomass	
Thailand	132.80	-	-	33.11	3.96	169.87
Laos	-	751.20	102.50	-	-	853.70
<b>Total</b>	<b>132.80</b>	<b>751.20</b>	<b>102.50</b>	<b>33.11</b>	<b>3.96</b>	<b>1,023.57</b>

## Related Business

<ul style="list-style-type: none"> <li>RATCH-LAO Services Co., Ltd</li> <li>Chubu Ratchaburi Electric Services Co., Ltd</li> <li>RATCH O&amp;M Co., Ltd</li> </ul>	Sukhothai Energy Co., Ltd	EGAT Diamond Service Co., Ltd	<ul style="list-style-type: none"> <li>Phu Fai Mining Co., Ltd</li> <li>Songkhla Biofuel Co., Ltd</li> </ul>
✓ Operations and maintenance	✓ Service of flared gas quality improvement	✓ Gas turbine maintenance	✓ Fuel Supply

## Total capacity by the end of 2018

**6,192.52 MW.**



■ Thailand ■ Laos ■ Australia

# Operating Performance

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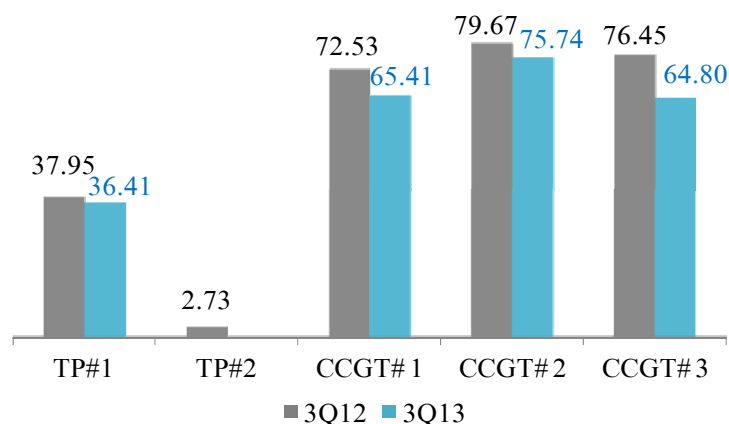




# RATCHGEN Operation Performance

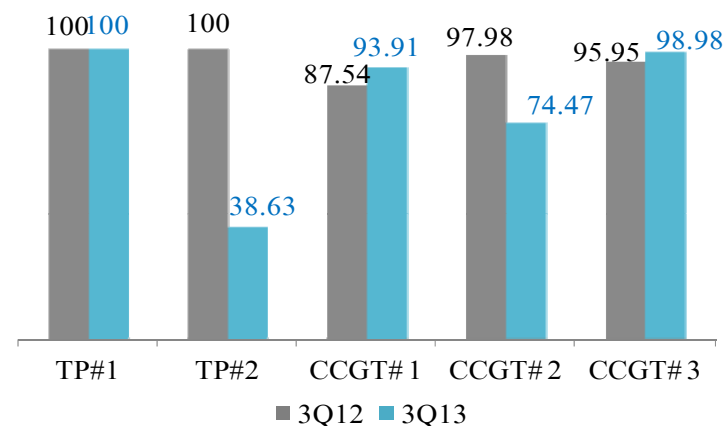
## Dispatch Factor 3Q12 & 3Q13

Unit: %



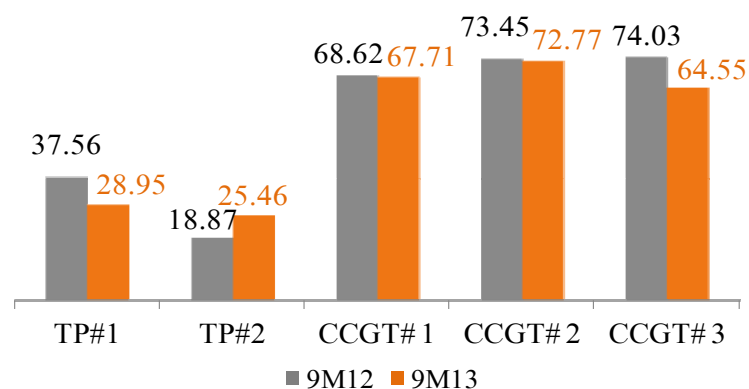
## Equivalent Availability Factor 3Q12 & 3Q13

Unit: %



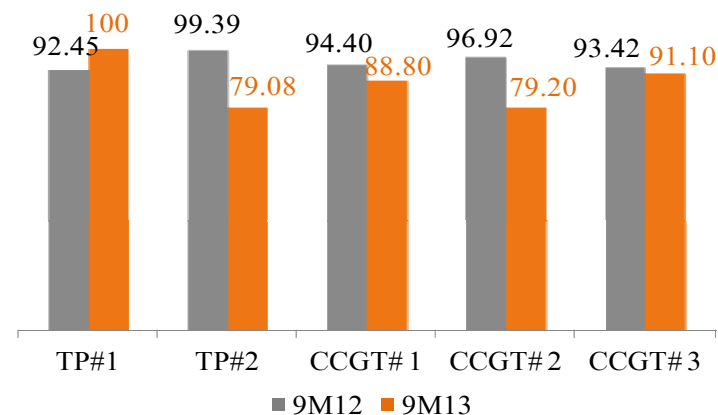
## Dispatch Factor 9M12 & 9M13

Unit: %



## Equivalent Availability Factor 9M12 & 9M13

Unit: %



# Financial Performance

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# Statements of Comprehensive Income

Unit : in Million Baht	3Q13	2Q13	1Q13	4Q12	3Q12
Revenues	12,567.90	14,205.09	12,411.95	13,269.49	13,970.28
Cost & Expenses	(9,855.41)	(10,639.54)	(9,550.82)	(11,407.33)	(10,587.87)
<b>Gross Profit</b>	<b>2,712.49</b>	<b>3,565.55</b>	<b>2,861.13</b>	<b>1,862.16</b>	<b>3,382.41</b>
Share of profit of jointly-controlled entities and associates excluded gain (loss) on exchange rate	551.70	288.22	211.38	64.12	447.94
<b>EBITDA</b>	<b>3,264.19</b>	<b>3,853.77</b>	<b>3,072.51</b>	<b>1,926.28</b>	<b>3,830.35</b>
Gain (Loss) on exchange rate of subsidiaries and JV	354.91	(846.81)	765.68	519.03	(45.17)
<b>EBITDA included gain (loss) from associated</b>	<b>3,619.10</b>	<b>3,006.96</b>	<b>3,838.19</b>	<b>2,445.31</b>	<b>3,785.18</b>
Gain on sale long-term receivable	-	645.83	-	-	-
Depreciation & Amortization	(930.27)	(953.49)	(951.76)	(954.64)	(864.96)
<b>EBIT</b>	<b>2,688.83</b>	<b>2,699.30</b>	<b>2,886.43</b>	<b>1,490.67</b>	<b>2,920.22</b>
Finance costs	(358.39)	(391.23)	(496.02)	(561.59)	(573.47)
Income tax expense	(229.29)	(664.13)	(265.99)	(150.44)	(371.94)
<b>Profit for the period</b>	<b>2,101.15</b>	<b>1,643.94</b>	<b>2,124.42</b>	<b>778.64</b>	<b>1,974.81</b>
Non-controlling interests	21.04	(90.95)	31.17	72.61	27.88
<b>Profit for the period: Equity holders of the Company</b>	<b>2,122.19</b>	<b>1,552.99</b>	<b>2,155.59</b>	<b>851.25</b>	<b>2,002.69</b>

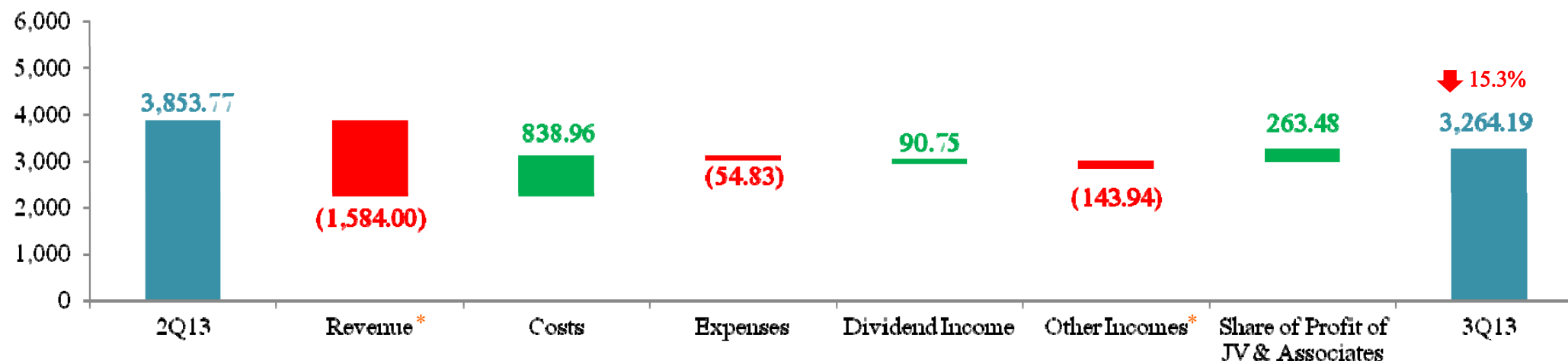
# Statements of Comprehensive Income

Unit : in Million Baht	3Q13	3Q12	%	9M13	9M12	%
Revenues	12,567.90	13,970.28	(10.04)	39,184.94	43,340.14	(9.59)
Cost & Expenses	(9,855.41)	(10,587.87)	(6.92)	(30,045.77)	(33,485.98)	(10.27)
<b>Gross Profit</b>	<b>2,712.49</b>	<b>3,382.41</b>	<b>(19.81)</b>	<b>9,139.17</b>	<b>9,854.17</b>	<b>(7.26)</b>
Share of profit of jointly-controlled entities and associates excluded gain (loss) on exchange rate	551.70	447.94	23.16	1,051.30	739.00	42.26
<b>EBITDA</b>	<b>3,264.19</b>	<b>3,830.35</b>	<b>(14.78)</b>	<b>10,190.47</b>	<b>10,593.17</b>	<b>(3.80)</b>
Gain (Loss) on exchange rate of subsidiaries and JV	354.91	(45.17)	n.a.	273.78	226.50	20.87
<b>EBITDA included gain (loss) from associated</b>	<b>3,619.10</b>	<b>3,785.18</b>	<b>(4.39)</b>	<b>10,464.25</b>	<b>10,819.67</b>	<b>(3.28)</b>
Gain on disposal of long-term investment	-	-	-	-	783.68	-
Gain on termination of power purchase agreement	-	-	-	-	1,069.44	-
Gain on sale long-term receivable	-	-	-	645.83	-	-
Depreciation & Amortization	(930.27)	(864.96)	7.55	(2,835.52)	(2,939.63)	(3.54)
<b>EBIT</b>	<b>2,688.83</b>	<b>2,920.22</b>	<b>(7.92)</b>	<b>8,274.56</b>	<b>9,733.16</b>	<b>(14.99)</b>
Finance costs	(358.39)	(573.47)	(37.51)	(1,245.64)	(1,838.43)	(32.24)
Income tax expense	(229.29)	(371.94)	(38.35)	(1,159.41)	(736.79)	57.36
<b>Profit for the period</b>	<b>2,101.15</b>	<b>1,974.81</b>	<b>6.40</b>	<b>5,869.51</b>	<b>7,157.94</b>	<b>(18.00)</b>
Non-controlling interests	21.04	27.88	(24.53)	(38.74)	(282.92)	(86.31)
<b>Profit for the period: Equity holders of the Company</b>	<b>2,122.19</b>	<b>2,002.69</b>	<b>5.97</b>	<b>5,830.77</b>	<b>6,875.02</b>	<b>(15.19)</b>

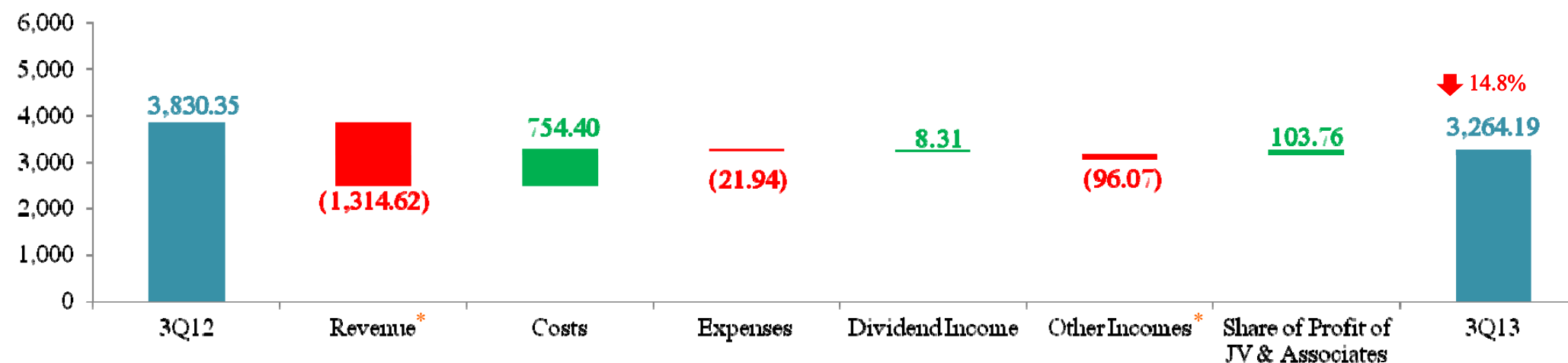
# EBITDA Growth QoQ & YoY

\* Revenue = Net Sales + Revenue from Rendering of services    Other Incomes = Management service income + Interest Income + Others

## EBITDA Growth (QoQ)

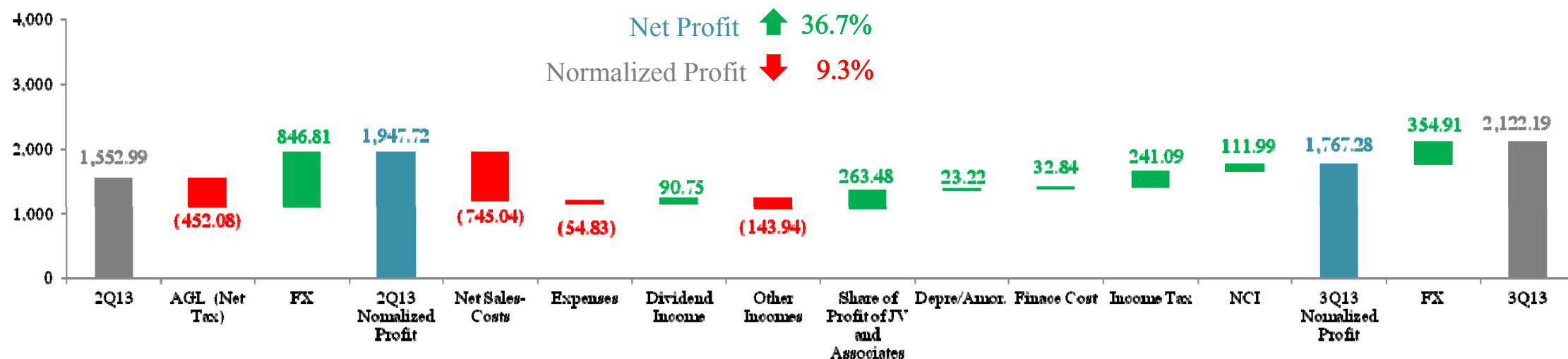


## EBITDA Growth (YoY)

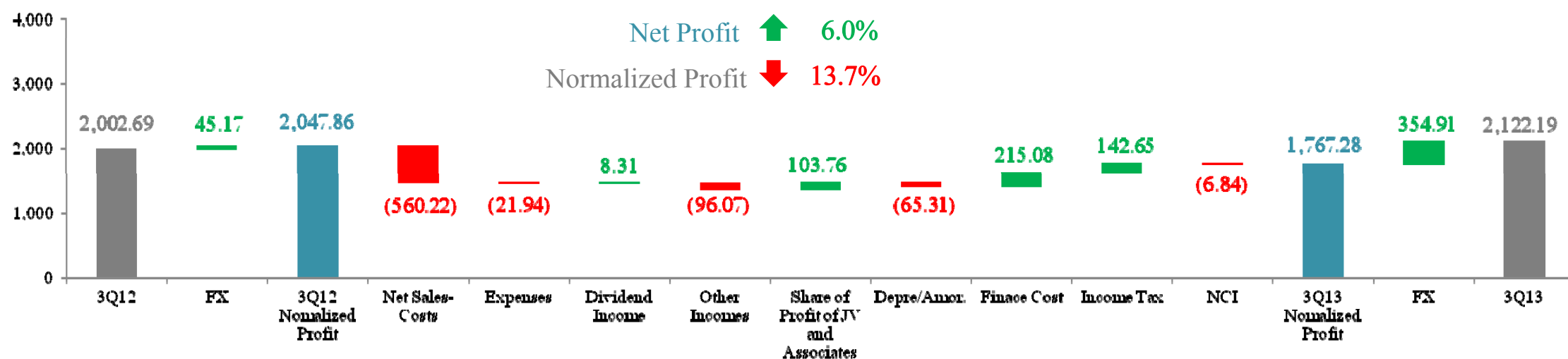


# Net Profit Growth QoQ & YoY

## Net Profit Growth (QoQ)



## Net Profit Growth (YoY)

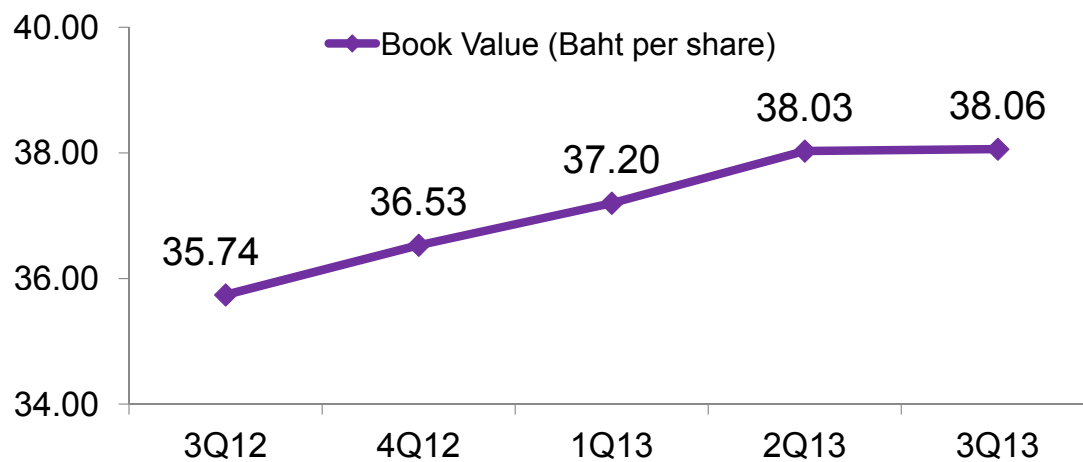
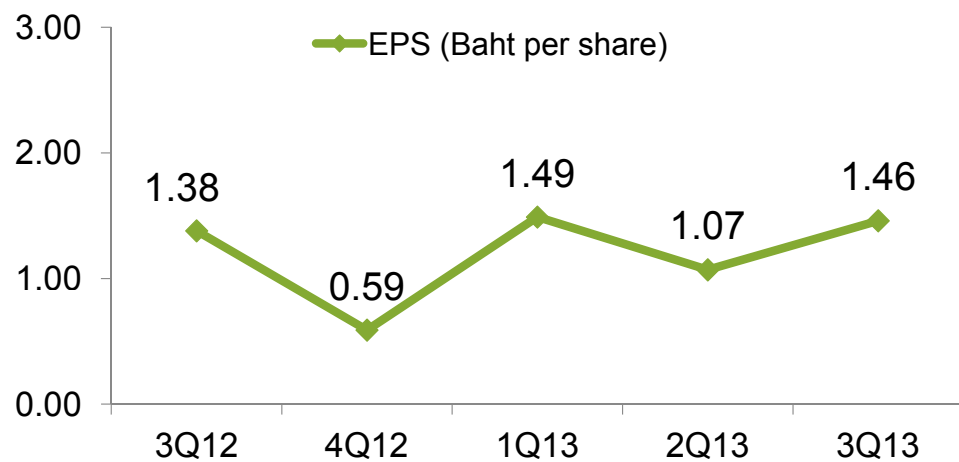
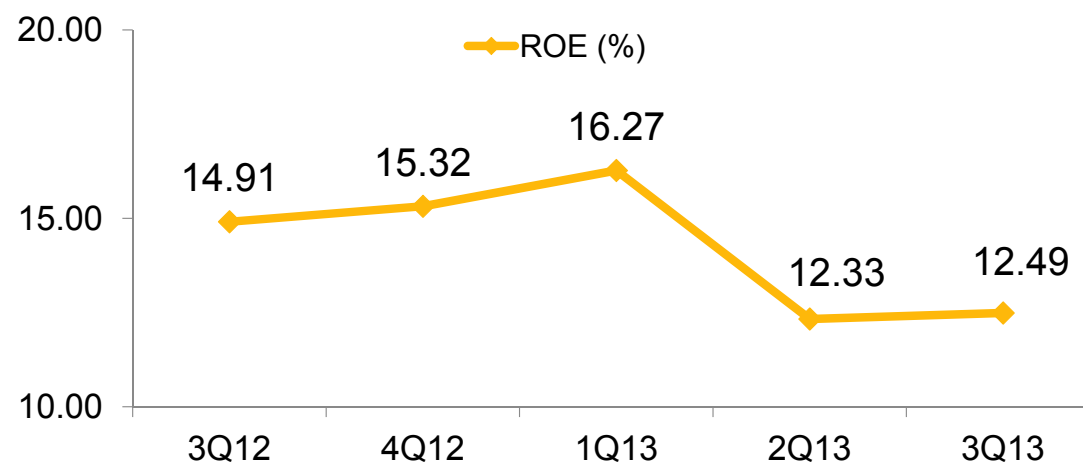
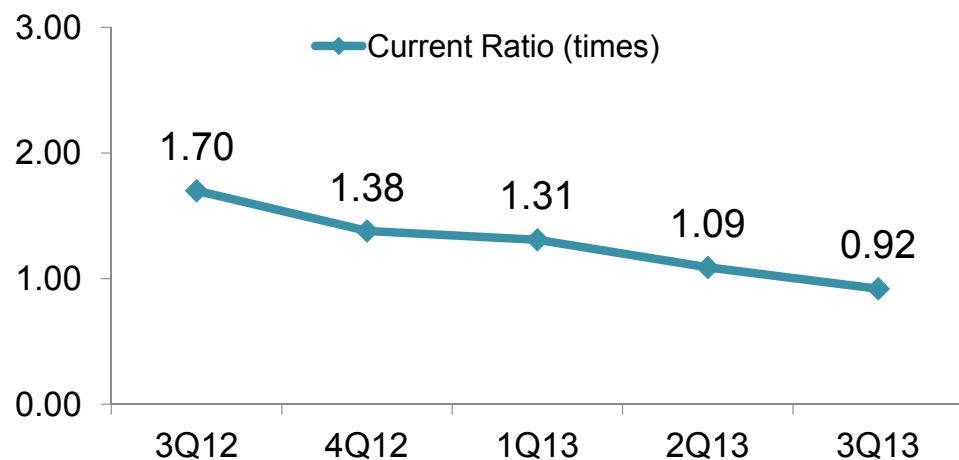


# Statements of Financial Position

As of September 2013

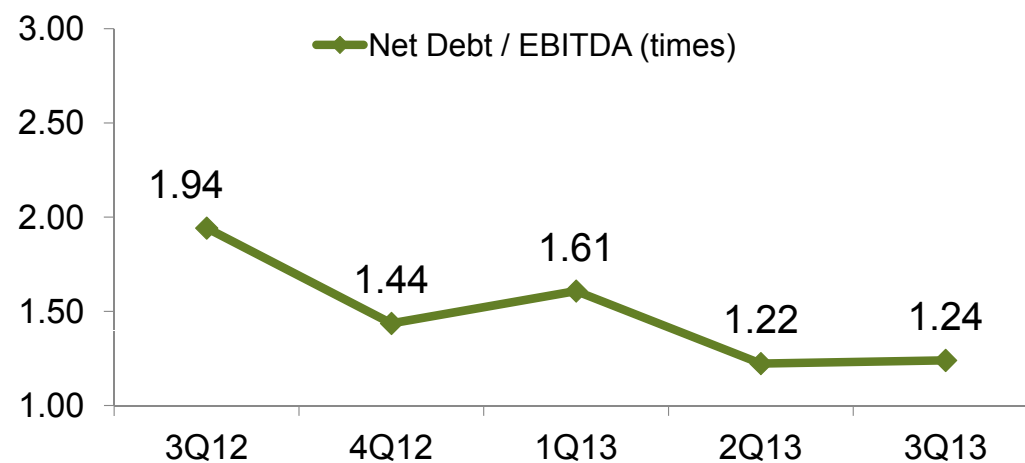
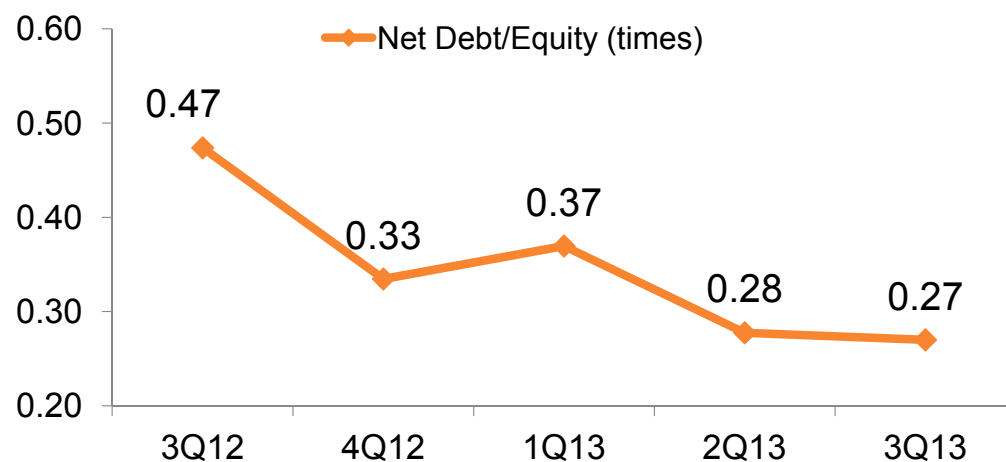
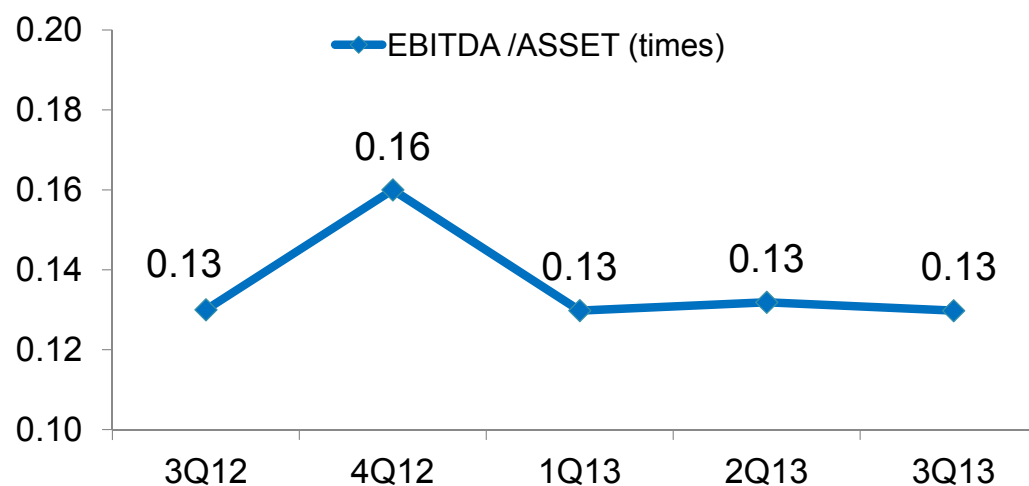
Total Assets	Million Baht	Total Liabilities & Equity	Million Baht
<b><u>Assets</u></b>		<b><u>Liabilities</u></b>	
Current Assets	19,713.54	Loans from Financial Institutions & Debentures	22,514.82
Investment in Jointly-controlled entities/Associates	14,904.36	Other Liabilities	10,566.72
Property, plant & equipments	42,930.55		
Others Assets	11,468.43		
<b>Total Assets</b>	<b>89,016.88</b>	<b>Total Liabilities</b>	<b>33,081.54</b>
		<b><u>Equity</u></b>	
		Issued and paid-up share capital	16,031.78
		Other components of equity	31.91
		Retained earnings	39,123.35
		<b>Total equity attributable to owners of the Company</b>	<b>55,187.04</b>
		Non-controlling interests	748.30
		<b>Total Liabilities &amp; Equity</b>	<b>89,016.88</b>

# Financial Ratios





# Financial Ratios



# Appendix

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Financial Performance



# Revenues

Unit : in Million Baht	3Q13	3Q12	Diff	%	9M13	9M12	Diff	%
Net Sales	12,227.04	13,549.84	(1,322.80)	(9.76)	37,948.32	42,356.39	(4,408.07)	(10.41)
AP - RG	3,040.31	3,449.51	(409.20)	(11.86)	9,561.73	9,645.93	(84.20)	(0.87)
- RAC	454.57	561.67	(107.10)	(19.07)	1,362.09	2,250.53	(888.44)	(39.48)
EP (Fuel) - RG	8,506.93	9,341.73	(834.80)	(8.94)	26,477.50	29,946.71	(3,469.21)	(11.58)
- RAC	204.84	175.16	29.68	16.94	510.78	434.87	75.91	17.46
- Flared Gas	20.39	21.77	(1.38)	(6.34)	36.22	78.35	(42.13)	(53.77)
Revenue from Rendering of services	52.78	44.61	8.17	18.31	154.00	103.84	50.16	48.31
Management service income	54.64	57.72	(3.08)	(5.34)	162.03	158.67	3.36	2.12
Interest Income	65.28	182.94	(117.66)	(64.32)	354.88	413.90	(59.02)	(14.26)
Dividend Income	90.75	82.43	8.32	10.09	220.90	188.31	32.59	17.31
Others	77.41	52.74	24.67	46.78	344.81	119.03	225.78	189.68
Total Revenues	12,567.90	13,970.28	(1,402.38)	(10.04)	39,184.94	43,340.14	(4,155.20)	(9.59)

# Share of profit from jointly-controlled entities

Unit : in Million Baht	3Q13	3Q12	Diff	%	9M13	9M12	Diff	%
TECO	62.00	140.54	(78.54)	(55.88)	23.23	(17.06)	40.29	236.17
RPCL	291.01	350.34	(59.33)	(16.93)	701.66	754.55	(52.89)	(7.01)
SEAN	133.61	88.99	44.62	50.14	229.96	171.16	58.80	34.35
HPC	(39.24)	(239.21)	199.97	83.60	(305.84)	(237.24)	(68.60)	(28.92)
CRESCO	(21.51)	5.39	(26.90)	(499.07)	(18.31)	27.39	(45.70)	(166.85)
SOLARTA	26.34	16.68	9.66	57.91	102.15	21.43	80.72	376.67
KORAT 3,4,7	11.06	13.70	(2.64)	(19.27)	42.42	21.36	21.06	98.60
FKW	30.43	(1.11)	31.54	n.a.	65.00	(8.11)	73.11	n.a.
KR2	32.89	(0.20)	33.09	n.a.	40.79	(4.20)	44.99	n.a.
KWINANA	13.96	8.87	5.09	57.38	27.69	20.98	6.71	31.98
Others	14.65	(11.95)	26.60	(222.59)	0.66	(16.38)	17.04	(104.03)
Total Share of profit from jointly-controlled entities	555.20	372.04	183.16	49.23	909.41	733.88	175.53	23.92

# Share of profit from jointly-controlled entities (excl. FX)

Unit : in Million Baht	3Q13	3Q12	Diff	%	9M13	9M12	Diff	%
TECO	62.73	139.60	(76.87)	(55.06)	29.18	(18.42)	47.60	258.41
RPCL	305.01	280.94	24.07	8.57	736.55	689.30	47.25	6.85
SEAN	145.12	37.91	107.21	282.80	259.51	123.47	136.04	110.18
HPC	(55.35)	(41.13)	(14.22)	(34.57)	(227.08)	(114.64)	(112.44)	(98.08)
CRESCO	(22.30)	4.63	(26.93)	(581.64)	(22.49)	24.20	(46.69)	(192.93)
SOLARTA	26.34	16.68	9.66	57.91	102.15	21.43	80.72	376.67
KORAT 3,4,7	11.06	13.70	(2.64)	(19.27)	42.42	21.36	21.06	98.60
FKW	31.49	(1.11)	32.60	n.a.	66.48	(8.11)	74.59	n.a.
KR2	29.59	(0.20)	29.79	n.a.	49.66	(4.20)	53.86	n.a.
KWINANA	13.96	8.87	5.09	57.38	27.69	20.98	6.71	31.98
Others	4.05	(11.95)	16.00	133.89	(12.77)	(16.37)	3.60	21.99
Total Share of profit from jointly-controlled entities	551.70	447.94	103.76	23.16	1,051.30	739.00	312.30	42.26

# Cost and Expenses

Unit : in Million Baht	3Q13	3Q12	Diff	%	9M13	9M12	Diff	%
Cost of Sale and rendering of services	9,504.24	10,258.64	(754.40)	(7.35)	29,083.62	32,478.21	(3,394.59)	(10.45)
– Fuel Cost : RG	8,473.53	9,323.97	(850.44)	(9.12)	26,278.52	29,779.93	(3,501.41)	(11.76)
– Fuel Cost : RAC	18.00	20.59	(2.59)	(12.58)	45.04	57.71	(12.67)	(21.95)
– Fuel Cost : Flared Gas	3.22	2.85	0.37	12.98	5.57	10.73	(5.16)	(48.09)
– Operation & Maintenance	465.57	432.98	32.59	7.53	1,219.87	1,361.71	(141.84)	(10.42)
– Repairing Expense (CSA)	196.80	216.75	(19.95)	(9.20)	569.80	602.43	(32.63)	(5.42)
– Spare parts	185.74	135.62	50.12	36.96	546.64	281.21	265.43	94.39
– Insurance Premium	69.10	70.44	(1.34)	(1.90)	208.62	225.88	(17.26)	(7.64)
– Standby Charge	48.97	45.66	3.31	7.25	145.49	124.83	20.66	16.55
– Others	43.31	9.78	33.53	342.84	64.07	33.78	30.29	89.67
Selling and Admin- Expenses	351.17	329.23	21.94	6.66	962.15	1,007.77	(45.62)	(4.53)
Total Cost and Expenses (excluded depreciation & amortization)	9,855.41	10,587.87	(732.46)	(6.92)	30,045.77	33,485.98	(3,440.21)	(10.27)

# Gain (Loss) From Foreign Exchange Rate

Unit : in Million Baht

	3Q13	3Q12	9M13	9M12
Gain (Loss) from Foreign Exchange Rate	354.91	(45.17)	273.78	226.52
The Company and Subsidiaries	351.42	30.73	415.67	231.63
- RH	12.77	(4.38)	38.03	21.58
- RE / RG	2.73	2.34	2.56	(5.25)
- RL	(9.72)	(27.60)	(20.13)	3.03
- RH Inter	345.64	60.37	395.21	212.27
Jointly-controlled entities and Associates	3.49	(75.90)	(141.89)	(5.11)
- RPCL (25%)	(14.00)	69.40	(34.89)	65.25
- SEAN (33.33%)	(11.51)	51.08	(29.55)	47.69
- HPC (40%)	16.11	(198.08)	(78.75)	(122.60)
- TECO (50%)	(0.73)	0.94	(5.94)	1.36
- CRESCO (50%)	0.79	0.76	4.17	3.19
- RW COGEN (40%)	10.59	-	13.43	-
- FKW (20%)	(1.06)	-	(1.48)	-
- KR2 (20%)	3.30	-	(8.88)	-

Foreign Exchange Rate as at September 30, 2013 = 31.5330 Baht/USD as at September 30, 2012 = 30.9664 Baht/USD as at December 31, 2012 = 30.7775 Baht/USD

# Appendix

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Operating Performance





# RATCHGEN Operating Performance























## Net Generation (GWh)


By Type of Power Plant	3Q13	3Q12	9M13	9M12
Net Generation (TP#1-2) (GWh)	583.34	646.73	2,320.07	2,531.88
- By Gas (GWh)	582.99	637.73	2,124.85	1,833.26
- By Heavy Oil (GWh)	0.35	9.00	195.22	698.62
Net Generation (CCGT#1-3) (GWh)	2,719.42	3,209.40	7,717.16	8,997.67
- By Gas (GWh)	2,719.42	3,209.40	7,628.57	8,964.10
- By Diesel (GWh)	-	-	88.59	33.57
Total Net Generation (GWh)	3,302.76	3,856.13	10,037.23	11,529.55

# RATCHGEN Operating Performance

## Fuel Consumption

By Fuel	3Q13	3Q12	9M13	9M12
Fuel Consumption (TH#1-2)				
- Gas Million MMBTU	6.19	6.68	22.01	18.90
- Heavy Oil Million Liters	0.10	2.30	47.20	174.11
Fuel Consumption (CCGT#1-3)				
- Gas Million MMBTU	19.87	23.19	55.45	64.85
- Diesel Million Liters	0.13	0.05	19.97	8.74
Gas Price (Average) Baht/MMBTU	322.67	308.18	318.28	302.00
Heavy Oil Price (Average) Baht/Liter	20.50	21.51	20.32	23.50
Diesel Oil Price (Average) Baht/Liter	25.28	22.05	23.66	21.31

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10	2  MI(26D) 27											
	CCGT-11	13  CI (15D) 27											
	CCGT-12	13  CI (15D) 27											
RG	CCST-20						28  MI(26D) 23						
	CCGT-21						2  MO (52D) 23						
	CCGT-22						2  MO (52D) 23						
RG	CCST-30		3  MI (26D) 28										
	CCGT-31		14  CI (15D) 28										
	CCGT-32		14  CI (15D) 28										
Thermal-1								4  MO (57D) 29			27  MO (57D) 22		
Thermal-2								4  MO (57D) 29			3  MO (57D) 29		29
TECO	CCST-10												
	CCGT-11		15  CI (9D) 23			24  CI (17D) 10							
	CCGT-12	12  MI (35D) 15											
RPCL	CCST-10										4  MO (37D) 10		
	CCGT-11										4  MO (37D) 10		
	CCGT-12										4  MO (37D) 10		
RPCL	CCST-20	3  CI (12D) 14											
	CCGT-21	3  CI (12D) 14											
	CCGT-22	3  CI (12D) 14											

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	







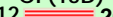
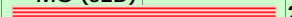
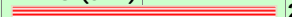








Actual Outage


## Planned Outage at Ratchaburi Power Plant in 2012

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Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10												
	CCGT-11									23	MO	13	
	CCGT-12									23		13	
RG	CCST-20												
	CCGT-21											25	CI (15d) 9
	CCGT-22											25	9
RG	CCST-30												
	CCGT-31	1											
	CCGT-32	1											
RG	Thermal-1			1	ID Fan	24							
	Thermal-2												
TECO	CCST-10			1									
	CCGT-11			1									
	CCGT-12			1									
RPCL	CCST-10												
	CCGT-11											3	12
	CCGT-12											3	CI 26
RPCL	CCST-20	3	MI										
	CCGT-21	3	MI										
	CCGT-22	3	MI										

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		

Plant		Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
RG	CCST-10												
	CCGT-11	CI (15D) 5  19											
	CCGT-12	CI (15D) 5  19											
RG	CCST-20												
	CCGT-21										CI (15D) 12  26		
	CCGT-22										CI (15D) 12  26		
RG	CCST-30												
	CCGT-31						6  26	MO (52D)					
	CCGT-32						6  26	MO (52D)					
Thermal-1													
Thermal-2													
TECO	CCST-10										MI (12D) 2  13		
	CCGT-11										19  21	MO (34D)	
	CCGT-12										2  13	CI (12D)	
RPCL	CCST-10												CI (10D) 11  20
	CCGT-11												CI (10D) 11  20
	CCGT-12												
RPCL	CCST-20	MO (33D) 3  4											
	CCGT-21	MO (33D) 3  4											
	CCGT-22	MO (33D) 3  4											

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	 RATCHABURI POWER GENERATING HOLDING PCL.	
	Normal (WI**)	Gen.Rotor Removed (WI*)		(MI)		(MO)		
	26 Days	30 Days		26 Days		49 Days		

# Appendix

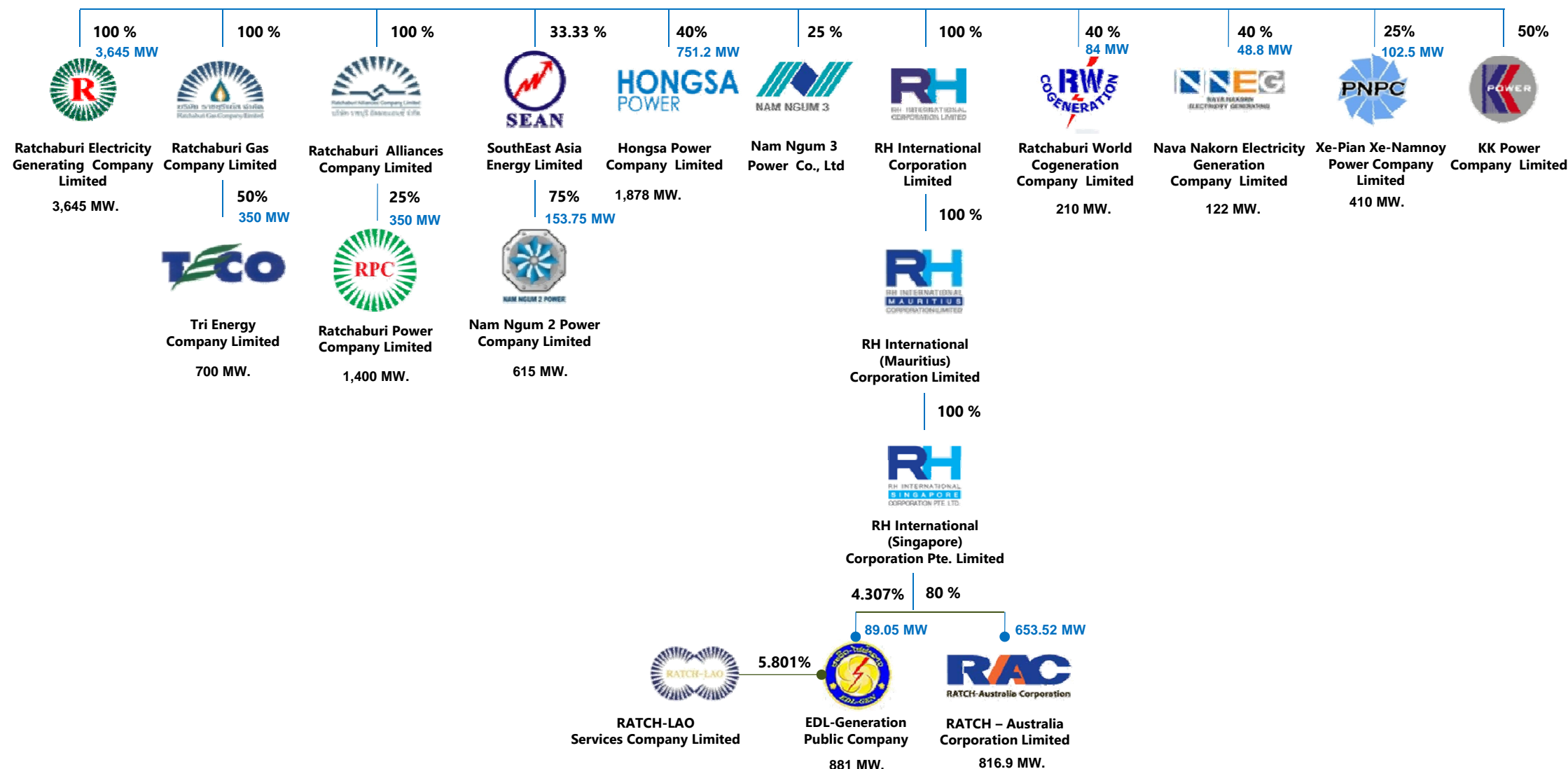
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RATCH Company Structure **RATCH**



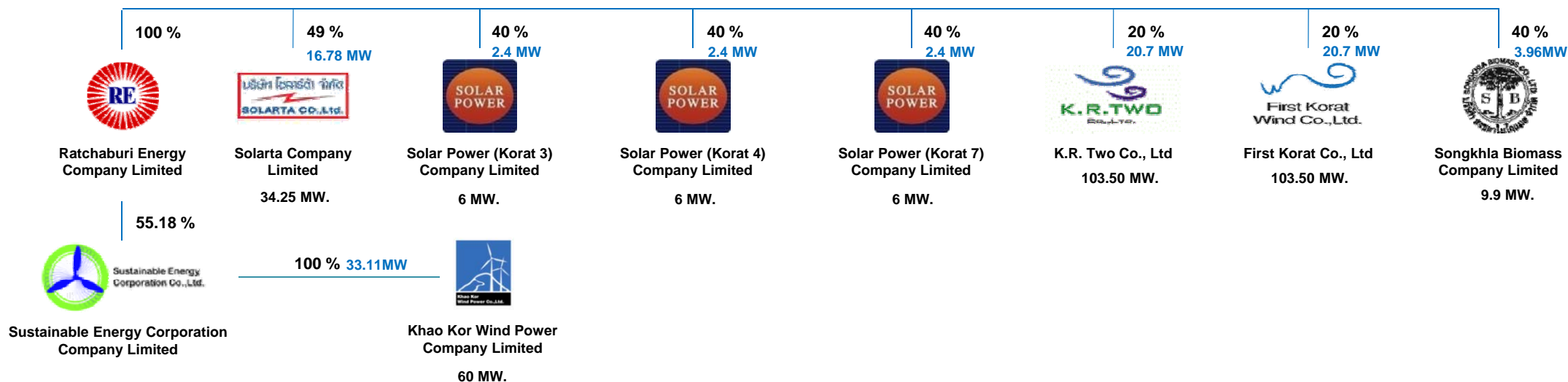
# RATCH Company Structure

## Power Generation



# RATCH Company Structure

## Renewable Energy



## Related Business





# Appendix

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RATCH Projects



# Power Generation

## ■ IPP in Thailand



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	RG holds 100%



Tri Energy Power Plant (TECO)

Location	Ratchaburi Province
Technology	Combined Cycle
Total Capacity	700 MW (350 MW holds 50 %)
PPA	20-Year
COD	In 2000
Partner	Chevron Thailand Energy Company I holds 50 %



Ratchaburi Power Plant (RPCL)

Location	Ratchaburi Province
Technology	Combined Cycle
Total Capacity	1,400 MW (350 MW holds 50 %)
PPA	25-Year
COD	In 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>

# Power Generation

## ■ IPP in Laos



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%

## ■ SPP in Thailand

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	SPP Non-Firm 5-Year
COD	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>



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	SPP Non-Firm 5-Year
Expected COD	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>

# Power Generation

## ■ VSPP in Thailand



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

Location	Sukhothai Province
Technology	Gas Engine
Total Capacity	2.65 MW (holds 100%)
PPA	5-Year (Automatic Renewal)
COD	In 2007 / 2010
Partner	RE holds 100%



Sao Thian-A Project

Location	Sukhothai Province
Technology	Gas Engine
Total Capacity	3.6 MW (holds 100%)
PPA	5-Year (Automatic Renewal)
COD	In 2012
Partner	RE holds 100%



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-Year (Automatic Renewal)
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>RATCH holds 40%</li> <li>Solar Power holds 60%</li> </ul>



Solarta Power Project

Location	Ayutthaya Province
Technology	Solar Power Generation
Total Capacity	34.25MW (16.78 MW holds 49%)
PPA	5-Year (Automatic Renewal)
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>RATCH holds 49%</li> <li>Yanhee Power holds 51%</li> </ul>

# Power Generation

## ■ Power Plant in Australia : Gas



Townsville

Location	North Queensland
Technology	Combined Cycle Gas Turbine
Total Capacity	234 MW (187.20 MW holds 80%)
All output sold under a 20 year PPA to AGL / Arrow, expiring in 2025	



Kemerton

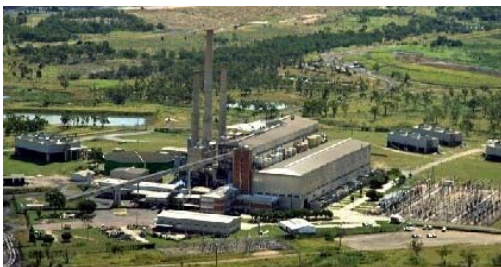
Location	Western Australia
Technology	Open Cycle Gas / Diesel Turbine
Total Capacity	300 MW (240 MW holds 80%)
All capacity sold under a 25 Year PPA to Verve Energy, expiring in 2030	



BP Kwinana

Location	Western Australia
Technology	Co-generation
Total Capacity	35.4 MW (28.32 MW holds 80%)
Energy and Services Agreement (ESA) with BP and a PPA (power only) with Verve Energy, both expiring in 2021	

## ■ Power Plant in Australia : Coal



Collinsville\*

Location	Queensland
Technology	Black coal fired
Total Capacity	180 MW (144 MW holds 80%)
All output sold under PPA to CS Energy, expiring in 2016	

\* - PPA Terminated on 14 Aug 2012  
- Under conducting feasibility study on solar project



# Power Generation

## ■ Power Plant in Australia : Wind



Starfish Hill

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



Toora

Location	Victoria
Commissioned	In 2002
Total Capacity	21 MW (16.80 MW holds 80%)
Contracting Party	Energy Australia, expiry date in 2012



Windy Hill

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

# Projects under Construction

## ■ SPP in Thailand

### Ratchaburi World Cogeneration (RW Cogen)

Location	Ratchaburi Province
Technology	Cogeneration
Total Capacity	210 MW (84 MW holds 40%)
PPA	25-Year
Expected COD	In 2014
Project Cost	THB 10,620 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 40%</li> <li>• Majoe Sharholder Group of Thai Agri Food PCL holds 60%</li> </ul>

## ■ VSPP in Thailand

### 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)
Expected COD	In 2014
Project Cost	THB 820 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 40%</li> <li>• Precise Power Producer holds 40%</li> <li>• Assiddeek Saving Cooperative holds 20%</li> </ul>

## ■ IPP in Laos



### Hongsa Thermal Project

Location	Lao PDR
Technology	Lignite-Fired
Total Capacity	1,878 MW (751.2 MW holds 40%)
PPA	25-Year
Progress	69.8% as of September 2013
Expected COD	In 2015
Project Cost	USD 3,710 Million
Debt to Equity	75 : 25
Partner (Power Plant )	<ul style="list-style-type: none"> <li>• RATCH holds 40%</li> <li>• Banpu Power holds 40%</li> <li>• Lao PDR holds 20%</li> </ul>
Partner (Phu Fai Mining)	<ul style="list-style-type: none"> <li>• RATCH holds 37.5%</li> <li>• Banpu Power holds 37.5%</li> <li>• Lao PDR holds 25%</li> </ul>

# Projects under Development

## ■ SPP in Thailand

### Khao Kor Wind Farm Project

Location	Phetchabun Province
Technology	Wind-Turbine
Total Capacity	60 MW (33.11 MW holds 55.18%)
PPA	SPP Non-Firm 5-Year
Expected COD	In 2014
Project Cost	THB 4,100 Million
Debt to Equity	70 : 30
Partner	<ul style="list-style-type: none"> <li>• RE holds 55.18%</li> <li>• Wind Energy holds 34.16%</li> <li>• DEMCO holds 10.66%</li> </ul>

### Nava Nakhon Electricity Generating (NNEG)

Location	Pathum Thani Province
Technology	Cogeneration
Total Capacity	122 MW (48.80 MW holds 40%)
PPA	25-Year
Expected COD	In 2016
Project Cost	THB 6,000 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 40%</li> <li>• PTT holds 30%</li> <li>• Nava Nakhon holds 30%</li> </ul>

## ■ IPP in Laos

### Xe Pian - Xe Namnoy Project

Location	Lao PDR
Technology	Hydro Power Plant
Total Capacity	410 MW (102.5 MW holds 25%)
PPA	27-year
Expected COD	In 2018
Project Cost	USD 830 Million
Debt to Equity	70 : 30
Partner	<ul style="list-style-type: none"> <li>• RATCH holds 25%</li> <li>• SK Engineering holds 26%</li> <li>• Korea Western Power holds 25%</li> <li>• Lao PDR holds 24%</li> </ul>



# Q&A

## Disclaimer

The information contained in our presentation is intended solely for your personal reference only. In addition, such information contains projections and forward-looking statements that reflect the Company's current views with respect to future events and financial performance. These views are based on assumptions subject to various risks. No assurance is given that future events will occur, that projections will be achieved, or that the Company's assumptions are correct. Actual results may differ materially from those projected. Investors are, however, required to use their own discretion regarding the use of information contained in this presentation for any purpose.

# RATCH



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.