

# 2014 Thailand Investor Conference

27-28 October 2014, New York

**RATCH**



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.



The Stock Exchange of Thailand



**AUERBACH GRAYSON**

# Agenda

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- Industry Overview
- Company Overview
- Financial Performance
- Annexure

# Industry Overview



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# Electricity Consumption

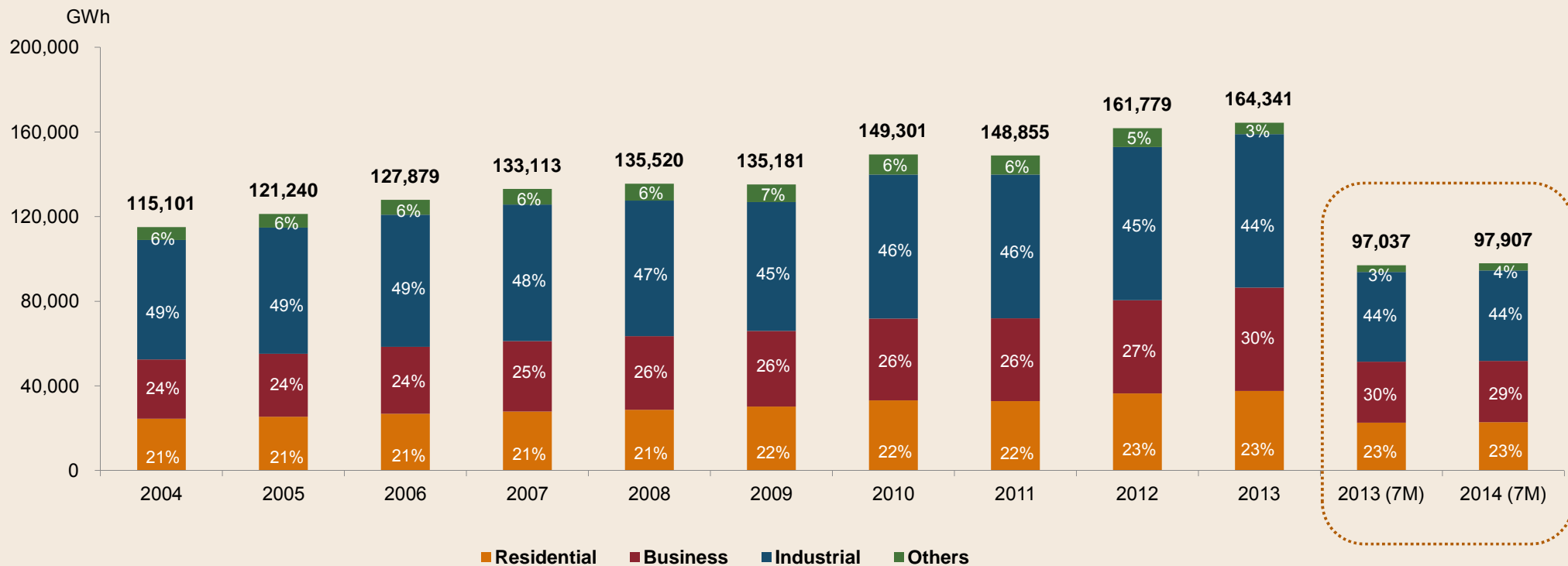
## Industry Overview

## Company Overview

## Financial Performance

## Annexure

- Peak Demand was 26,942 MW on 23 April 2014, increased 1.3% from the previous record of 26,598 MW in May 2013
- CAGR 2004-2013 = 4%



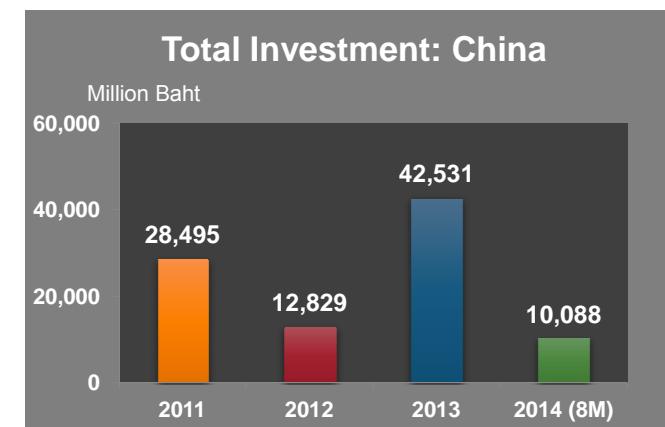
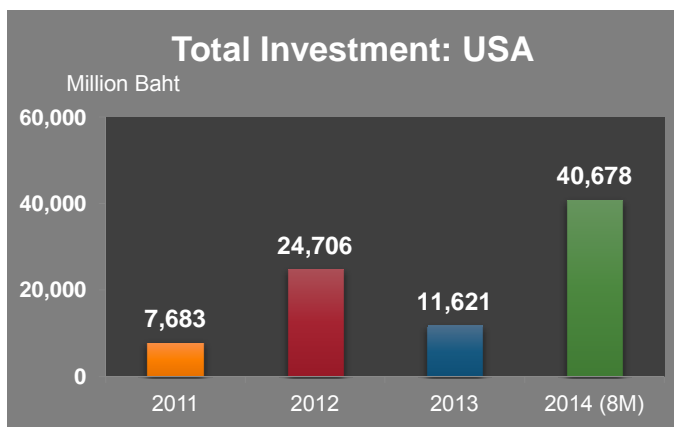
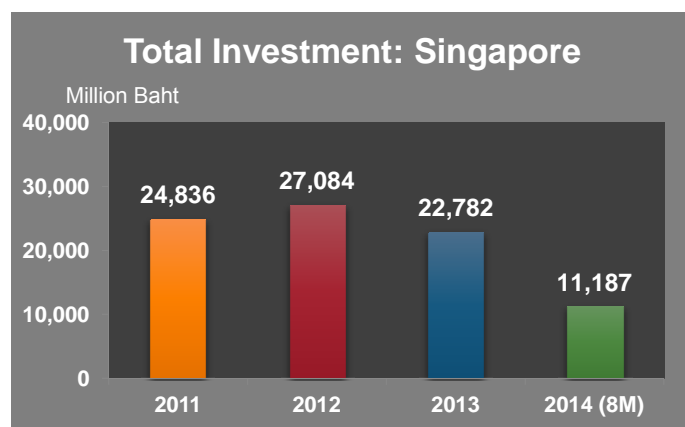
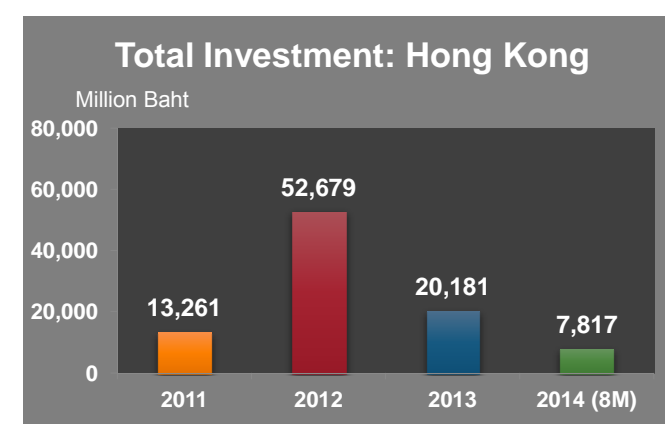
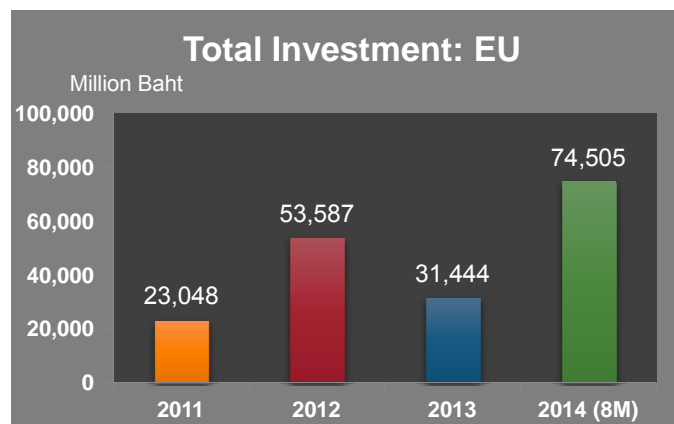
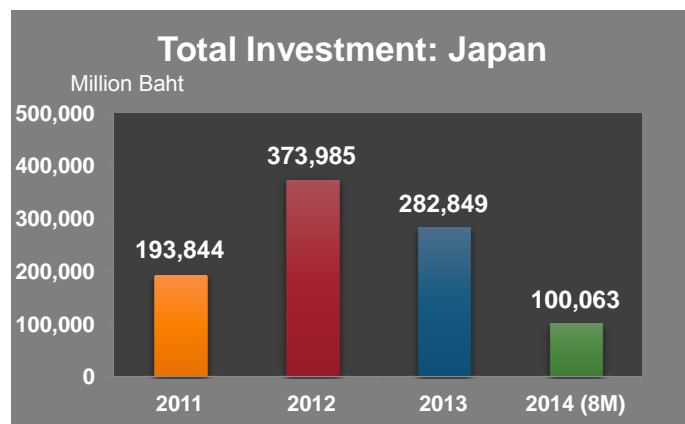
# Foreign Investment Submitted to BOI

Industry Overview

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Source: Thailand Board of Investment (BOI) as of September 2014

# Thailand's Electricity Structure

Industry Overview

Company Overview

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## Electricity Generating Authority of Thailand (“EGAT”) Overview

- Thailand's state-owned power utility under the Ministry of Energy
- Responsible for electric power generation and transmission for the whole country as well as bulk electric energy sales
- EGAT is the single buyer that purchases bulk electricity from private power producers and neighboring countries
- Sells electricity to Provincial Electricity Authority (“PEA”), Metropolitan Electricity Authority (“MEA”), neighboring countries and others
- Owns and operates a high voltage transmission network which covers all parts of Thailand

## Key Customers



Provincial Electricity Authority “PEA”

- ✓ Thai government enterprise
- ✓ Generation, procurement, distribution and sale of electricity
- ✓ Covers approximately 99.4% of Thailand, with the exception of Bangkok, Nonthaburi and Samut Prakarn provinces



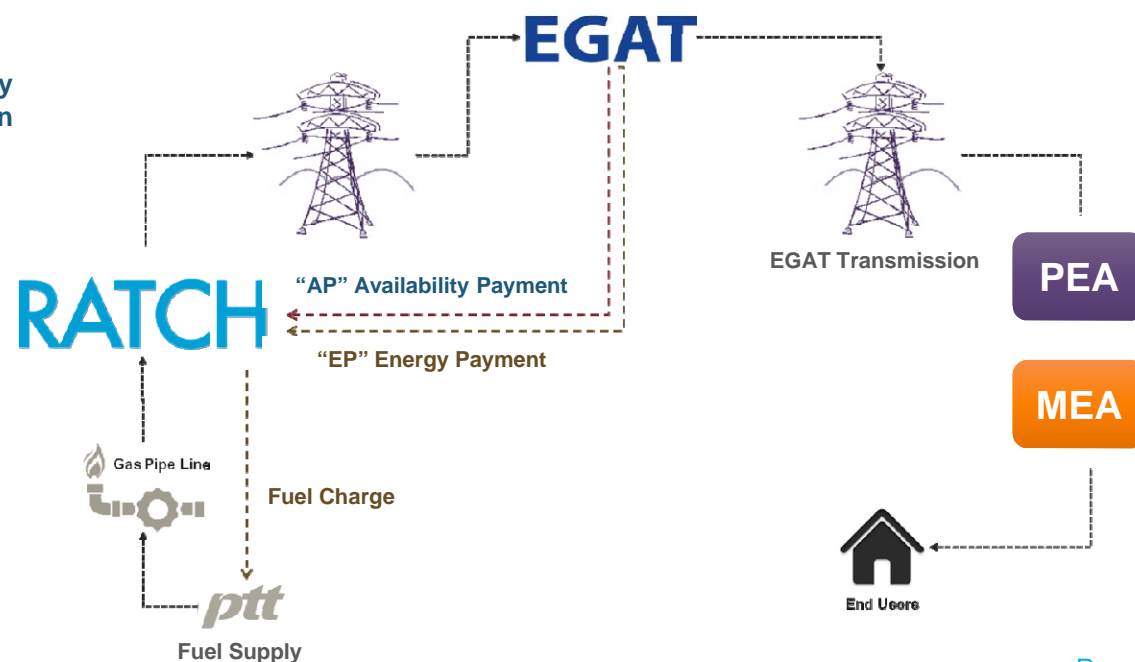
Metropolitan Electricity Authority “MEA”

- ✓ Thai state enterprise under the Ministry of Interior
- ✓ Distribution of electricity in Bangkok, Nonthaburi, and Samut Prakarn Provinces

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## Thailand's Electricity Structure



# Total Installed Capacity

Industry Overview

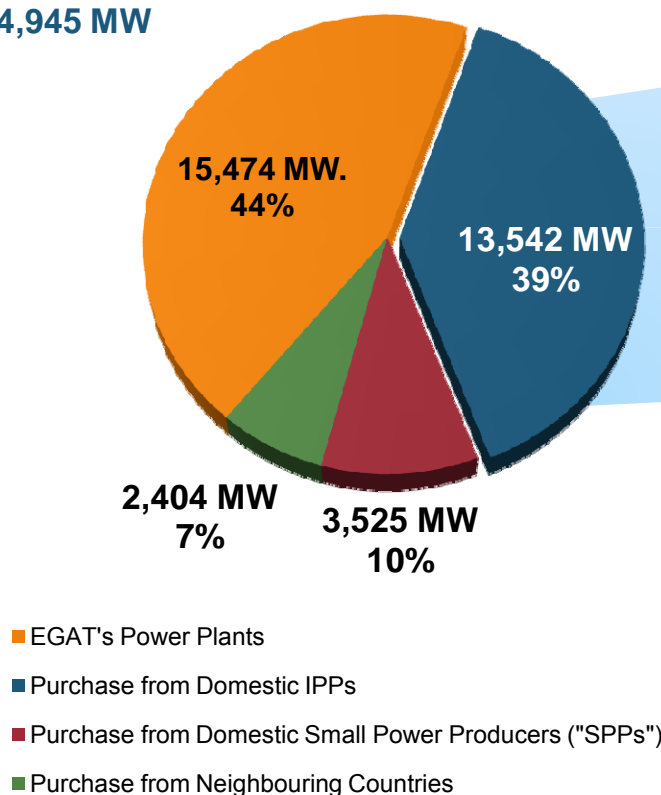
Company Overview

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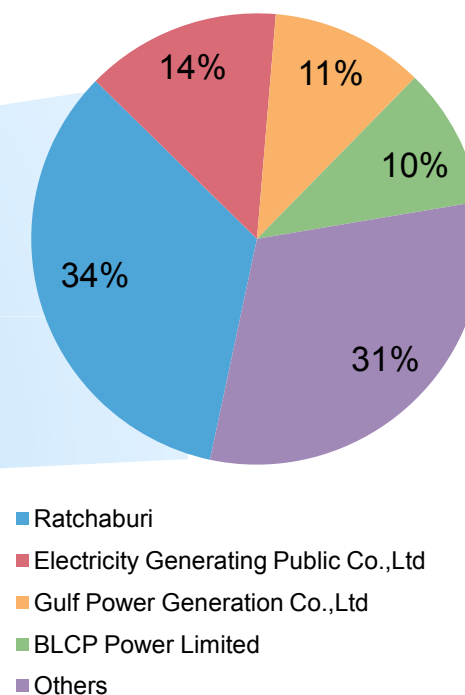
Annexure

## EGAT's Contracted Power Generation System Breakdown (August 2014 data)

Total: 34,945 MW



## Contractual Power Capacity Breakdown of EGAT's purchases from IPPs (August 2014 data)



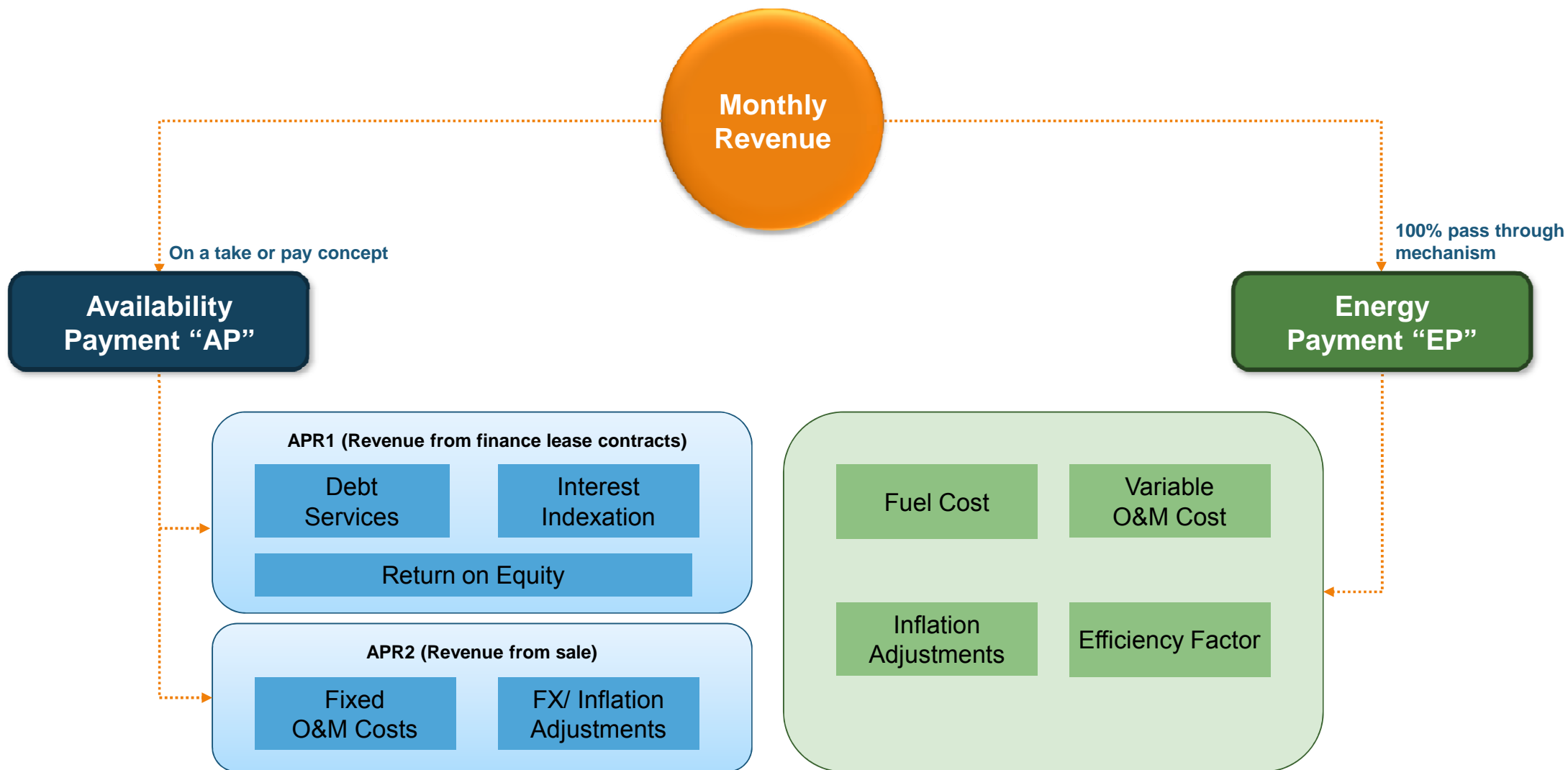
# PPA Tariff Structure

Industry Overview

Company Overview

Financial Performance

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# Company Overview



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# Company Overview

Industry Overview

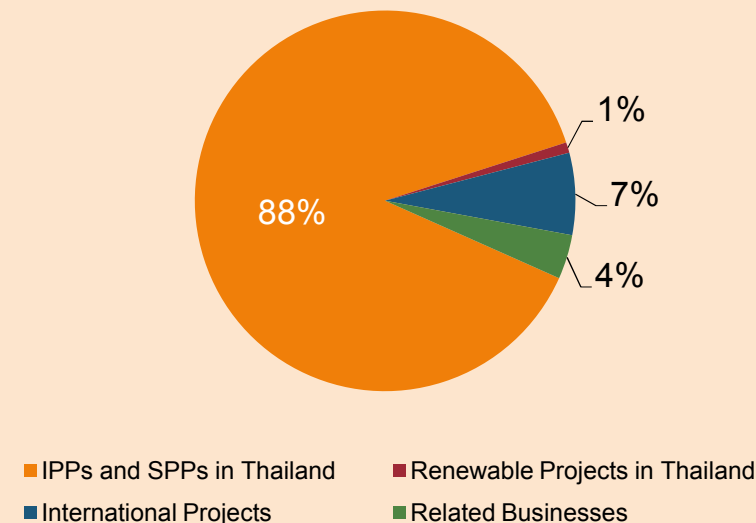
Company Overview

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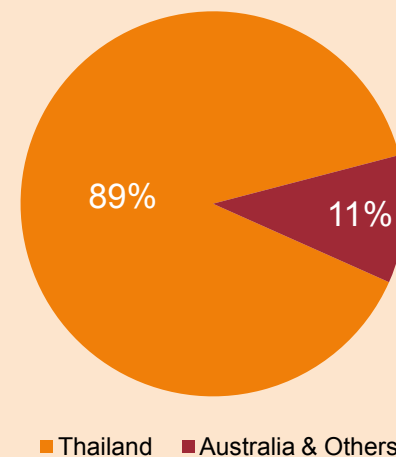
Annexure

- Investment company in the electricity generation business based in Thailand
- Largest independent power producer (“IPP”) based in Thailand by total capacity
- Primarily involved in the construction, development and operation of power plants in Thailand, Laos and Australia
- 4 core businesses:
  - *IPPs and SPPs in Thailand*
  - *Renewable Projects in Thailand*
  - *International Projects*
  - *Related businesses*
- Listed on the Stock Exchange of Thailand since 2 November 2000
- Market cap of USD 2,724 million<sup>1</sup> (THB 88,813 million) as at 9 October 2014
- Total current capacity (domestic and overseas): 5,519 Megawatts (“MW”) from 16 power plants
- Projects under construction (for completion between 2014 – 2018): 990 MW from 5 projects

**Revenue breakdown By Business Segments as of June 2014**



**Revenue breakdown By Geography as of June 2014**



Note: <sup>1</sup> Foreign Exchange Rate as at 9 October 2014 = 32.6059 Baht/USD

# Company Rating

Industry Overview

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On par with Kingdom  
of Thailand's rating

RATCH	Thailand	Philippines	Indonesia	Vietnam	Cambodia
S&P:BBB+ Moody's:Baa1	S&P:BBB+ Moody's:Baa1				
		S&P: BBB- Moody's: Baa3	Moody's: Baa3		
			S&P: BB+		
				S&P: BB-	
				Moody's: B2	S&P: B Moody's: B2

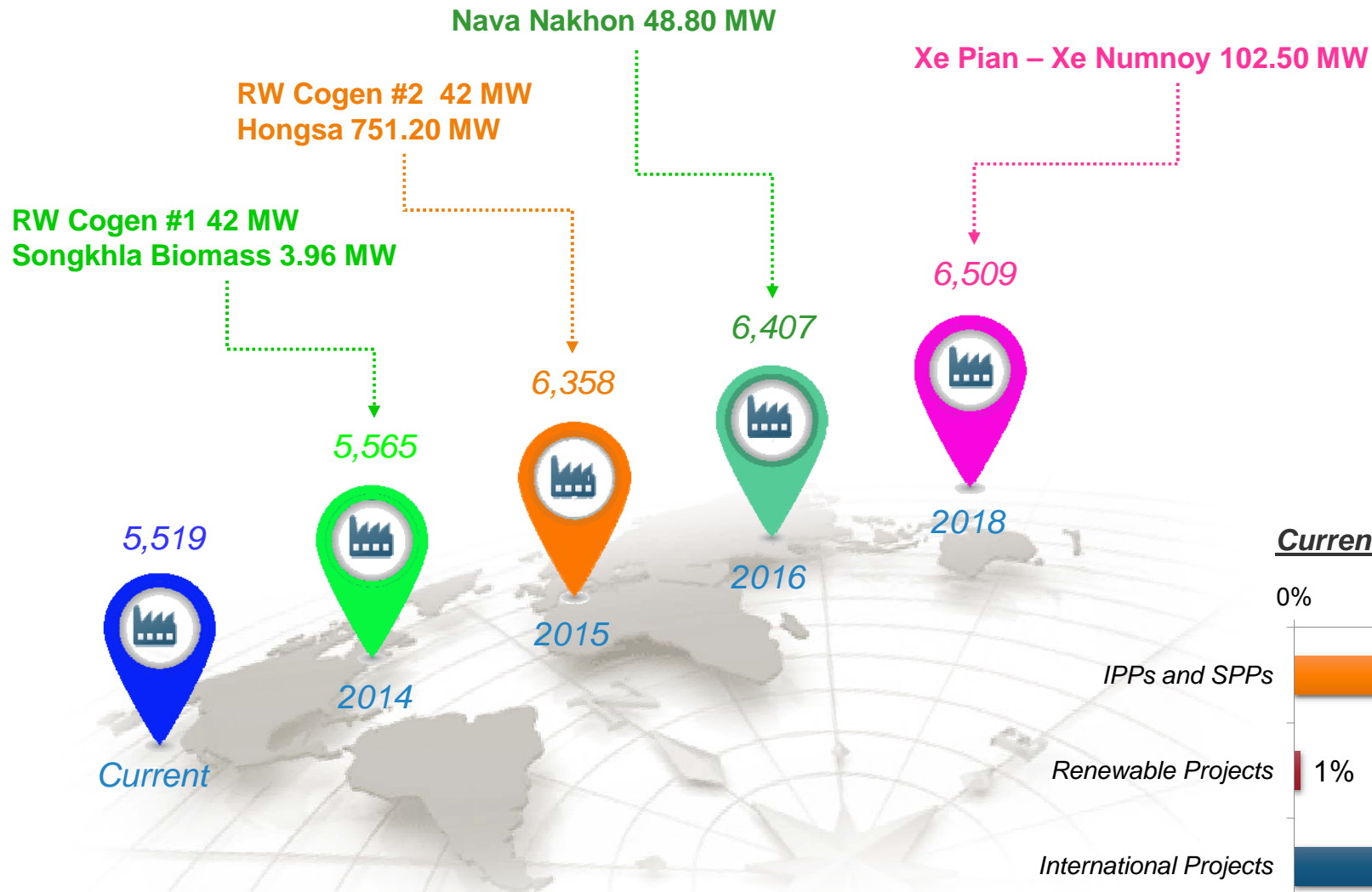
# Overview of RATCH projects

Industry Overview

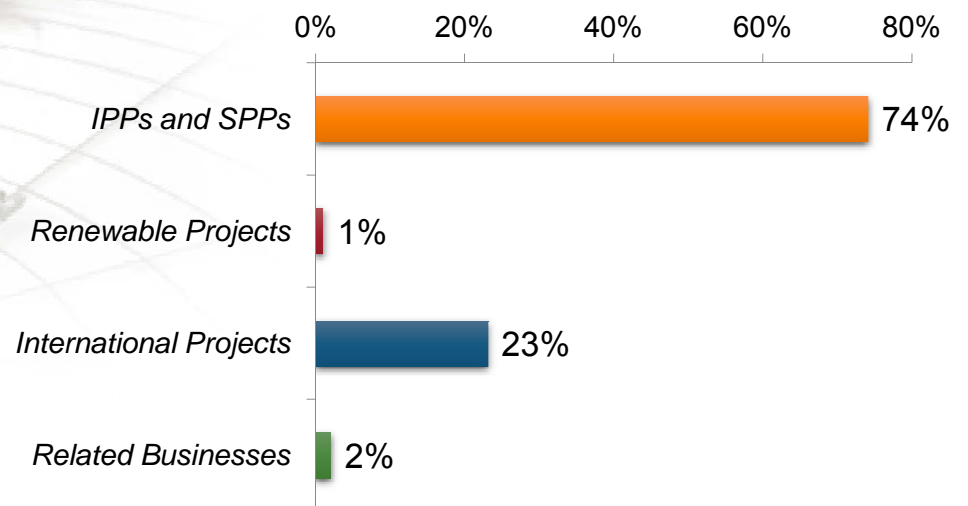
Company Overview

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**Current Breakdown of Capacity till 2018**



# Portfolio by Core Business and Locations

Industry Overview

Company Overview

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Current Projects ( As of September 2014)

Grand Total : 5,519 MW

**Thailand : 4,766.63 MW**  
**Gas**

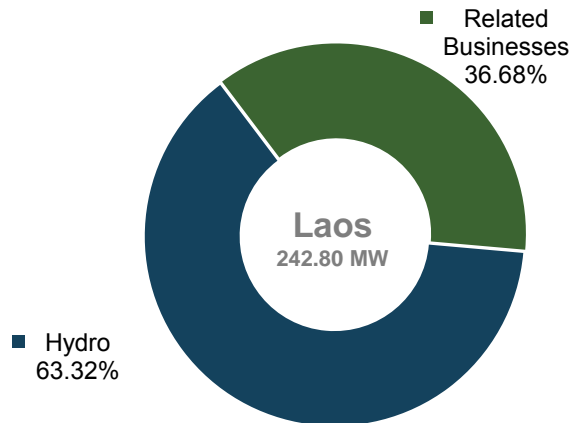
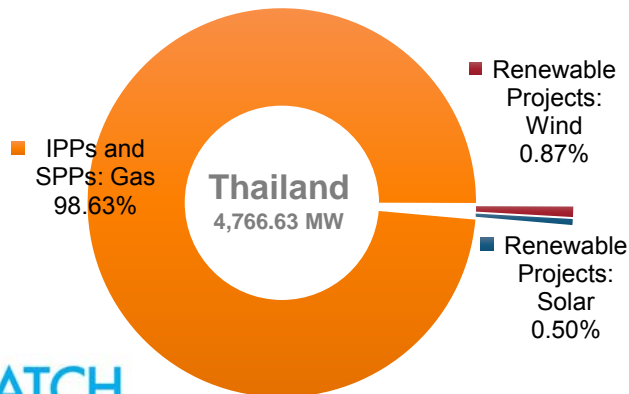
Power Plant	Capacity Contributed (MW)
RATCHGEN	3,645 (100%)
TECO	700 (100%)
RPCL	350 (25%)
Pratu Tao-A	2.65 (10%)
Sao Thian-A	3.60 (100%)
<b>Total</b>	<b>4,701.25</b>

**Wind**

Power Plant	Capacity Contributed (MW)
Huay Bong 2	20.70 (20%)
Huay Bong 3	20.70 (20%)
<b>Total</b>	<b>41.40</b>

**Solar**

Power Plant	Capacity Contributed (MW)
Solar Power	7.20 (40%)
Solarta Power	16.78 (49%)
<b>Total</b>	<b>23.98</b>

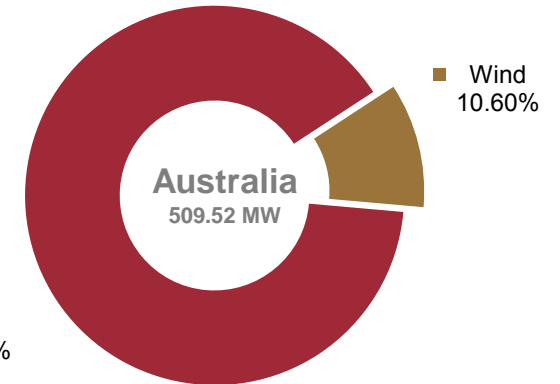


**Laos: 242.80 MW**  
**Hydro**

Power Plant	Capacity Contributed (MW)
Num Ngum 2	153.75 (25%)
<b>Total</b>	<b>153.75</b>

**Related Businesses**

Capacity Contributed (MW)	
Shares Purchase of EDL-Gen	89.05 (10.108%)
<b>Total</b>	<b>89.05</b>



**Australia: 509.52 MW**  
**Gas**

Power Plant	Capacity Contributed (MW)
Townsville	187.20 (80%)
Kemerton	240 (80%)
BP Kwinana	28.32 (80%)
<b>Total</b>	<b>455.52</b>

**Wind**

Power Plant	Capacity Contributed (MW)
Starfish Hill	27.60 (80%)
Toora	16.80 (80%)
Windy Hill	9.60 (80%)
<b>Total</b>	<b>54.00</b>

# Portfolio by Core Business and Locations (Cont.)

Industry Overview

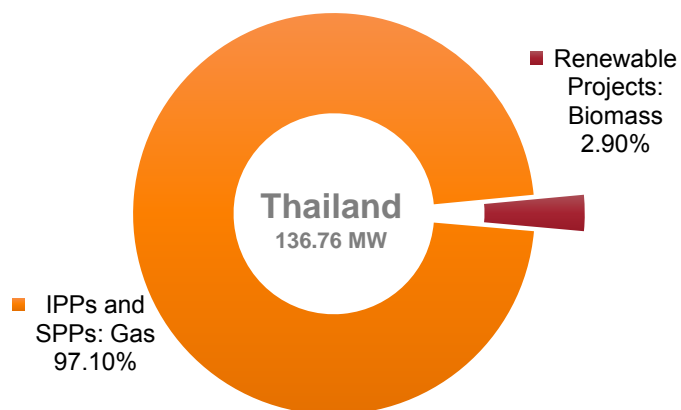
Company Overview

Financial Performance

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Projects from September 2014 to December 2018

Grand Total : 990.46 MW



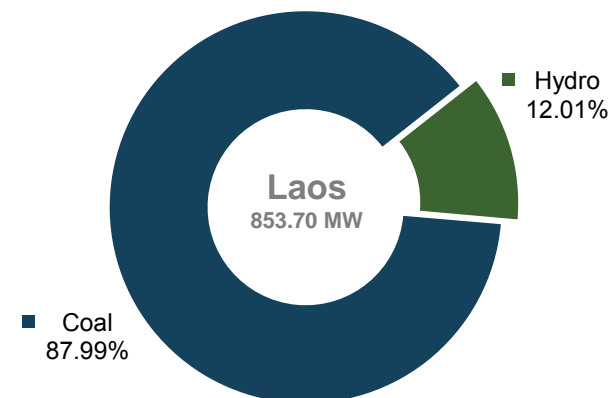
**Thailand : 136.76 MW**

**Gas**

Power Plant	Capacity Contributed (MW)	Status
RW Cogen	84.00 (40%)	Under Construction COD: In 2014
Nava Nakhon	48.80 (40%)	Under Development COD: In 2016
<b>Total</b>	<b>132.80</b>	

**Biomass**

Power Plant	Capacity Contributed (MW)	Status
Songkhla Biomass	3.96 (40%)	Under Construction COD: In 2014
<b>Total</b>	<b>3.96</b>	



**Laos : 853.70 MW**

**Coal**

Power Plant	Capacity Contributed (MW)	Status
Hongsa	751.20 (40%)	Under Construction COD: In 2015
<b>Total</b>	<b>751.20</b>	

**Hydro**

Power Plant	Capacity Contributed (MW)	Status
Xe Pain- Xe Namnoy	102.50 (25%)	Under Construction COD: In 2018
<b>Total</b>	<b>102.50</b>	

# Power Generation by Fuel

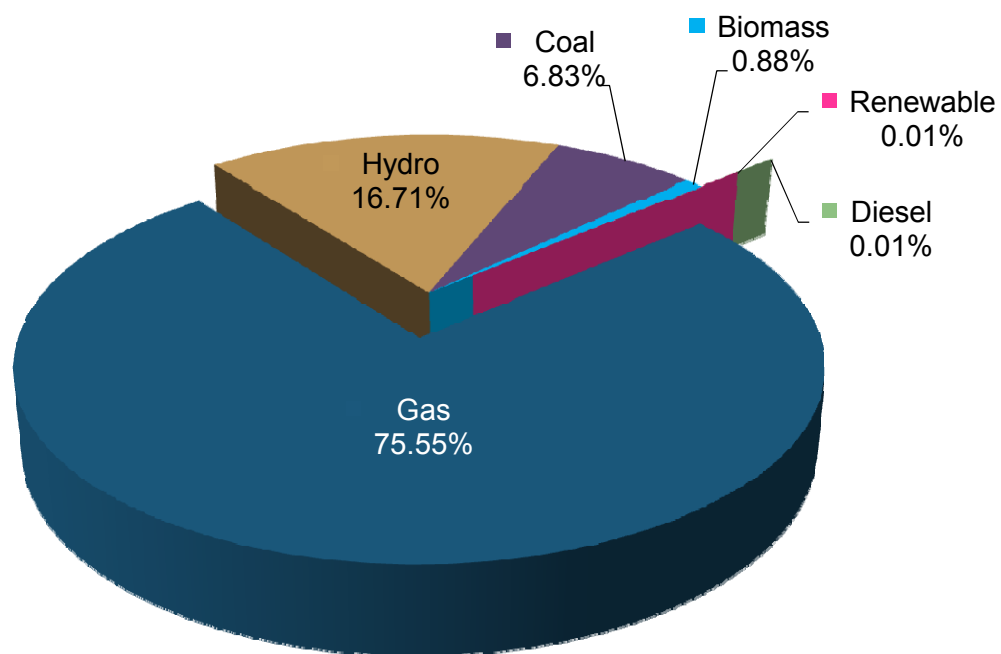
Industry Overview

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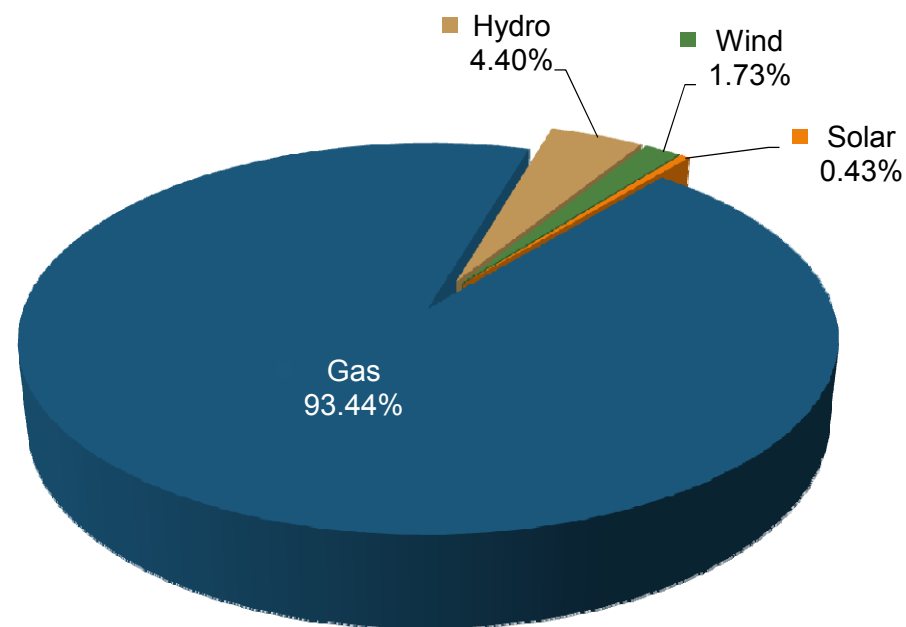
Annexure

**Thailand : Power Generation**  
*Total Installed Capacity “34,945 MW.”*



Sources: EGAT as of August 2014

**RATCH : Power Generation**  
*Current Projects “5,519 MW.”*



as of September 2014

# Shareholder Information

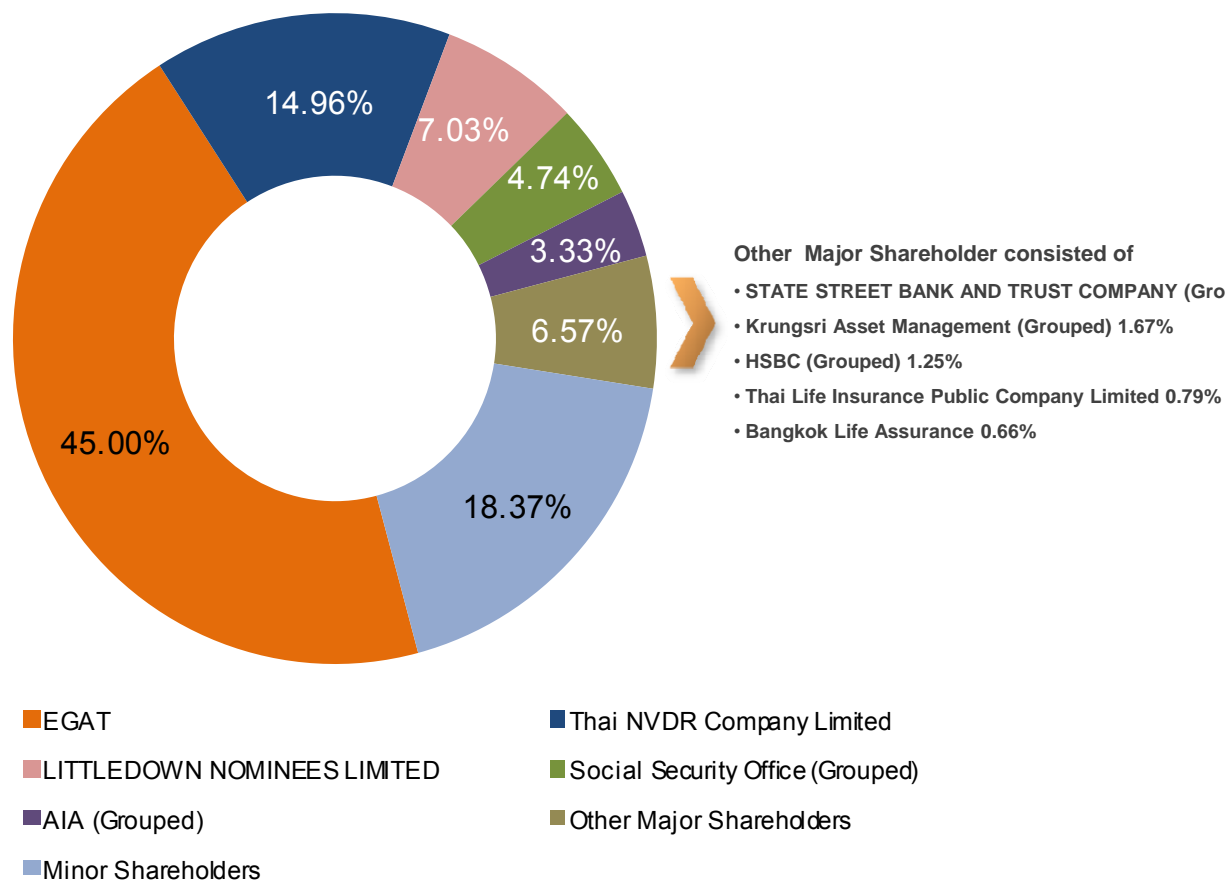
Industry Overview

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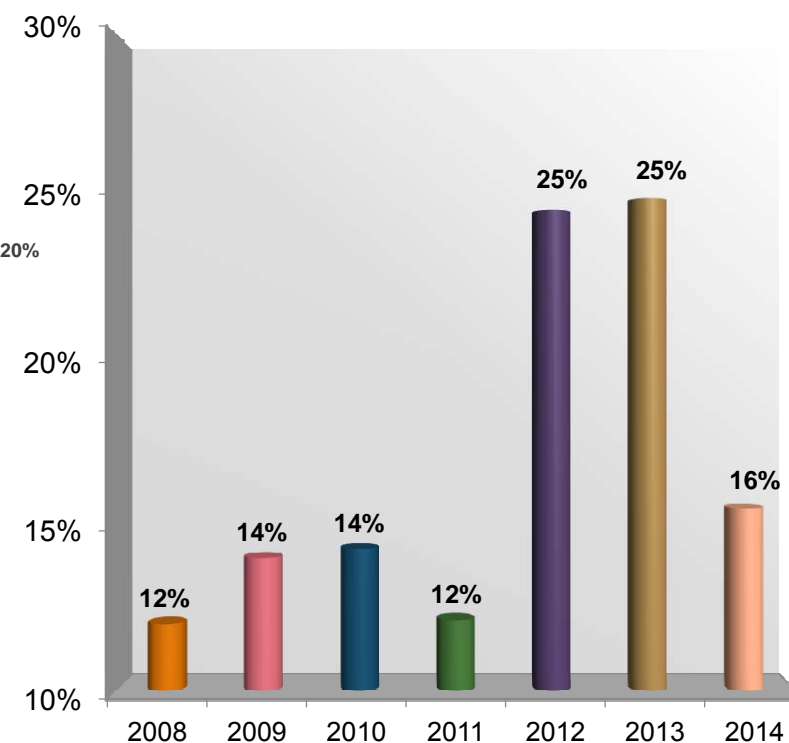
Annexure

## Major Shareholders as of 3 September 2014



## % Foreign Shareholders

Data are as of AGM closing date in each respective year





# Dividend Policy

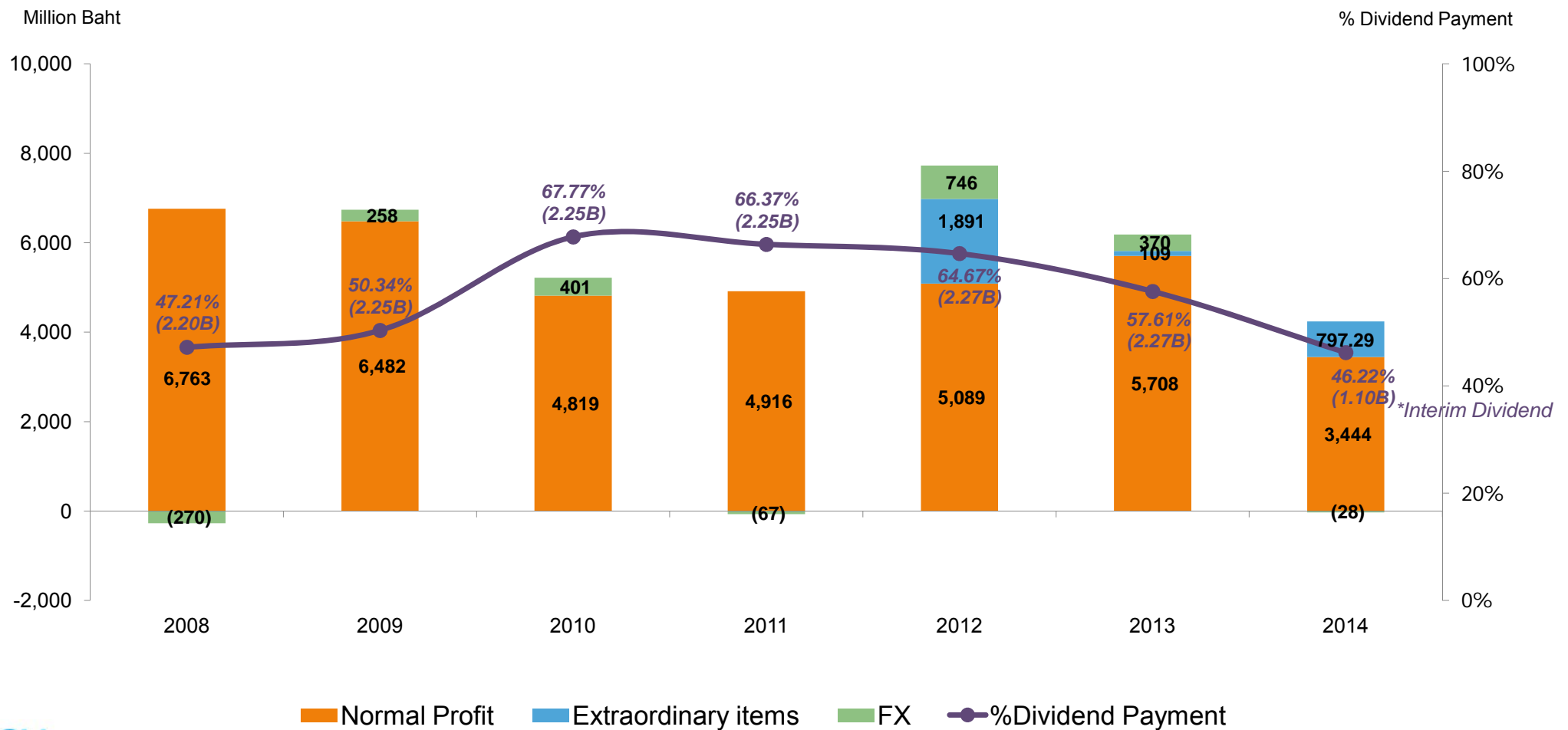
Industry Overview

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*RATCH has a dividend payout policy of no less than 40% of the net profit*



# Financial Performance



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# Profit for the period: Owner of the Company

Industry Overview

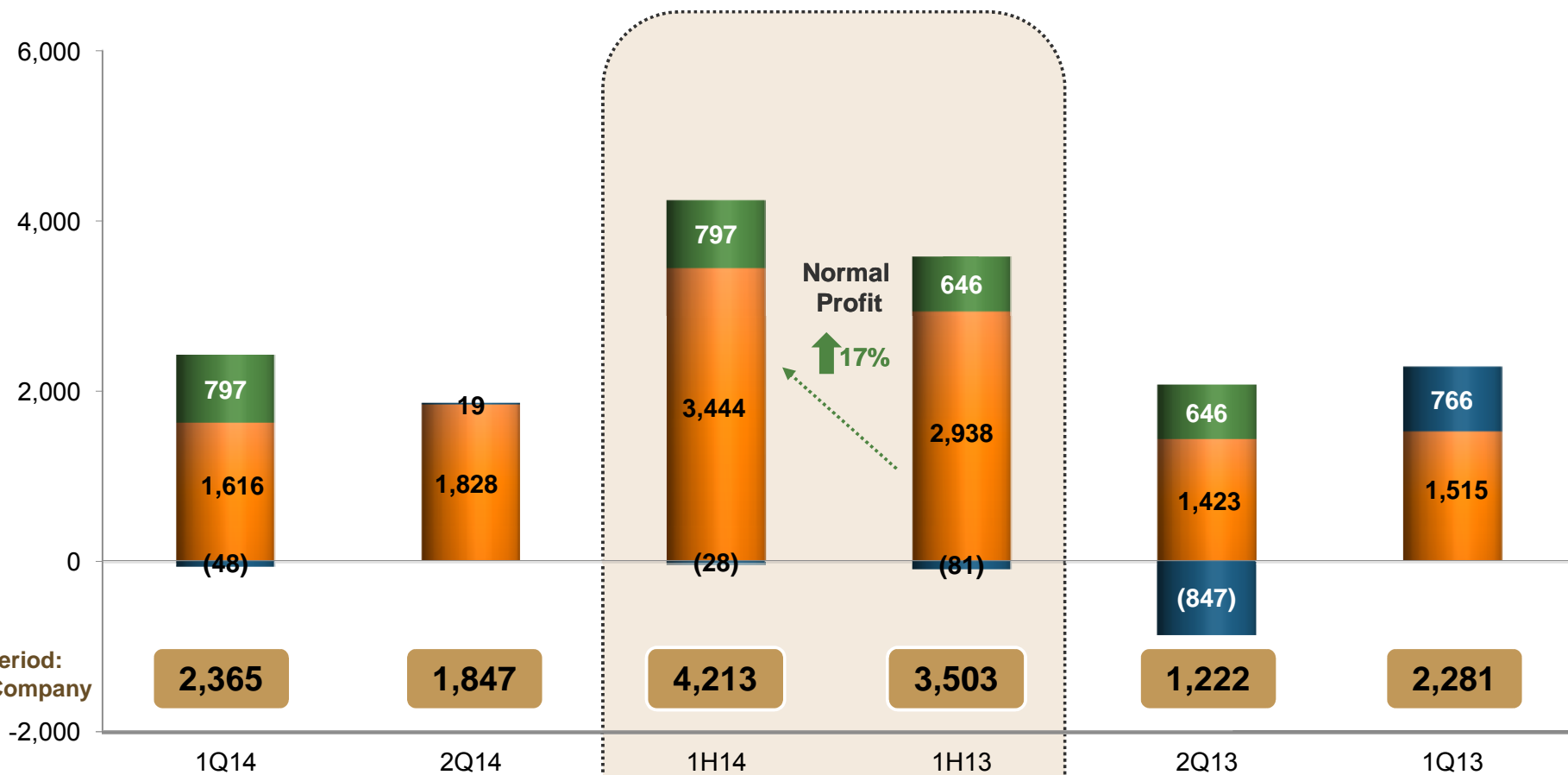
Company Overview

Financial Performance

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Normal Profit    Extraordinary Items    FX

Million Baht



Profit for the period:  
Owner of the Company

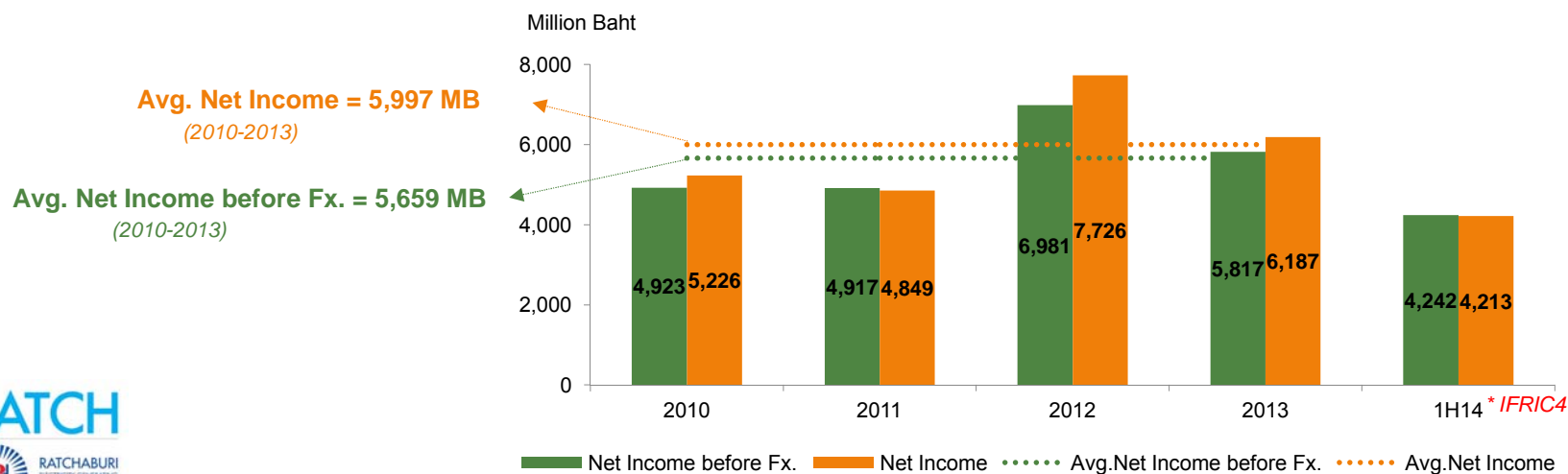
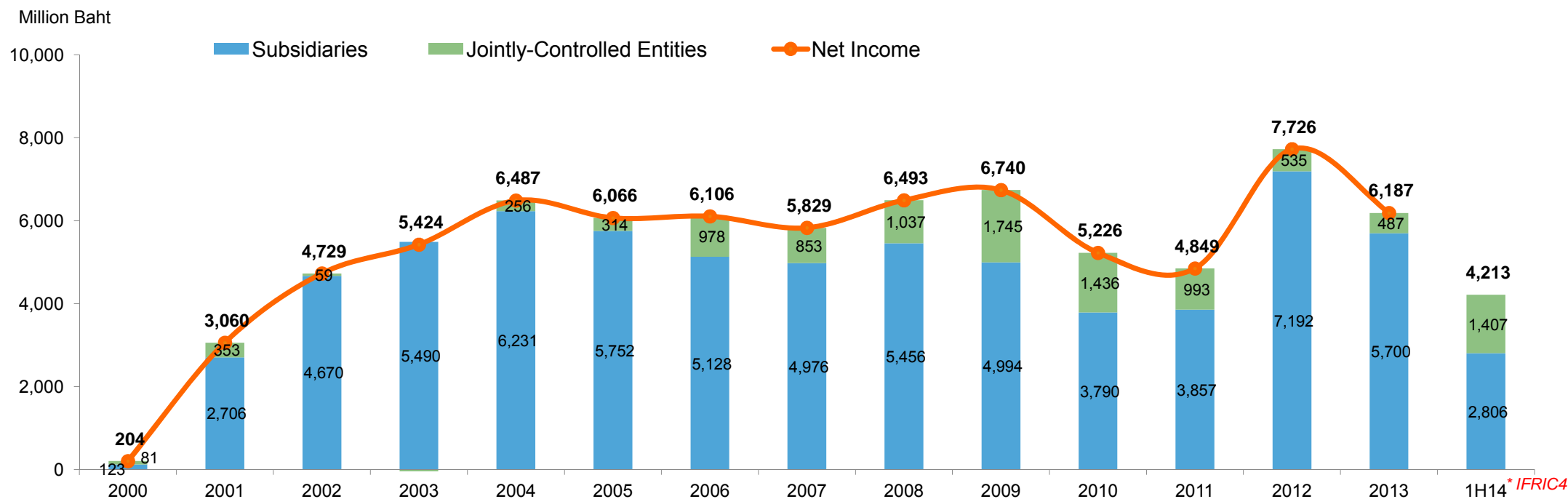
# Net Income Breakdown

Industry Overview

Company Overview

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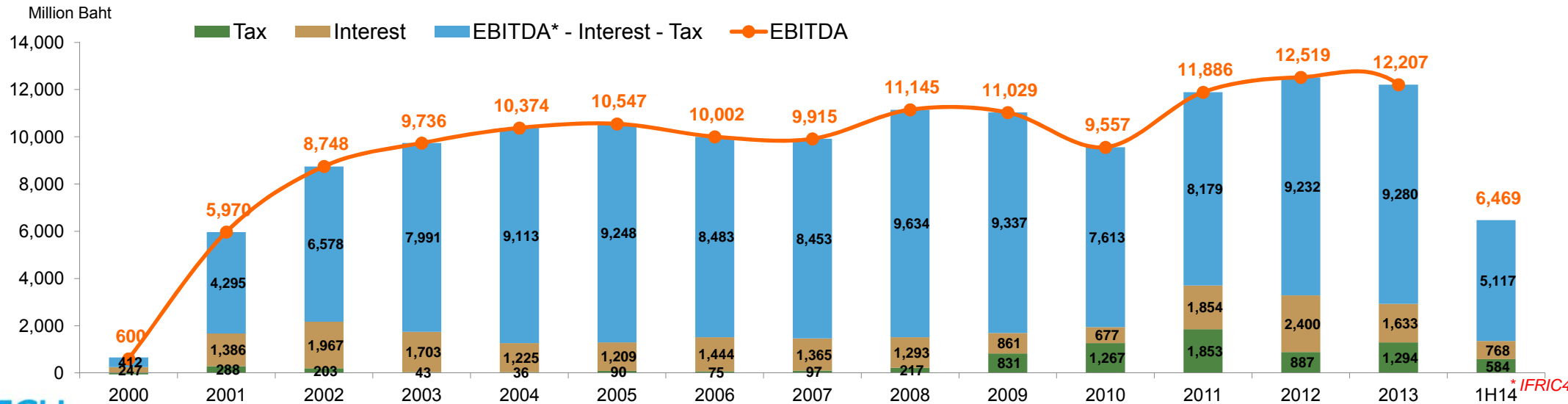
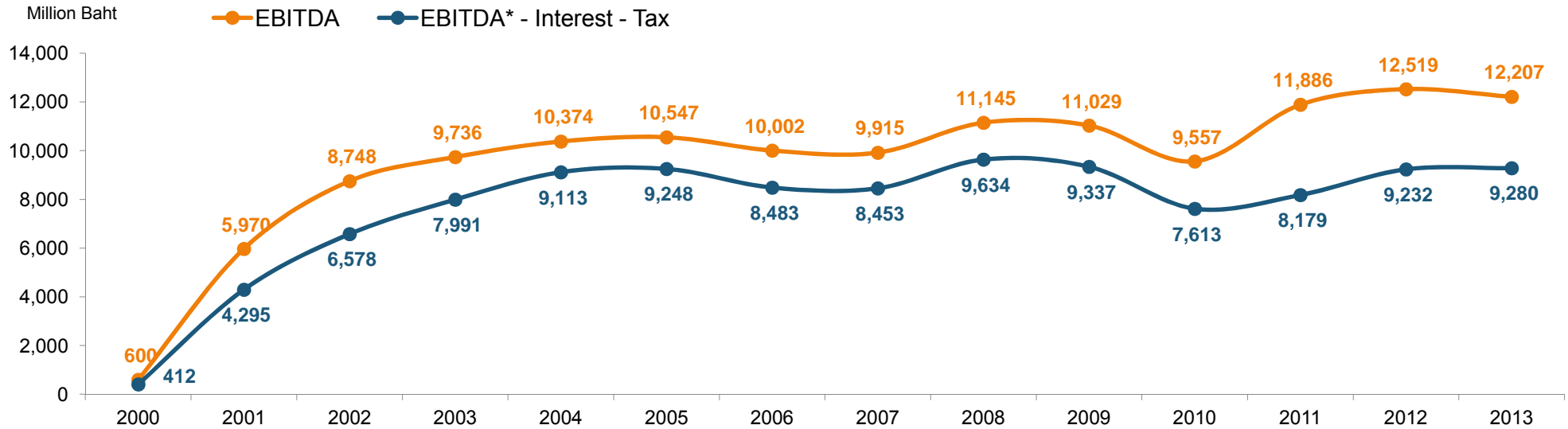
# EBITDA

Industry Overview

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# Financial Performance 2Q14 & 2Q13



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# Statements of Comprehensive Income

Industry Overview

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Unit : in Million Baht	2Q14	2Q13	%
Revenues	14,039.43	13,372.60	4.99
Cost & Expenses	(11,264.19)	(10,639.54)	5.87
<b>EBITDA before Share of Profit and FX</b>	<b>2,775.24</b>	<b>2,733.06</b>	<b>1.54</b>
Gain (Loss) on exchange rate of subsidiaries	(98.35)	(383.35)	(74.34)
<b>EBITDA</b>	<b>2,676.89</b>	<b>2,349.71</b>	<b>13.92</b>
Share of profit of jointly-controlled entities and associates <b>excluded</b> gain (loss) on exchange rate	156.86	166.12	(5.57)
Gain (Loss) on exchange rate of JV	117.83	(463.46)	125.36
<b>EBITDA included share profit of JV and FX</b>	<b>2,951.58</b>	<b>2,052.37</b>	<b>43.81</b>
Gain on sale long-term receivable	-	645.83	n.a.
Depreciation & Amortization	(363.06)	(382.29)	5.03
<b>EBIT</b>	<b>2,588.52</b>	<b>2,315.91</b>	<b>11.77</b>
Finance costs	(407.78)	(391.23)	4.23
Income tax expense	(314.98)	(611.87)	(48.52)
<b>Profit for the period</b>	<b>1,865.76</b>	<b>1,312.81</b>	<b>42.12</b>
Non-controlling interests	(18.06)	(90.95)	(80.14)
<b>Equity holders of the Company</b>	<b>1,847.70</b>	<b>1,221.86</b>	<b>51.22</b>

# EBITDA Growth QoQ & YoY

Industry Overview

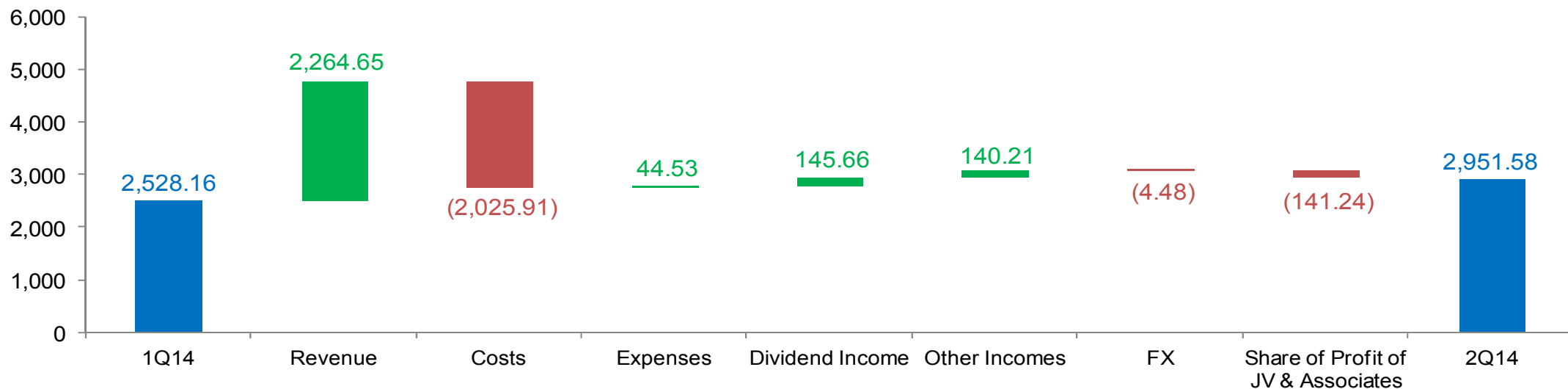
Company Overview

Financial Performance

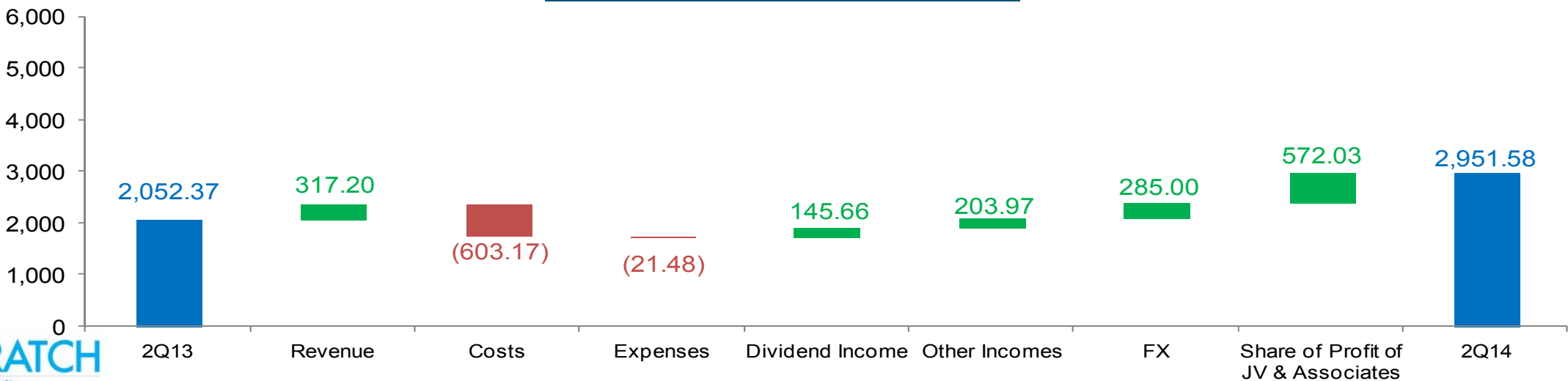
Annexure

## EBITDA Growth (QoQ)

Million Baht



## EBITDA Growth (YoY)





# Net Profit Growth QoQ & YoY

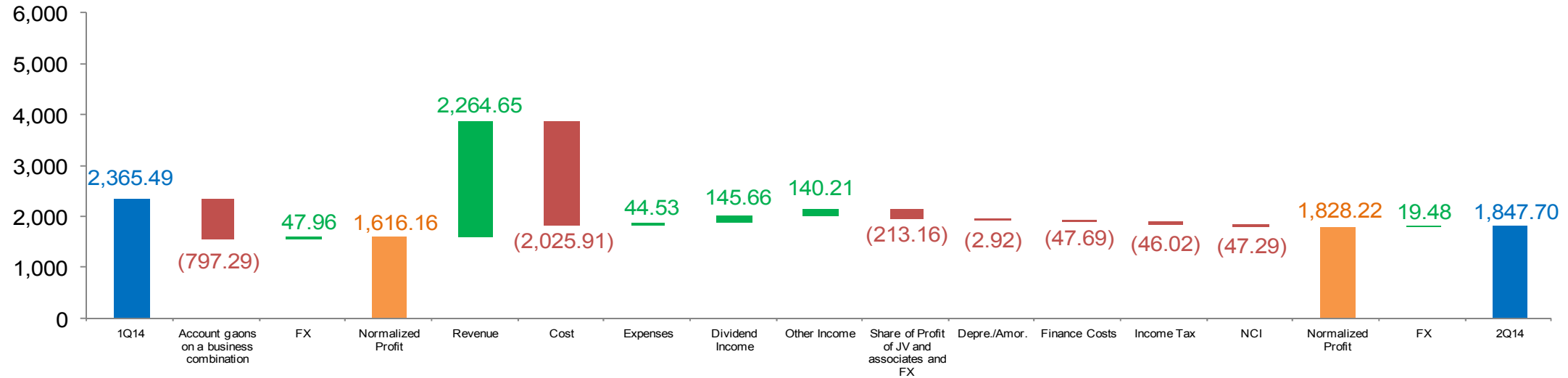
Industry Overview

Company Overview

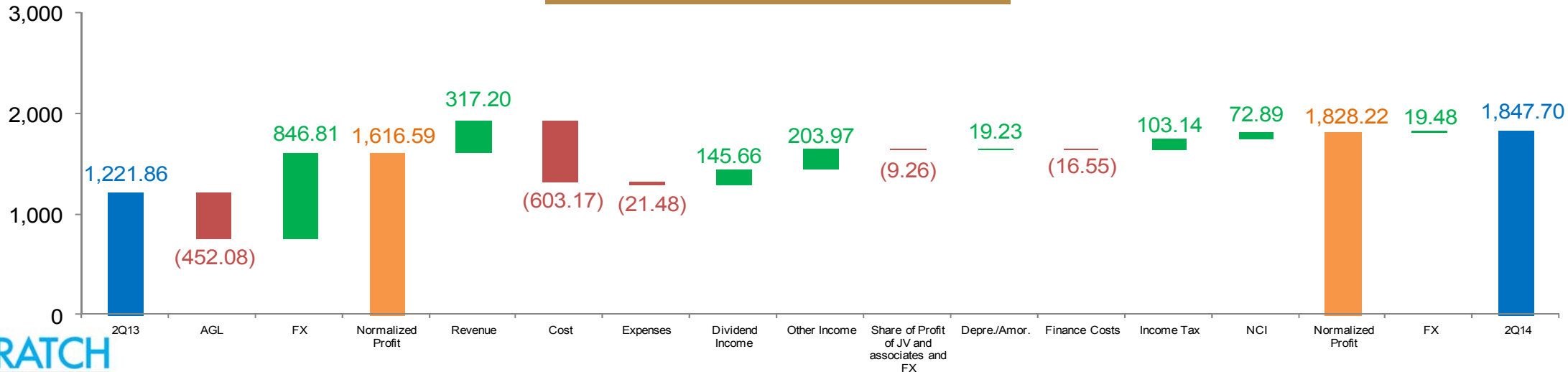
Financial Performance

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## Net Profit Growth (QoQ)



## Net Profit Growth (YoY)



# Financial Performance

*1H14 & 1H13*



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# Statements of Comprehensive Income

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Unit : in Million Baht	1H14	1H13	%
Revenues	25,528.34	25,398.94	0.51
Cost & Expenses	(20,547.00)	(20,190.36)	1.77
<b>EBITDA before Share of Profit and FX</b>	<b>4,981.34</b>	<b>5,208.58</b>	<b>(4.36)</b>
Gain (Loss) on exchange rate of subsidiaries	(192.22)	64.25	n.a.
<b>EBITDA</b>	<b>4,789.12</b>	<b>5,272.83</b>	<b>(9.17)</b>
Share of profit of jointly-controlled entities and associates <b>excluded</b> gain (loss) on exchange rate	526.88	353.59	49.01
Gain (Loss) on exchange rate of JV	163.74	(145.38)	n.a.
<b>EBITDA included share profit of JV and FX</b>	<b>5,479.74</b>	<b>5,481.04</b>	<b>(0.02)</b>
Accounting gains on a business combination	797.29	-	n.a.
Gain on sale long-term receivable	-	645.83	n.a.
Depreciation & Amortization	(723.20)	(762.49)	(5.15)
<b>EBIT</b>	<b>5,553.83</b>	<b>5,364.38</b>	<b>3.53</b>
Finance costs	(767.87)	(887.25)	(13.46)
Income tax expense	(583.94)	(915.05)	(36.18)
<b>Profit for the period</b>	<b>4,202.02</b>	<b>3,562.08</b>	<b>17.97</b>
Non-controlling interests	11.17	(59.78)	n.a.
<b>Equity holders of the Company</b>	<b>4,213.19</b>	<b>3,502.30</b>	<b>20.30</b>

# EBITDA & Net Profit Growth YOY

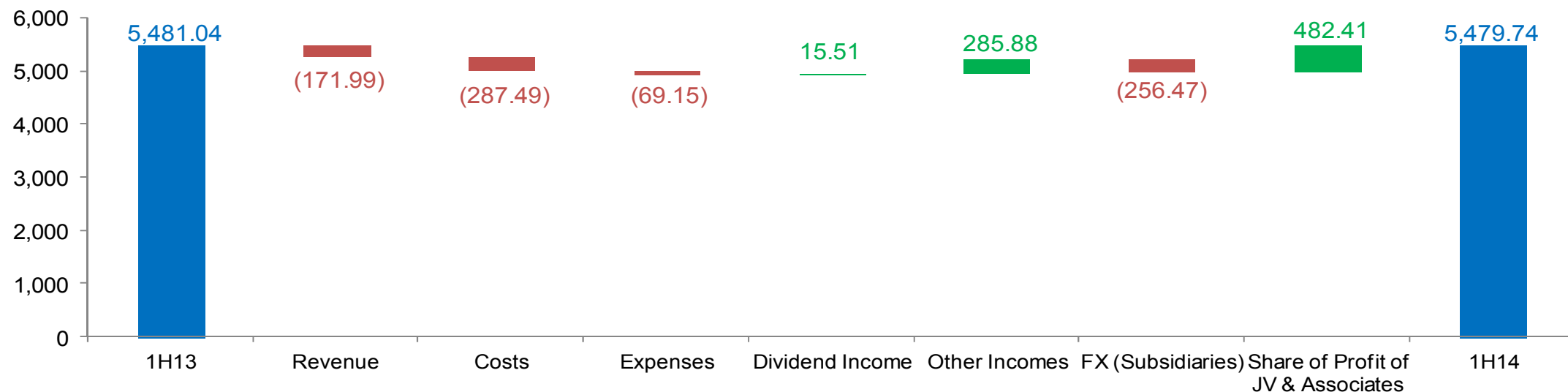
Industry Overview

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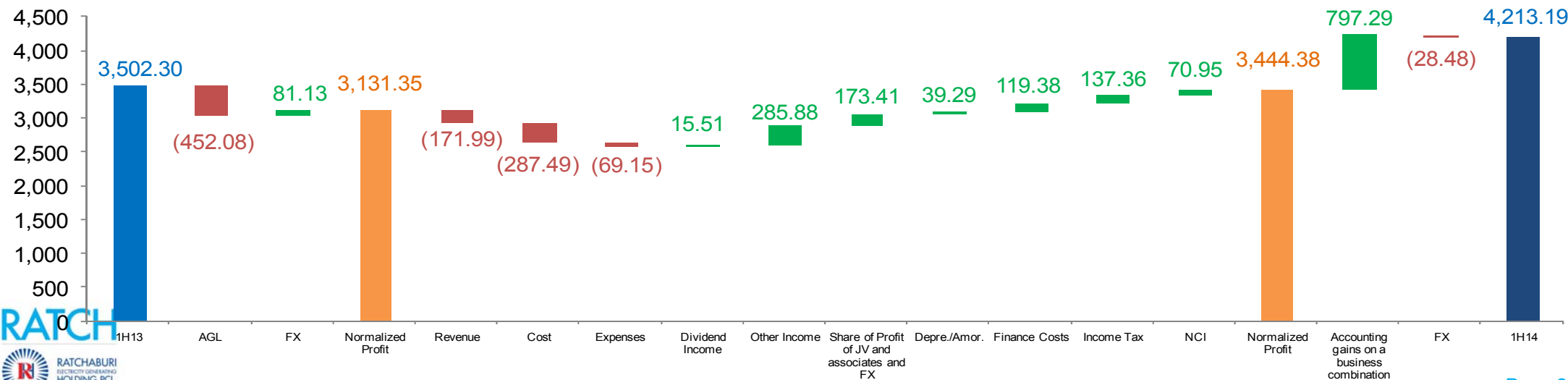
Financial Performance

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## EBITDA Growth (YoY)



## Net Profit Growth (YoY)



# Gain (Loss) From Foreign Exchange Rate

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Unit : in Million Baht	2Q14	2Q13	1H14	1H13
Gain (Loss) from Foreign Exchange Rate	19.48	(846.81)	(28.48)	(81.13)

<b>The Company and Subsidiaries</b>	(98.35)	(383.35)	(192.22)	64.25
- RH	1.23	84.62	(12.84)	25.26
- RH Inter	(97.40)	(436.90)	(200.22)	49.56
- RG / RE / RL	(2.23)	(31.07)	16.85	(10.57)
- TECO (100% from February 2014)	0.05	-	3.99	-

<b>Jointly-controlled entities and Associates</b>	117.83	(463.46)	163.74	(145.38)
- SEAN (33.33%)	(0.70)	(82.00)	15.38	(18.04)
- RPCL (25%)	(1.82)	(105.61)	17.96	(20.88)
- TECO (50%)	-	(5.89)	-	(5.22)
- HPC (40%)	124.09	(243.50)	124.09	(94.86)
- Others (RW Cogen, KR2, PNPC, CRESCO,FKW,NNEG)	(3.74)	(26.46)	6.31	(6.38)

**Foreign Exchange Rate** as at June 30,2014 = 32.5986 Baht/USD as at June 30,2013 = 31.2675 Baht/USD

# RATCH consol - Effective tax

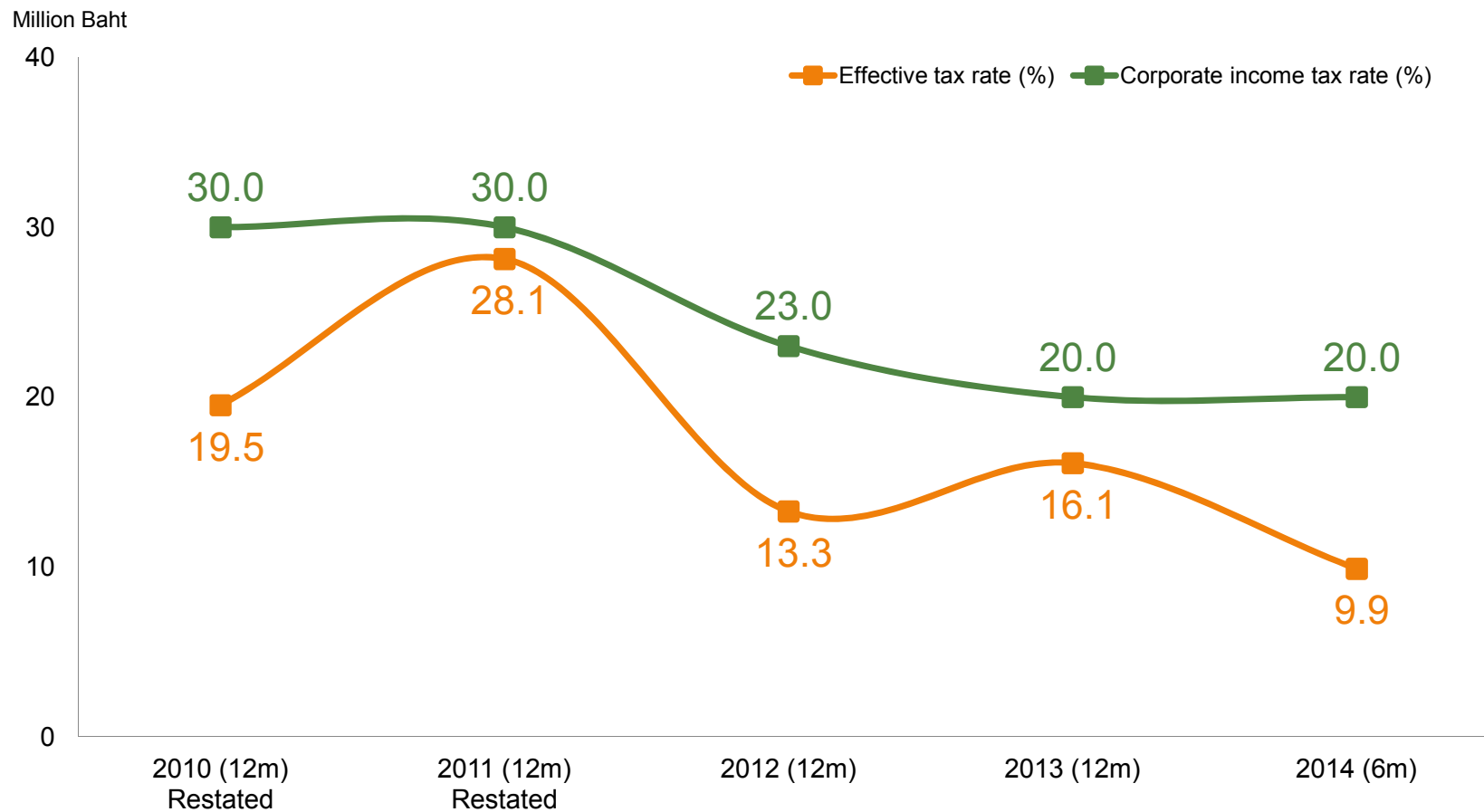
Industry Overview

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## After extraordinary item deduction



# Statements of Financial Position

Industry Overview

Company Overview

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As of June 2014

Total Assets	Million Baht	Total Liabilities & Equity	Million Baht
<b><u>Assets</u></b>		<b><u>Liabilities</u></b>	
Current Assets	24,526.67	Loans from Financial Institutions & Debentures	23,702.74
Investment in Jointly-controlled entities/Associates/Others	14,666.17	Other Liabilities	11,635.93
Financial lease receivables	33,639.72		
Property, plant & equipments	16,404.06		
Others Assets	8,763.84	<b>Total Liabilities</b>	<b>35,338.67</b>
		<b><u>Equity</u></b>	
		Issued and paid-up share capital	16,031.78
		Other components of equity	318.85
		Retained earnings	45,583.72
		<b>Total equity attributable to owners of the Company</b>	<b>61,934.35</b>
		Non-controlling interests	727.44
<b>Total Assets</b>	<b>98,000.46</b>	<b>Total Liabilities &amp; Equity</b>	<b>98,000.46</b>

# Financial Ratios

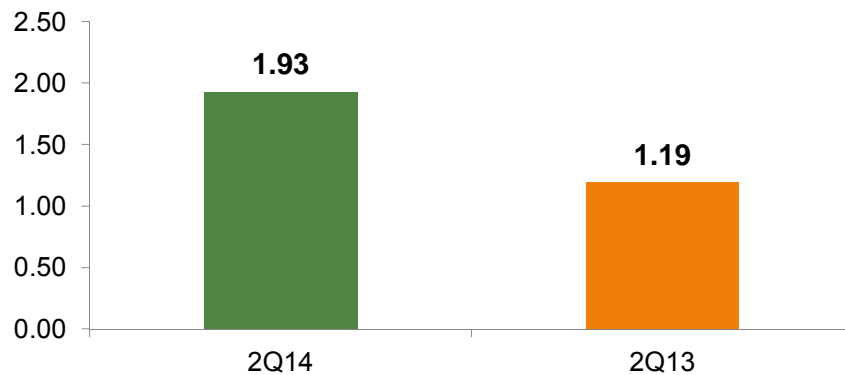
Industry Overview

Company Overview

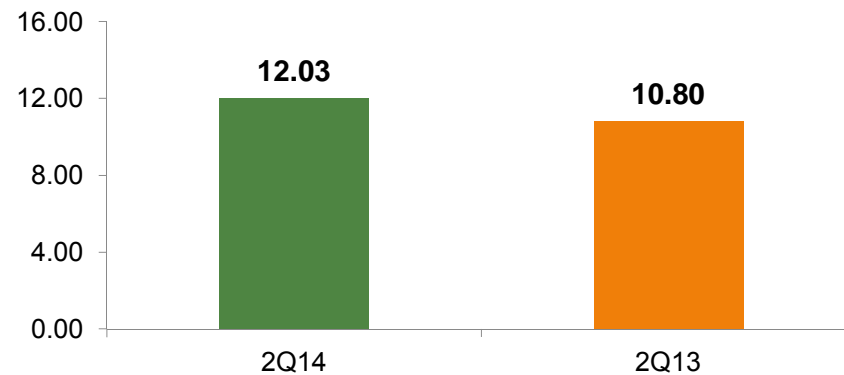
Financial Performance

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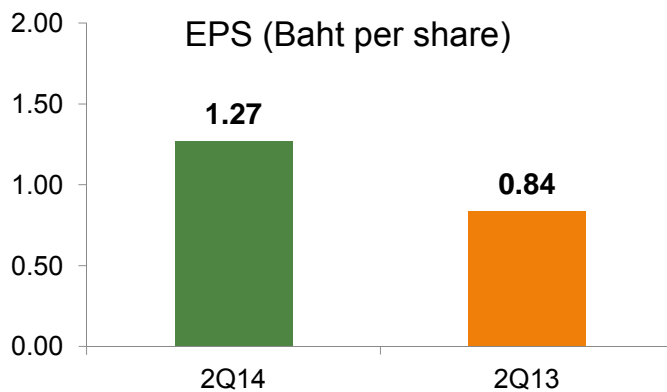
Current Ratio (times)



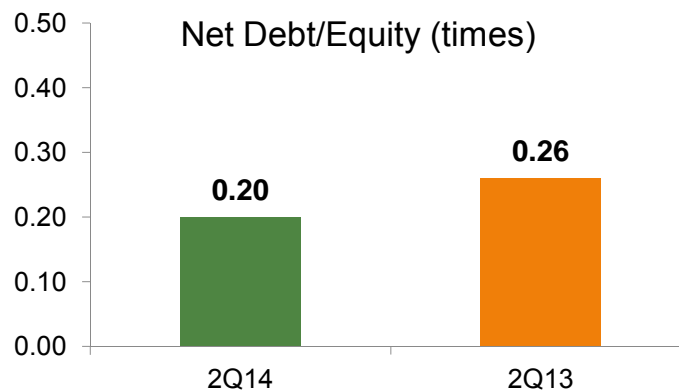
ROE (%)



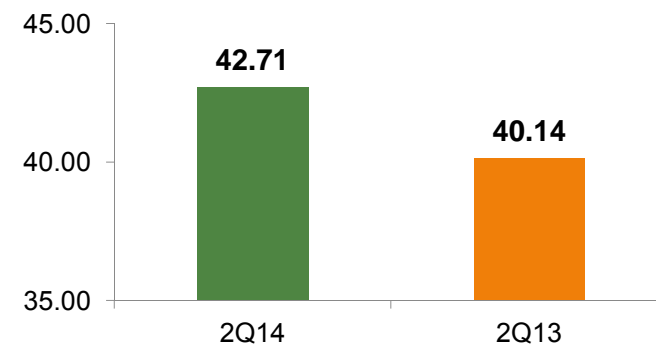
EPS (Baht per share)



Net Debt/Equity (times)



Book Value (Baht per share)





# Debt Profile

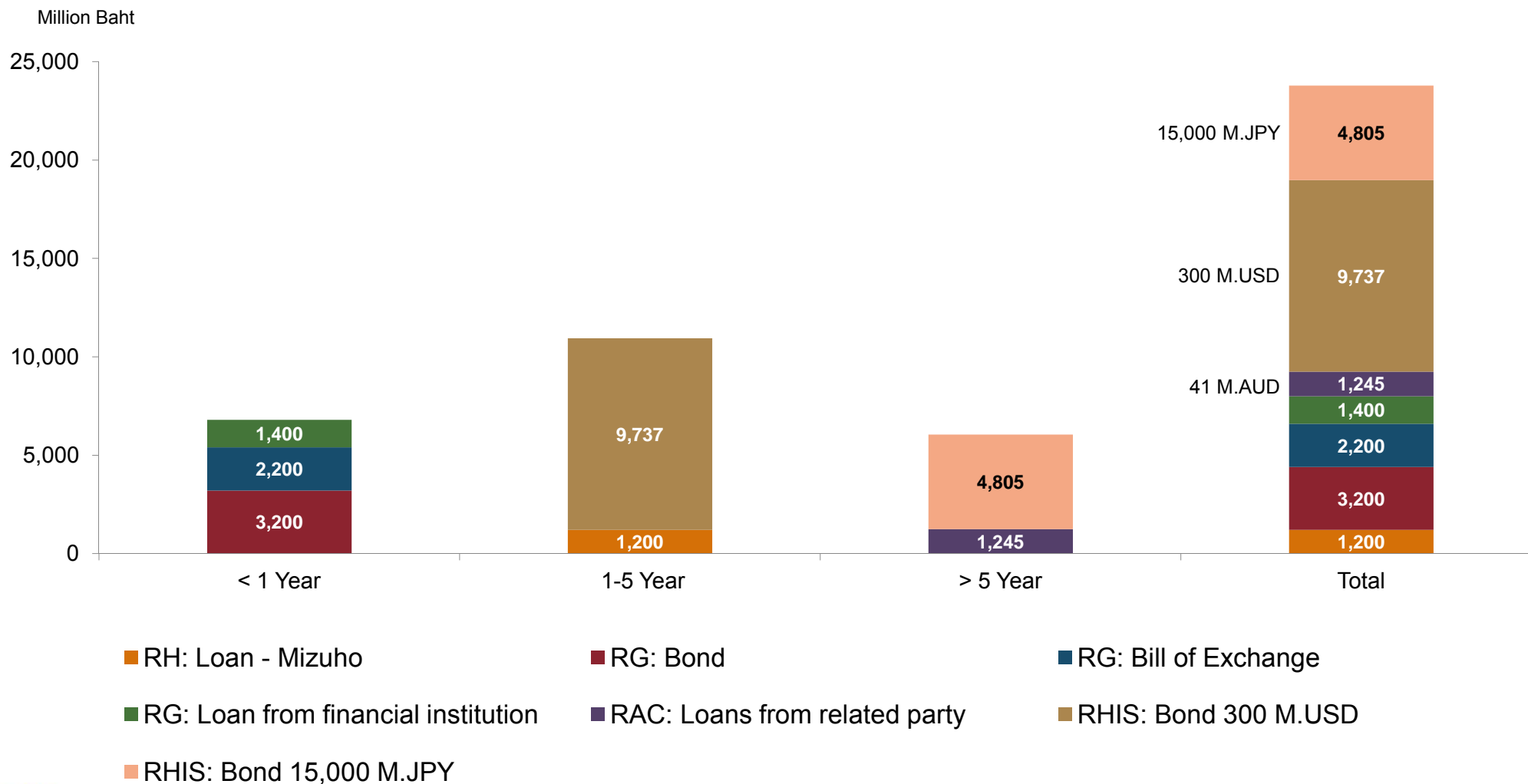
Industry Overview

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Annexure

## Debt Profile as of June 30, 2014



# Annexure

## *Financial Performance*

RATCH



RATCHABURI  
ELECTRIC CITY GENERATING  
HOLDING PCL.



# Revenues: 2Q14 & 2Q13

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Unit : in Million Baht		2Q14	2Q13	Diff	%
<b>Sales</b>		<b>11,865.06</b>	<b>11,603.37</b>	<b>261.69</b>	<b>2.26</b>
AP	- RG/TECO	1,239.73	1,377.62	(137.89)	(10.00)
	- RAC	430.60	389.56	41.04	10.53
EP (Fuel)	- RG/TECO	10,020.52	9,624.71	395.81	4.11
	- RAC	155.24	197.85	(42.61)	(21.54)
	- Flared Gas	18.97	13.63	5.34	39.18
<b>Revenue from financial leases - RG/TECO</b>		<b>1,431.77</b>	<b>1,372.69</b>	<b>59.08</b>	<b>4.30</b>
<b>Revenue from Rendering of services</b>		<b>51.70</b>	<b>55.27</b>	<b>(3.57)</b>	<b>(6.46)</b>
<b>Management service income</b>		<b>74.54</b>	<b>48.30</b>	<b>26.24</b>	<b>54.33</b>
<b>Dividend Income</b>		<b>145.66</b>	<b>-</b>	<b>145.66</b>	<b>n.a.</b>
<b>Interest Income</b>		<b>59.61</b>	<b>131.71</b>	<b>(72.10)</b>	<b>(54.74)</b>
<b>Other Incomes</b>		<b>411.09</b>	<b>161.26</b>	<b>249.83</b>	<b>154.92</b>
<b>Total Revenues</b>		<b>14,039.43</b>	<b>13,372.60</b>	<b>666.83</b>	<b>4.99</b>

# Share of profit from jointly-controlled entities: 2Q14 & 2Q13

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Unit : in Million Baht	2Q14	2Q13	Diff	%
TECO	-	(69.61)	69.61	100.00
RPCL	240.74	81.72	159.02	194.59
SEAN	19.82	(1.45)	21.27	n.a.
HPC	(52.27)	(347.25)	294.98	84.95
CRESCO	6.57	(2.16)	8.73	404.17
SOLARTA	43.81	36.13	7.68	21.26
KORAT 3,4,7	14.31	16.20	(1.89)	(11.67)
FKW	18.77	9.85	8.92	90.56
KR2	13.40	(14.36)	27.76	193.31
KWINANA	8.75	2.35	6.40	272.34
PNPC	(28.11)	(1.00)	(27.11)	n.a.
Others	(11.10)	(7.76)	(3.34)	(43.04)
<b>Total Share of profit from jointly-controlled entities</b>	<b>274.69</b>	<b>(297.34)</b>	<b>572.03</b>	<b>192.38</b>

# Share of profit from jointly-controlled entities: 2Q14 & 2Q13

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EXCL.  
FX

Unit : in Million Baht	2Q14	2Q13	Diff	%
TECO	-	(63.72)	63.72	100.00
RPCL	242.56	187.33	55.23	29.48
SEAN	20.52	80.55	(60.03)	(74.53)
HPC	(176.36)	(103.75)	(72.61)	(69.99)
CRESCO	5.83	(2.82)	8.65	306.74
SOLARTA	43.81	36.13	7.68	21.26
KORAT 3,4,7	14.31	16.20	(1.89)	(11.67)
FKW	18.77	12.71	6.06	47.68
KR2	13.38	10.71	2.67	24.93
KWINANA	8.75	2.35	6.40	272.34
PNPC	(25.88)	(1.00)	(24.88)	n.a.
Others	(8.83)	(8.57)	(0.26)	(3.03)
<b>Total Share of profit from jointly-controlled entities</b>	<b>156.86</b>	<b>166.12</b>	<b>(9.26)</b>	<b>(5.57)</b>

# Cost and Expenses: 2Q14 & 2Q13

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Unit : in Million Baht	2Q14	2Q13	Diff	%
<b>Cost of Sale and rendering of services</b>	<b>10,946.39</b>	<b>10,343.22</b>	<b>603.17</b>	<b>5.83</b>
– Fuel Cost : RG/ TECO	9,939.62	9,507.47	432.15	4.55
– Fuel Cost : RAC	10.08	9.25	0.83	8.97
– Fuel Cost : Flared Gas	2.90	2.03	0.87	42.86
– Operation & Maintenance	448.28	386.63	61.65	15.95
– Repairing Expense (CSA)	191.22	187.99	3.23	1.72
– Spare parts	179.08	99.36	79.72	80.23
– Insurance Premium	73.55	69.48	4.07	5.86
– Standby Charge	58.54	40.45	18.09	44.72
– Others	43.12	40.56	2.56	6.31
<b>Selling and Admin- Expenses</b>	<b>317.80</b>	<b>290.61</b>	<b>27.19</b>	<b>9.36</b>
<b>Total Cost and Expenses (excluded depreciation &amp; amortization)</b>	<b>11,264.19</b>	<b>10,633.83</b>	<b>630.36</b>	<b>5.93</b>

# Revenues: 1H14 & 1H13

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Unit : in Million Baht		1H14	1H13	Diff	%
<b>Sales</b>		<b>21,486.44</b>	<b>21,732.86</b>	<b>(246.42)</b>	<b>(1.13)</b>
AP	- RG/TECO	2,083.75	2,533.01	(449.26)	(17.74)
	- RAC	892.18	907.51	(15.33)	(1.69)
EP (Fuel)	- RG/TECO	18,165.53	17,970.56	194.97	1.08
	- RAC	307.31	305.95	1.36	0.44
	- Flared Gas	37.67	15.83	21.84	137.97
<b>Revenue from financial leases - RG/TECO</b>		<b>2,842.81</b>	<b>2,770.32</b>	<b>72.49</b>	<b>2.62</b>
<b>Revenue from Rendering of services</b>		<b>103.16</b>	<b>101.22</b>	<b>1.94</b>	<b>1.92</b>
<b>Management service income</b>		<b>162.02</b>	<b>107.39</b>	<b>54.63</b>	<b>50.87</b>
<b>Dividend Income</b>		<b>145.66</b>	<b>130.15</b>	<b>15.51</b>	<b>11.92</b>
<b>Interest Income</b>		<b>120.22</b>	<b>289.59</b>	<b>(169.37)</b>	<b>(58.49)</b>
<b>Other Incomes</b>		<b>668.03</b>	<b>267.41</b>	<b>400.62</b>	<b>149.81</b>
<b>Total Revenues</b>		<b>25,528.34</b>	<b>25,398.94</b>	<b>129.40</b>	<b>0.51</b>

# Share of profit from jointly-controlled entities: 1H14 & 1H13

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Unit : in Million Baht	1H14	1H13	Diff	%
TECO	-	(72.74)	72.74	100.00
RPCL	433.79	298.62	135.17	45.26
SEAN	102.42	96.35	6.07	6.30
HPC	(52.27)	(266.60)	214.33	80.39
CRESCO	12.26	3.20	9.06	283.13
SOLARTA	87.85	75.81	12.04	15.88
KORAT 3,4,7	31.13	31.37	(0.24)	(0.77)
FKW	49.88	34.57	15.31	44.29
KR2	37.38	7.90	29.48	373.16
KWINANA	29.95	13.72	16.23	118.29
PNPC	(18.69)	(1.74)	(16.95)	(974.14)
Others	(23.08)	(12.25)	(10.83)	(88.41)
<b>Total Share of profit from jointly-controlled entities</b>	<b>690.62</b>	<b>208.21</b>	<b>482.41</b>	<b>231.69</b>



# Share of profit from jointly-controlled entities: 1H14 & 1H13

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EXCL.  
FX

Unit : in Million Baht	1H14	1H13	Diff	%
TECO	-	(67.52)	67.52	100.00
RPCL	415.83	319.50	96.33	30.15
SEAN	87.04	114.39	(27.35)	(23.91)
HPC	(176.36)	(171.74)	(4.62)	(2.69)
CRESCO	9.70	(0.18)	9.88	n.a.
SOLARTA	87.85	75.81	12.04	15.88
KORAT 3,4,7	31.13	31.37	(0.24)	(0.77)
FKW	49.87	34.99	14.88	42.53
KR2	37.33	20.08	17.25	85.91
KWINANA	29.95	13.72	16.23	118.29
PNPC	(27.55)	(1.74)	(25.81)	n.a.
Others	(17.91)	(15.09)	(2.82)	(18.69)
<b>Total Share of profit from jointly-controlled entities</b>	<b>526.88</b>	<b>353.59</b>	<b>173.29</b>	<b>49.01</b>

# Cost and Expenses : 1H14 & 1H13

Industry Overview

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Unit : in Million Baht	1H14	1H13	Diff	%
<b>Cost of Sale and rendering of services</b>	<b>19,866.88</b>	<b>19,579.37</b>	<b>287.51</b>	<b>1.47</b>
– Fuel Cost : RG/ TECO	18,009.49	17,804.96	204.53	1.15
– Fuel Cost : RAC	20.00	27.03	(7.03)	(26.01)
– Fuel Cost : Flared Gas	5.81	2.35	3.46	147.23
– Operation & Maintenance	858.54	754.27	104.27	13.82
– Repairing Expense (CSA)	375.22	373.00	2.22	0.60
– Spare parts	249.96	265.86	(15.90)	(5.98)
– Insurance Premium	141.96	139.51	2.45	1.76
– Standby Charge	120.57	96.52	24.05	24.92
– Others	85.33	115.87	(30.54)	(26.36)
<b>Selling and Admin- Expenses</b>	<b>680.13</b>	<b>599.61</b>	<b>80.52</b>	<b>13.43</b>
<b>Total Cost and Expenses (excluded depreciation &amp; amortization)</b>	<b>20,547.01</b>	<b>20,178.98</b>	<b>368.03</b>	<b>1.82</b>

# Annexure

## *RATCH Company Structure*



# RATCH



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.

# New Company Structure

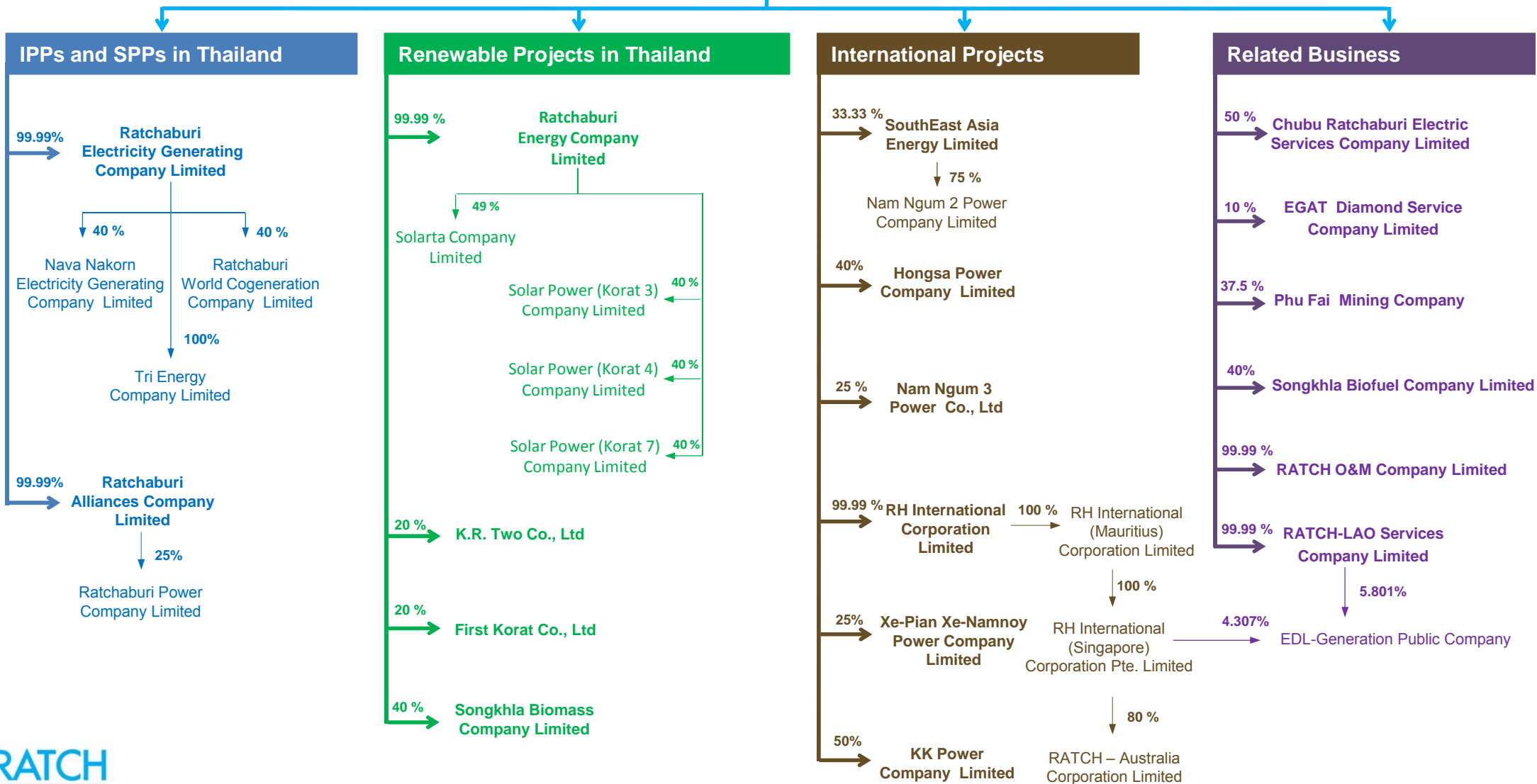
Industry Overview

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As of September 2014



# Annexure

## *RATCH Projects*



RATCH



RATCHABURI  
ELECTRICITY GENERATING  
HOLDING PCL.

# Power Generation: Thailand

Industry Overview

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Annexure

## IPP : Gas

### 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%

RATCHGEN



### Ratchaburi Power 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>
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TECO



RPCL



### 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	RATCH holds 100%

# Power Generation: Thailand

Industry Overview

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## VSPP : Gas

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



*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%

*Sao Thian-A Project*



*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%



# Power Generation: Thailand

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## Renewable Projects

### Wind Farm



*Huay Bong 2&3*



#### 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>



# Power Generation: Thailand

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## Renewable Projects

### Solar Farm

*Solar Power Project*



**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>• RATCH holds 40%</li><li>• Solar Power holds 60%</li></ul>

*Solarta Power Project*



**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>• Nakhon 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: Laos

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## IPP : Hydro



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%

## Related businesses



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>

# Power Generation: Australia

Industry Overview

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## Gas

### 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	

Townsville



Kemerton



### 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



### 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	

## Coal

Collinsville



### Collinsville Power Plant\*

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: Australia

Industry Overview

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## Wind Farm

### Starfish Hill

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

Starfish Hill



Toora



### Toora

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

Windy Hill



### 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

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## SPPs in Thailand : Gas



As of August 2014

Progress Unit 1: 100% / Unit 2: 98%

### Ratchaburi World Cogeneration (RW Cogen)

Location	Ratchaburi Province
Technology	Cogeneration
Total Capacity	210 MW (84 MW holds 40%)
PPA	25-Year
Progress	Unit 1# 99% Unit 2# 96% as of June 2014
Expected COD	Unit 1# In 2014 Unit 2# In 2015
Project Cost	THB 10,620 Million
Debt to Equity	75 : 25
Partner	<ul style="list-style-type: none"><li>• RATCH holds 40%</li><li>• Major Shareholder Group of Thai Agri Food PCL holds 60%</li></ul>

## VSPP in Thailand : Biomass

### 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>

# Projects under Construction

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## IPP in Laos : Coal

### Hongsa Thermal Project

Location	Lao PDR
Technology	Lignite-Fired
Total Capacity	1,878 MW (751.2 MW holds 40%)
PPA	25-Year
Expected COD	In 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%



*As of August 2014  
Progress 90.2%*

## IPP in Laos : Hydro



*As of August 2014  
Progress 5.92%*

### 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	2.67% as of February 2014
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%

# Projects under Development

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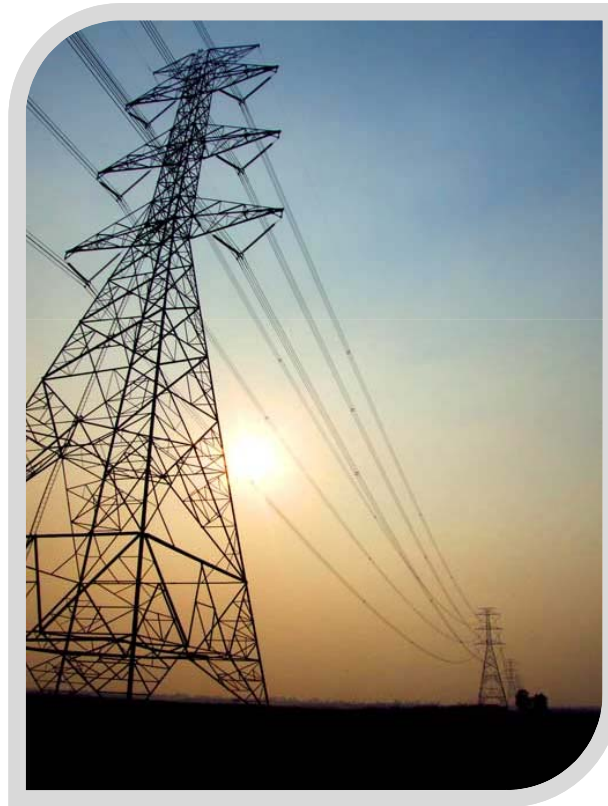
## SPPs in Thailand : Gas

### 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>

# Annexure

## *Planned Outage 2013-2014*



RATCH

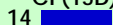
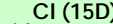

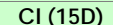
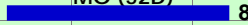
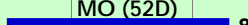
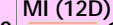

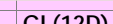
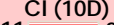
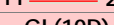

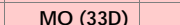
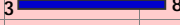



RATCHABURI  
ELECTRIC CITY GENERATING  
HOLDING PCL.



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

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) 14  28										
	CCGT-12		CI (15D) 14  28										
RG	CCST-20												
	CCGT-21										CI (15D) 12  26		
	CCGT-22										CI (15D) 12  26		
RG	CCST-30												
	CCGT-31					MO (52D) 18  8							
	CCGT-32					MO (52D) 18  8							
Thermal-1													
Thermal-2													
TECO	CCST-10										MI (12D) 2  13		
	CCGT-11										MO (34D) 19  21		
	CCGT-12										CI (12D) 2  13		
RPCL	CCST-10												CI (10D) 11  20
	CCGT-11												CI (10D) 11  20
	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		

Thank you!

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