

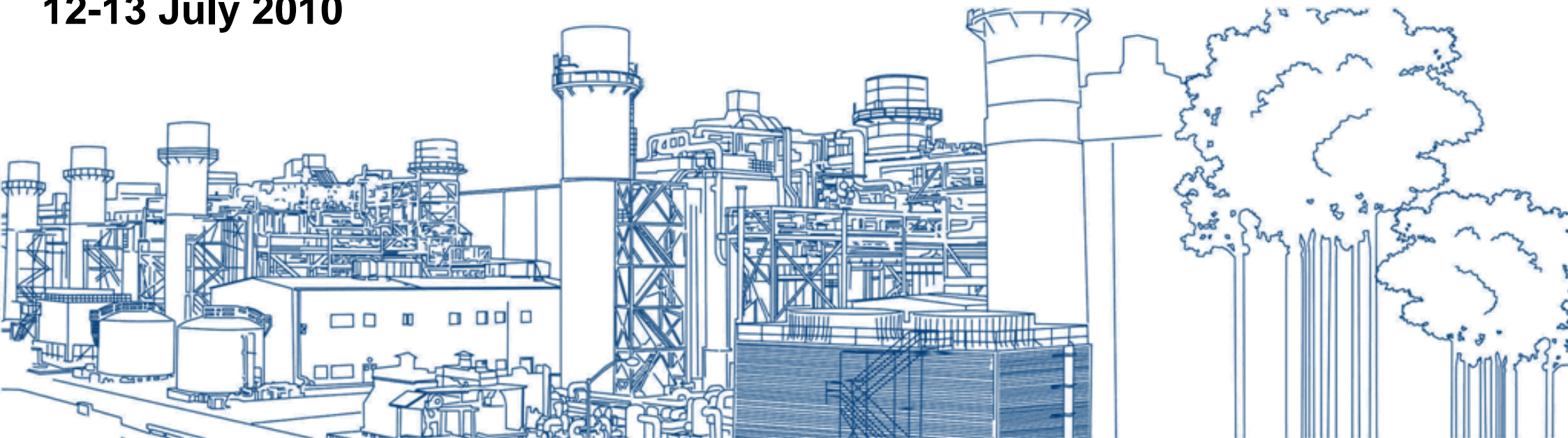


**10**  
**YEARS**  
for Powering  
the Future

# Ratchaburi Electricity Generating Holding PCL.

**DB Access Thailand Corporate Day**

**12-13 July 2010**



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- RATCH *Highlights*
- RATCH *Growth Strategies*

**Appendix**

# RATCH

## Overview

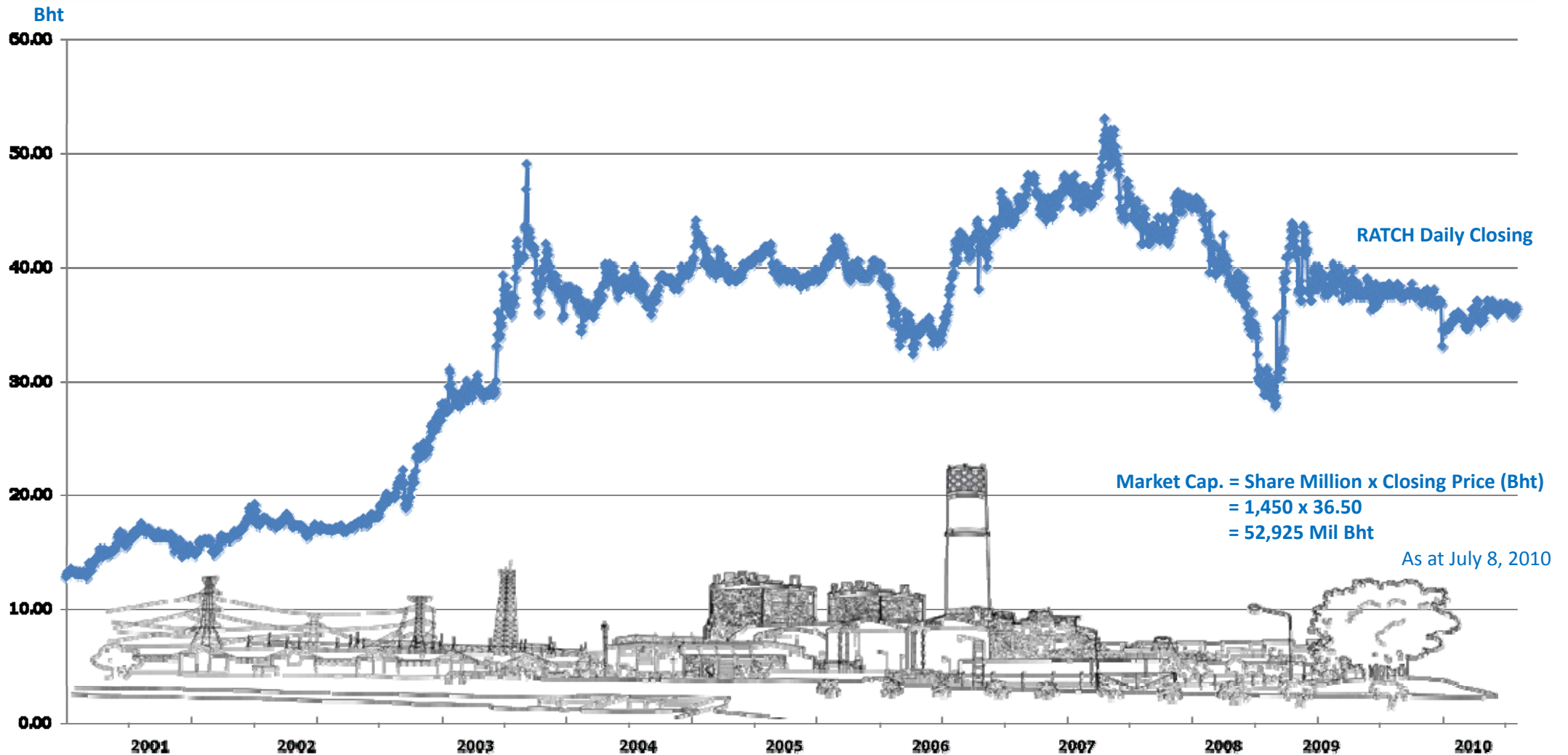


- In February 1999 the Thai Cabinet approved private participation on the EGAT Ratchaburi power plant with generating capacity of 3,645 MW, the single largest power plant in Thailand.
- The private participation plan involves the creation of the Ratchaburi Electricity Generating Holding Company Limited (“RATCH”) and its wholly owned subsidiary, Ratchaburi Electricity Generating Company Limited, to own and operate Ratchaburi power plant.
- RATCH was established as a wholly owned subsidiary of Electricity Generating Authority of Thailand (“EGAT”) in March 2000 and was listed on the Stock Exchange on Thailand (“SET”) (symbol RATCH) in October 2000.
- Following the IPO, EGAT remains the single largest shareholder (45%). RATCH is still to date, the largest IPP in Thailand.

# Company History



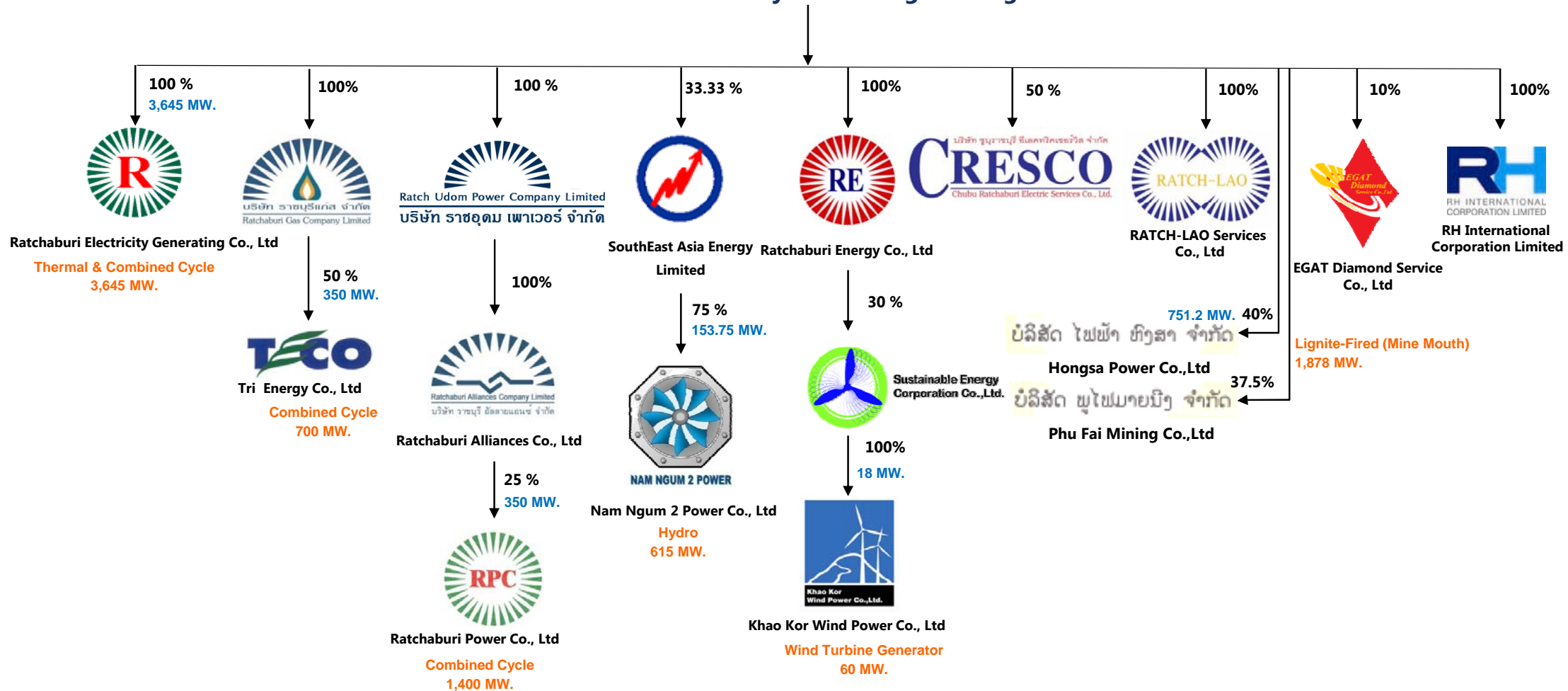
## Price History



# Company Structure

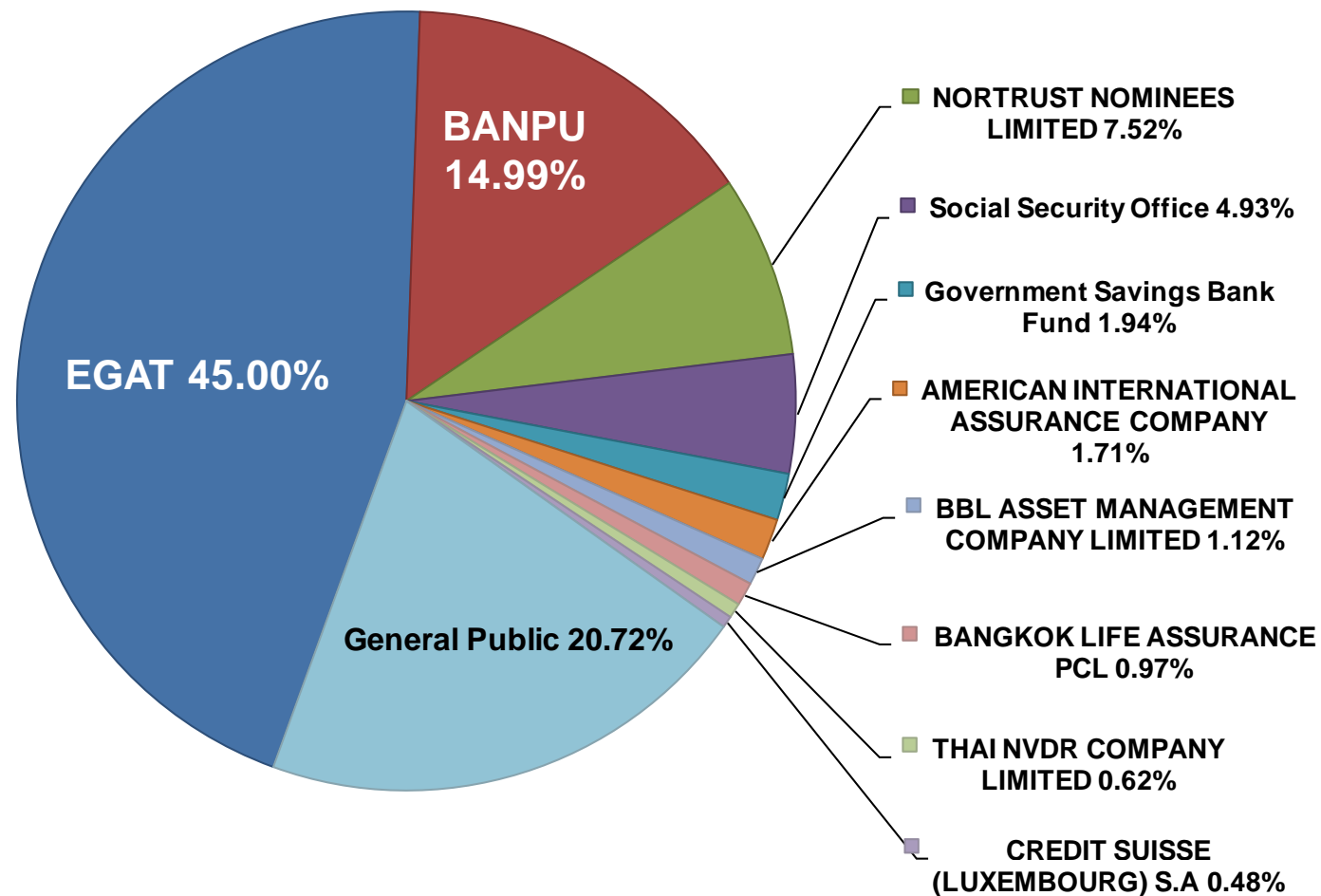


## Ratchaburi Electricity Generating Holding PCL.



# Shareholder's Structure

As at March 2, 2010

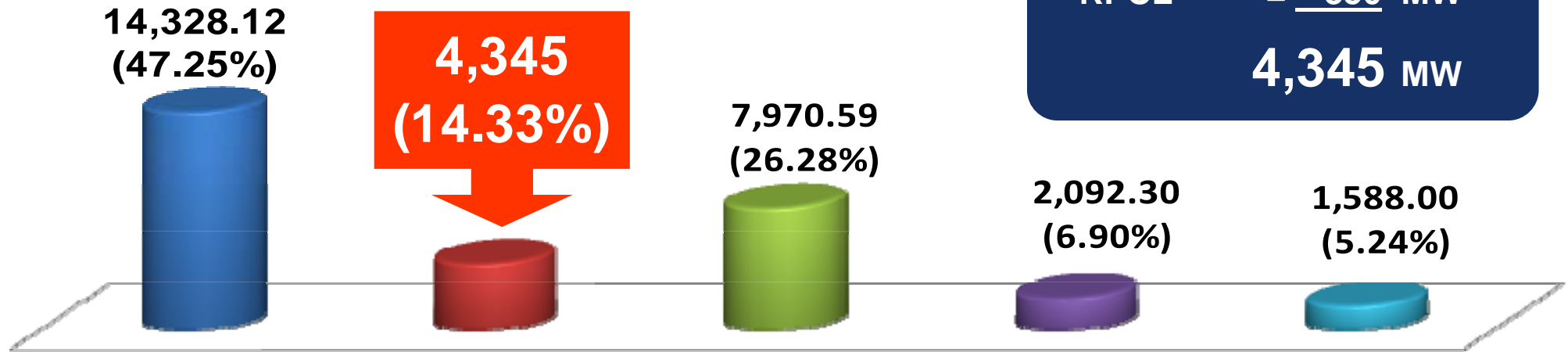


# Total Installed Capacity of Thailand

**Total Installed Capacity: 30,324.01 MW.**

*RATCH's Installed Capacity consisted of*

RG	= 3,645 MW
TECO	= 350 MW
RPCL	= 350 MW
<b>Total</b>	<b>4,345 MW</b>



**EGAT**

**RATCH**

**Other 8 IPPs**

**SPPs**

**Foreign Purchase**

1. Electricity Generating PCL.
2. Independent Power (Thailand) Co., Ltd
3. Tri Energy Co., Ltd
4. Glow IPP Co., Ltd
5. Eastern Power and Electric Co., Ltd
6. BLCP Power Limited
7. Gulf Power Generation Co., Ltd.
8. Ratchaburi Power Co., Ltd (Block 1)

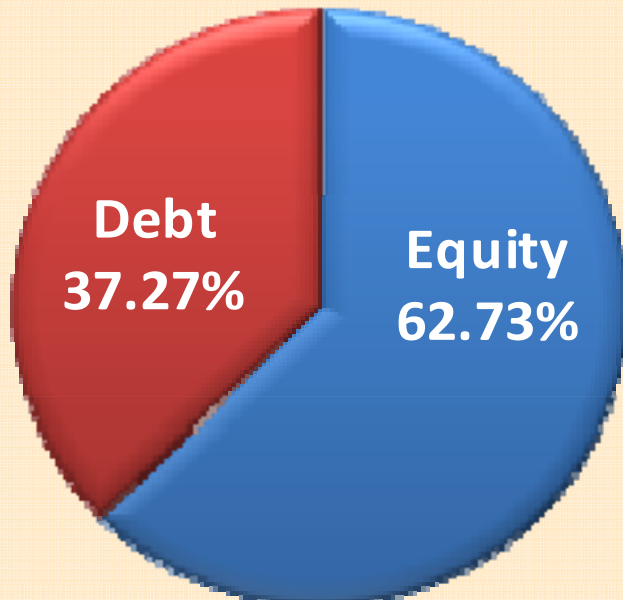
Source: EGAT, May 2010



# RATCH Highlights



## Capital Structure as at March 31, 2010



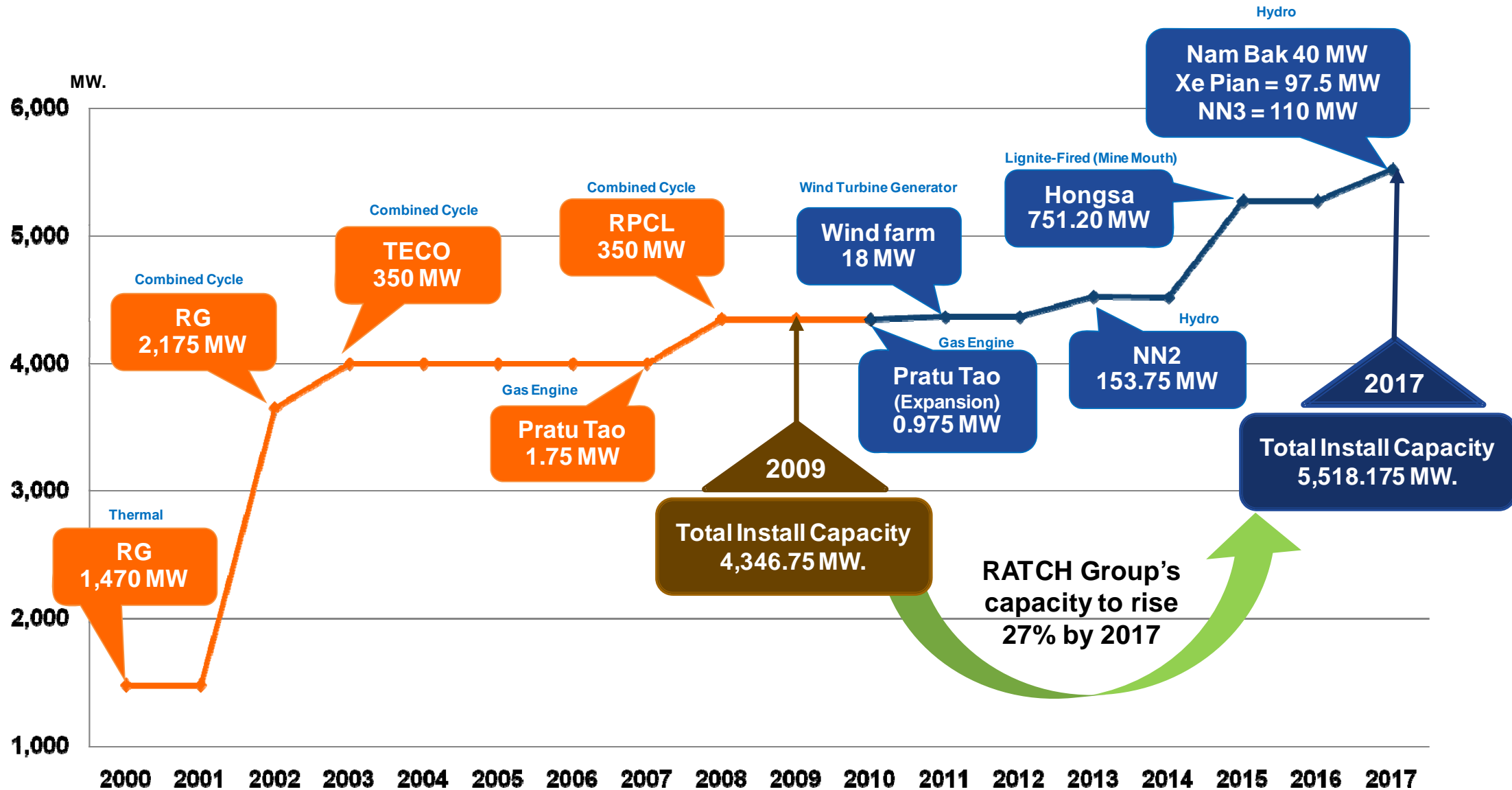
D/E = 0.59 times

## Strong Balance Sheet

- Total Shareholders' Equity **44,314 MB**
- Total Debt **26,330 MB**

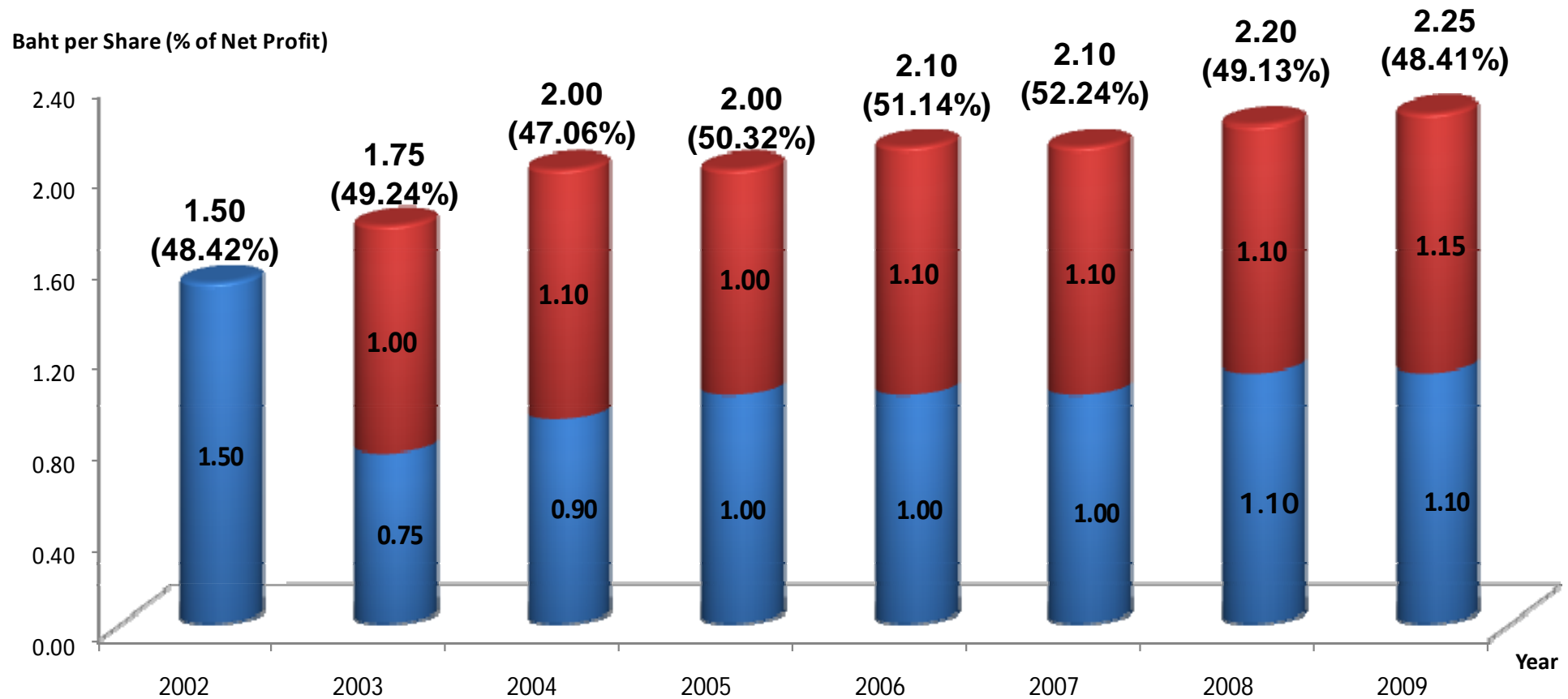
**>> TOTAL CAPITAL 70,644 MB**

# RATCH Highlights



# Dividends Paid

**Stable dividends payment – RATCH has a dividend policy of no less than 40% of Net Profit**



# **RATCH** Growth Strategy



# ***RATCH Growth Strategies***



- **Aiming to invest in renewable energy and biomass projects.**
- **Seeking investment opportunities abroad including Vietnam, Indonesia, Australia and the Philippines etc.**
- **Well prepared for the next bidding round since RATCH has in place at least 2 sites ready to accommodate the new power plants.**
- **Extending our investment to related business including operating and maintenance for power plants and coal mining.**
- **Continuing to strengthen the excellent relationships with existing business partners as well as seeking potential new business partners.**

# Appendix



# Income Statement: 2008-Q1/2010



Unit : in Million Baht

	Q1/2010	2009	2008	2007	2006
Revenues	10,360.54	37,653.83	43,801.84	46,072.34	51,848.22
Expenses	<u>8,543.38</u>	<u>29,222.19</u>	<u>35,798.22</u>	<u>38,781.36</u>	<u>44,223.34</u>
EBIT	1,817.16	8,431.64	8,003.62	7,290.98	7,624.88
Interest Expense	169.48	861.10	1,293.37	1,364.54	1,443.75
Income Tax	<u>190.41</u>	<u>830.94</u>	<u>217.35</u>	<u>97.04</u>	<u>75.09</u>
Net Income	<u>1,457.27</u>	<u>6,739.60</u>	<u>6,492.90</u>	<u>5,829.40</u>	<u>6,106.04</u>
EPS (Baht)	1.01	4.65	4.48	4.02	4.21



# Balance Sheet



Unit : in Million Baht

	Q1/2010	2009	2008	2007	2006
<b><u>Asset</u></b>					
Current Asset	20,942	19,196	19,520	21,071	21,923
Property, plant & equipments	37,091	37,762	40,383	42,876	45,233
Invest in Joint Ventures	9,467	9,494	7,362	5,676	3,986
Others Assets	3,144	2,890	2,407	678	963
<b>Total Assets</b>	<b>70,644</b>	<b>69,342</b>	<b>69,672</b>	<b>70,301</b>	<b>72,105</b>
<b><u>Liabilities &amp; Shareholders' Equity</u></b>					
Current Liabilities	10,288	7,963	9,058	10,007	11,010
Long-term Liabilities	16,042	16,855	19,640	22,814	26,400
Shareholders' Equity	44,314	44,524	40,974	37,480	34,695
<b>Total Liabilities &amp; Shareholders' Equity</b>	<b>70,644</b>	<b>69,342</b>	<b>69,672</b>	<b>70,301</b>	<b>72,105</b>

# Outstanding Debt



As at March 2010

Unit : in Million Baht

<b>RATCHGEN</b>	
Q1/2010	19,022.77
2009	19,756.85
2008	22,989.16
2007	26,604.40
2006	29,743.14
2005	32,585.89
2004	35,764.51

<b>Maturity Year</b>	
RATCHGEN	♦ Debentures: 2010 ♦ Loans: 2015
TECO	♦ Loans: 2013
RPCL	♦ Loans: 2020

Unit : in Million USD

<b>TECO</b>		
Q1/2010	75.18	
2009	91.73	
2008	122.11	
2007	135.93	
2006	163.57	
<b>RPCL</b>		
	Million USD	Million Baht
Q1/2010	414.48	5,686.15
2009	438.81	6,085.35
2008	476.32	6,757.99

# Projects in Operation



Project	MW	Location	Plant type	RATCH's holding	COD	Capacity contribution to RATCH
1. Ratchaburi Power Plant	3,645	Ratchaburi Province (Thailand)	Thermal & Combined Cycle	99.99%	TH : 2000 CCGT : 2001	3,645 MW
2. Tri Energy Power Plant	700	Ratchaburi Province (Thailand)	Combined Cycle	50%	2000	350 MW
3. Ratchaburi Power (RPCL)	1,400	Ratchaburi Province (Thailand)	Combined Cycle	25%	2008	350 MW
<b>Total IPPs</b>	<b>5,745</b>					<b>4,345 MW</b>
4. Pratu Tao-A (SPP)	1.75	Sukhothai Province (Thailand)	Associated Gas	100%	2007	1.75 MW
<b>Total</b>	<b>5,746.75</b>					<b>4,346.75 MW</b>

# Projects under Construction

Project	MW	Location	Plant type	RATCH's holding	Status (%)	Expected COD	Capacity contribution to RATCH
1. Nam Ngum 2 Project	615	Lao PDR	Hydro	25%	96.83 (May 2010)	Jan 2013	153.75 MW
2. Pratu Tao-A (Expansion)	0.975	Sukhothai Province	Associated Gas	100%	70.00 (July 2010)	Aug 2010	0.975 MW
<b>Total</b>	<b>615.975</b>						<b>154.725 MW</b>



# Projects under Development



## In Thailand

Project	MW	Location	Plant type	RATCH's holding	Status (%)	Expected COD	Capacity contribution to RATCH
1. Khao Kor Wind Farm	60	Phetchabun Province	Wind	30%	<ul style="list-style-type: none"> <li>• Negotiating PPA</li> <li>• Preparing RFP for lenders</li> <li>• Turbine Supply and Balance of Plant Agreement signed on 18 March 2010</li> </ul>	2011	18 MW
<b>Total</b>	<b>60</b>						<b>18 MW.</b>

# Projects under Development



## In Lao PDR

Project	MW	Location	Plant type	RATCH's holding	Status (%)	Expected COD	Capacity contribution to RATCH
1. Hongsa Thermal Project	1,878	Lao PDR	Lignite-Fired	40%	• PPA , CA & EPC signed	2015	751.2 MW
2. Nam Ngum 3 Project	440	Lao PDR	Hydro	25%	• Tariff MOU signed • Negotiating PPA& CA with EGAT	2017	110 MW
3. Xe-Pian Xe-Namnoy Project	390	Lao PDR	Hydro	25%	Tariff MOU endorsed by Energy Policy and Planning Office (EPPO)	2017	97.5 MW
4. Nam Bak Project	160	Lao PDR	Hydro	25%	Tariff proposal sent to EGAT	2017	40 MW
<b>Total</b>	<b>2,868</b>						<b>998.70 MW</b>

# Projects in Operation

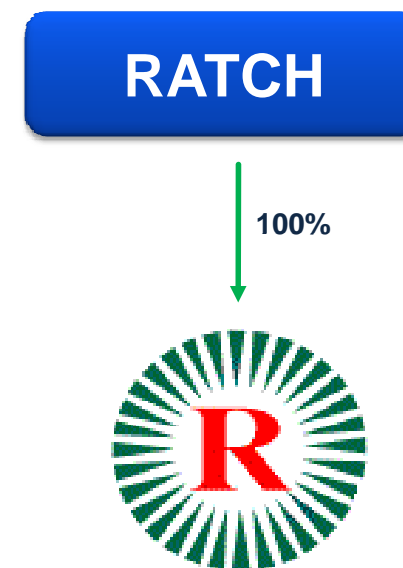


## Ratchaburi Power Plant (RG)

### Project Summary

<b>Location :</b>	Ratchaburi Province
<b>Technology :</b>	Thermal & Combined Cycle
<b>Total Capacity :</b>	3,645 MW.
<b>Contributed capacity to RATCH:</b>	3,645 MW. (100%)
<b>PPA :</b>	25 Years (Remaining:15 Years)
<b>COD :</b>	TH#1-2 - Oct 2000, CCGT #1-2 – Apr 2002 and CCGT#3 – Nov 2002
<b>Outstanding Loan:</b>	THB 18,648 Million (as at March 2010)
<b>Outstanding Debenture:</b>	THB 375 Million (as at March 2010)
<b>Debt to Equity :</b>	1.27 times
<b>Lender :</b>	KTB, KBANK, BAY, GSB, BT & TMB
<b>Investment Amount (for RATCH) :</b>	THB 18,275 Million

### Shareholders' Structure



# Projects in Operation



## Tri Energy Power Plant (TECO)

### Project Summary

**Location :** Ratchaburi Province

**Technology :** Combined Cycle

**Total Capacity :** 700 MW.

**Contributed capacity to RATCH:** 350 MW. (50%)

**PPA :** 20 Years (Remaining:10 Years)

**COD :** July 2000

**Outstanding Loan:** THB 2,568.76 Million  
(as at March 2010) (USD 75.18 Million)

**Debt to Equity :** 0.46 times

**Lender :** BTMU, Mizuho & SMBC

**Investment Amount (for RATCH) :** THB 1,809 Million

### Shareholders' Structure





# Projects in Operation

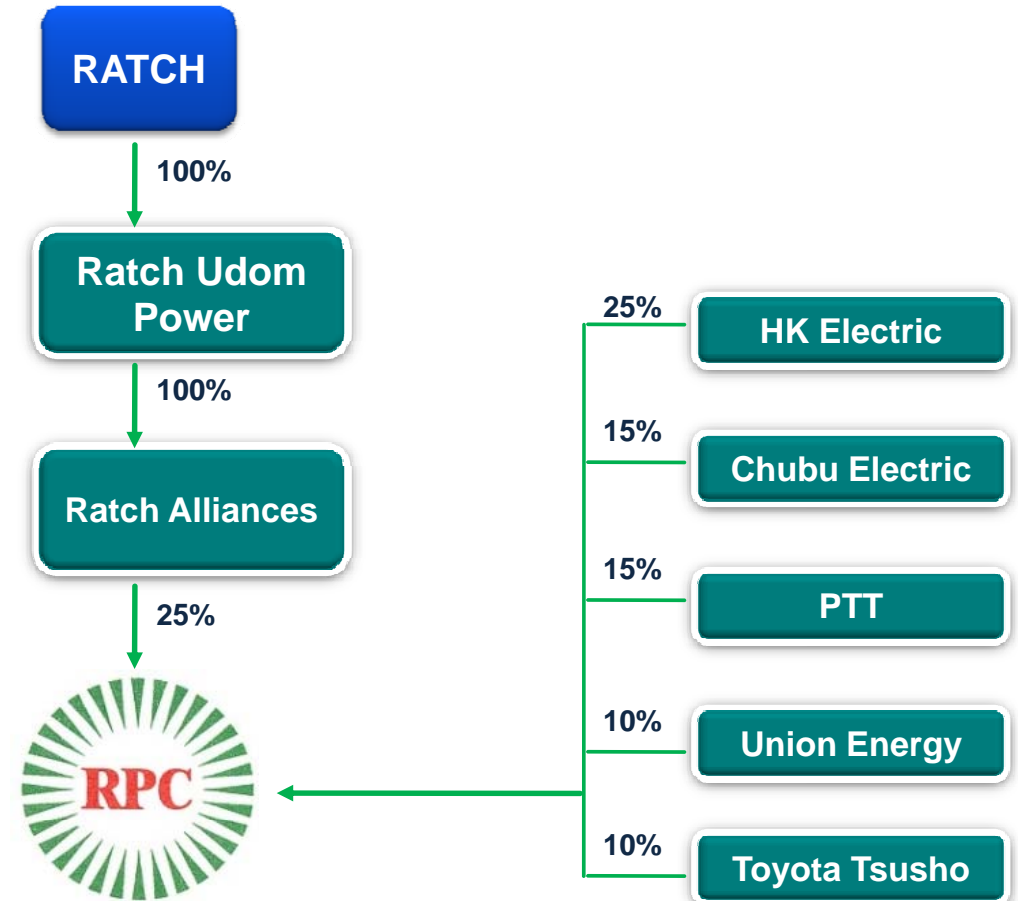


## Ratchaburi Power Plant (RPCL)

### Project Summary

<b>Location :</b>	Ratchaburi Province
<b>Technology :</b>	Combined Cycle
<b>Total Capacity :</b>	1,400 MW.
<b>Contributed capacity to RATCH:</b>	350 MW. (25%)
<b>PPA :</b>	25 Years (Remaining: 23Year)
<b>COD :</b>	CCGT #1 –March 2008 CCGT #2 –June 2008
<b>Outstanding Loan:</b> (as at March 2010)	THB 5,686 Million USD 414 Million
<b>Debt to Equity :</b>	2.17 times
<b>Lender :</b>	USD: JBIC, Calyon, HSBC & SMBC THB: BBL & KTB
<b>Investment Amount (for RATCH) :</b>	USD 53.25 Million THB 1,831 Million

### Shareholders' Structure



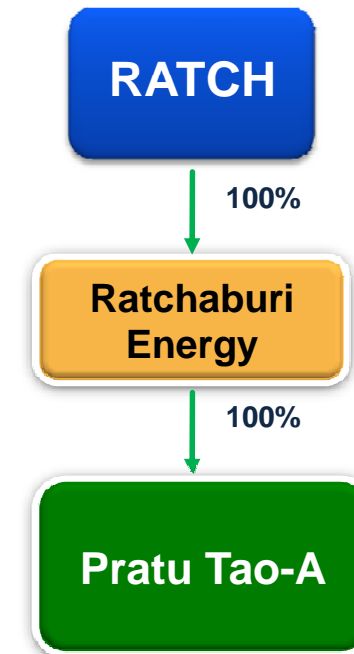
# Projects in Operation

## Pratu Tao-A

### Project Summary

Location :	Sukhothai Province in Thailand
Technology :	Gas Engine
Total Capacity :	1.75 MW.
Contributed capacity to RATCH:	1.75 MW. (100%)
PPA :	5 Years (Automatic Renewal)
COD :	June 2007
Investment Amount (for RATCH) :	THB 62 Million

### Shareholders' Structure



# Projects under Construction



## Num Ngum 2 Project

### Projects Summary

Location :	Lao PDR
Technology :	Hydro Power Plant
Total Capacity :	615 MW. (3x205 MW.)
Contributed capacity to RATCH:	153.75 MW. (25%)
PPA :	27 Years
IOD :	December 2010
COD :	January 2013
Project Cost :	THB 30,832 Million
Total Debt :	THB 15,003 Million USD 180 Million
Debt to Equity :	2.5:1 times
Lender :	KTB, TMB & SCIB
Investment Amount (for RATCH) :	THB 2,202.25 Million

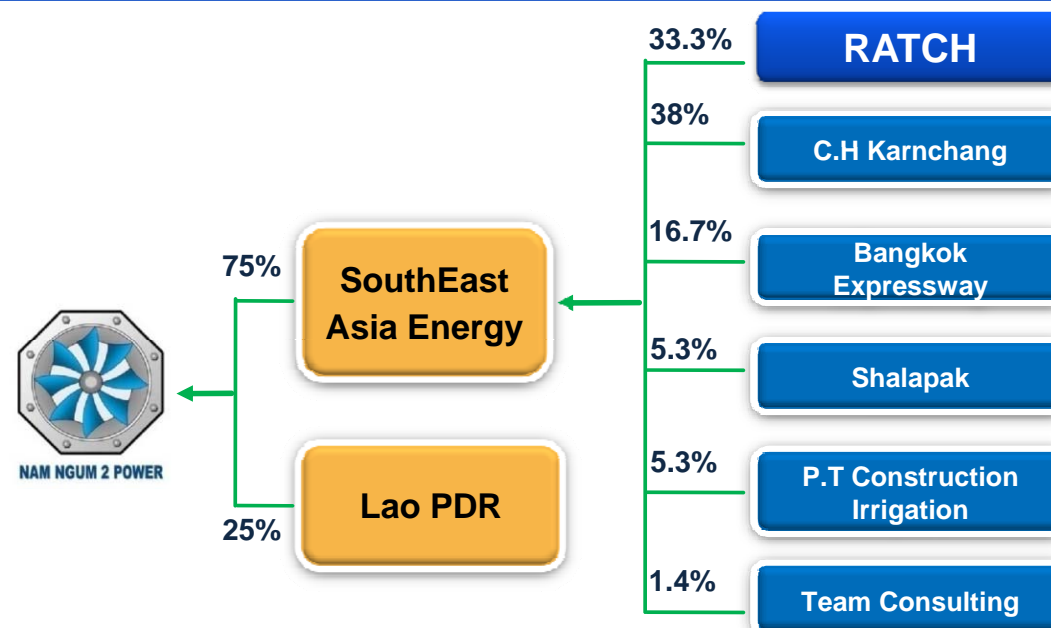
### Project Progress

- RATCH-Lao Service Co., Ltd has signed O&M Agreement with Num Ngum 2 Power co., Ltd on June 25, 2009

- Construction completed of 97.2% as at June 2010**

✓ Reservoir level reach to 311 masl\* (Operating water level 345-375 masl)  
\* masl : Meters Above Sea Level

### Shareholders' Structure



# Projects under Construction

## Pratu Tao-A (Expansion)

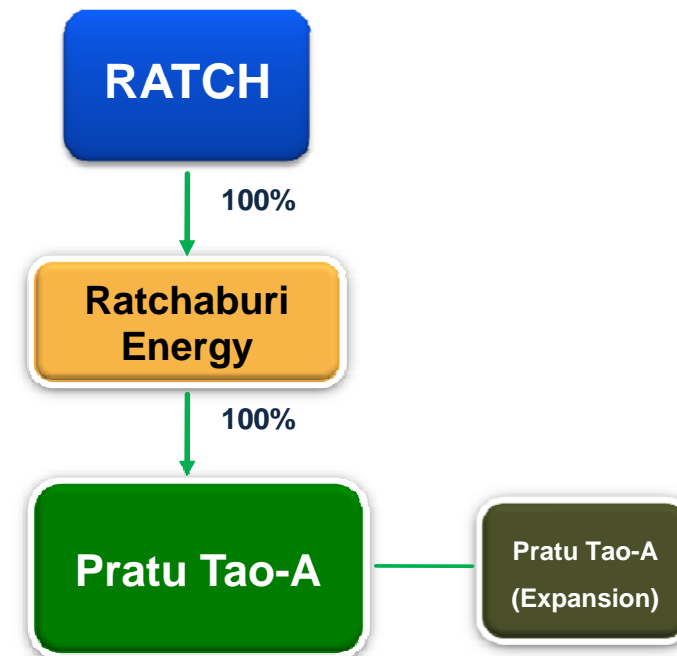
### Project Summary

Location :	Sukhothai Province in Thailand
Technology :	Gas Engine
Total Capacity :	1.75 MW.
Contributed capacity to RATCH:	1.75 MW. (100%)
PPA :	5 Years (Automatic Renewal)
COD :	June 2007
Investment Amount (for RATCH) :	THB 62 Million

### Pratu Tao-A (Expansion)

Total Capacity :	0.975 MW.
Contributed capacity to RATCH:	0.975 MW. (100%)
PPA :	5 Years (Automatic Renewal)
COD :	Aug 2010
Investment Amount (for RATCH) :	THB 32 Million

### Shareholders' Structure



# Projects under Development



## Khao Kor Wind Farm Project

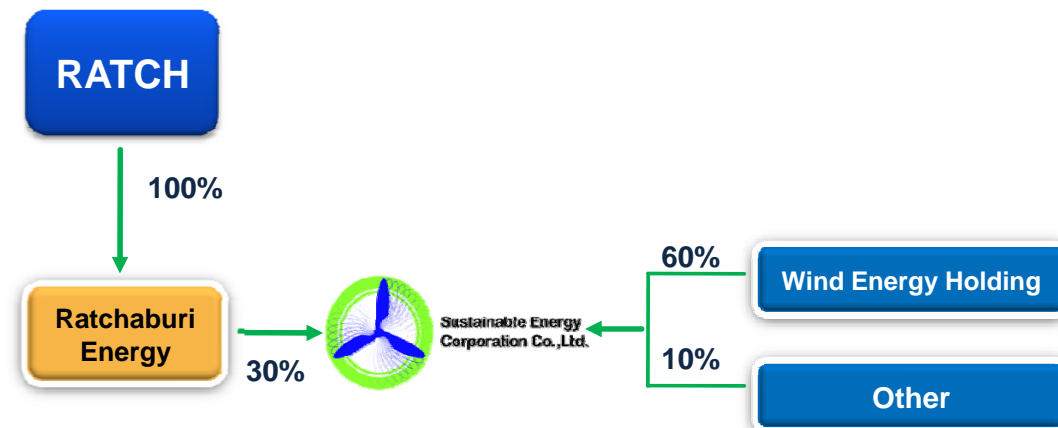
### Project Summary

<b>Location :</b>	Phetchabun Province in Thailand
<b>Technology :</b>	Wind Turbine Generator
<b>Total Capacity :</b>	60 MW.
<b>Contributed capacity to RATCH:</b>	18 MW. (30%)
<b>PPA :</b>	n.a.
<b>IOD :</b>	n.a.
<b>COD :</b>	In 2011
<b>Project Cost :</b>	USD 120 Million
<b>Debt to Equity :</b>	70:30 times
<b>Lender :</b>	n.a.
<b>Investment Amount (for RATCH) :</b>	USD 10.8 Million

### Project Progress

- MOU signed on December 3, 2008
- Share Purchase Agreement & Shareholder Agreement signed on February 18, 2009
- RATCH has purchased another 4 % stake in the Project on June 30,2009
- Preparing RFP for lenders
- **Turbine Supply and Balance of Plant Agreement signed on March 18, 2010**

### Shareholders' Structure



# Projects under Development

## Hongsa Thermal Project

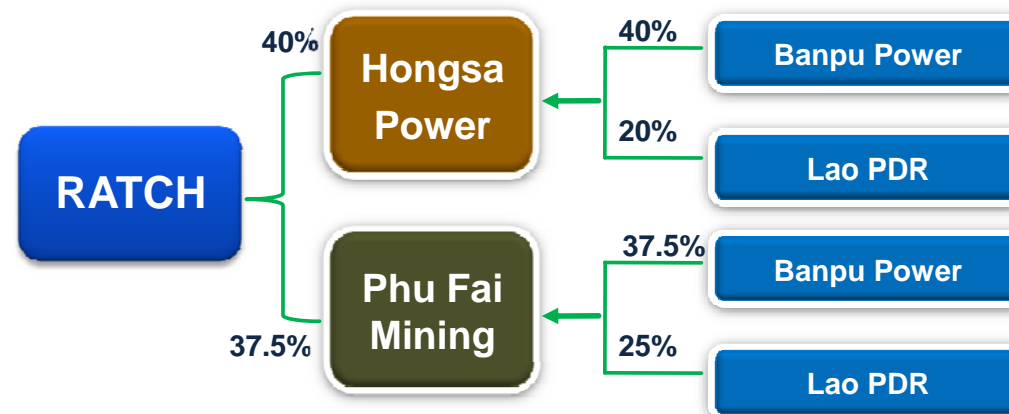
### Projects Summary

Location :	Lao PDR
Technology :	Lignite-Fired Power Plant
Total installed Capacity :	1,878 MW.
Contributed capacity to RATCH:	751.2 MW. (40%)
Fuel:	Lignite
PPA :	25 Years
IOD :	n.a.
COD :	In 2015
Project Cost :	USD 3,710 Million
Debt to Equity :	3:1 times
Lender :	n.a.
Investment Amount (for RATCH) :	USD 371 Million

### Project Progress

- Signed the Shareholder Agreement on February 5, 2009 for the establishment of Hongsa Power Co., Ltd. and Phu Fai Mining to operate Hongsa Power Plant Project
- Signed Tariff MOU with EGAT on May 13, 2009
- Signed Concession Agreement with the Government of Lao PDR on November 30, 2009
- Signed EPC on December 24, 2009
- Signed PPA with EGAT on April 2, 2010
- **Signed EPC (Transmission Line Contractor) on June 2, 2010**

### Shareholders' Structure



# Projects under Development

## Num Ngum 3 Project

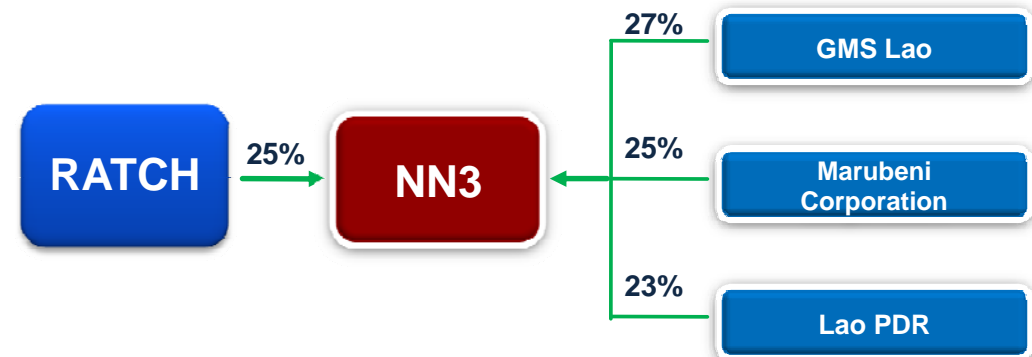
### Projects Summary

<b>Location :</b>	Lao PDR
<b>Technology :</b>	Hydro Power Plant
<b>Total Capacity :</b>	440 MW. (2x220 MW.)
<b>Contributed capacity to RATCH:</b>	110 MW. (25%)
<b>PPA :</b>	27 Years
<b>IOD :</b>	n.a.
<b>COD :</b>	In 2017
<b>Project Cost :</b>	USD 905 Million
<b>Debt to Equity :</b>	70:30 times
<b>Potential Lender :</b>	- USD Loan :ADB, JBIC & PROPARGO - THB Loan: n.a.
<b>Investment Amount (for RATCH) :</b>	USD 71.25 Million

### Project Progress

- Shareholder Agreement signed with GMS Lao Co.,Ltd., Marubeni Corporation and Lao Holding State Enterprise on May 13, 2008
- Signed Tariff MOU with EGAT on March 11, 2010
- **Negotiating PPA with EGAT & CA with GOL**

### Shareholders' Structure



# Projects under Development

## Xe Pian - Xe Namnoy Project

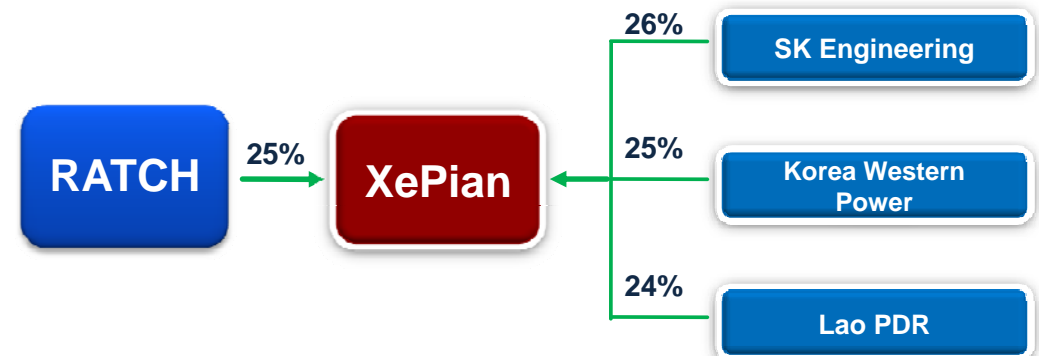
### Projects Summary

Location :	Lao PDR
Technology :	Hydro Power Plant
Total Capacity :	390 MW.
Contributed capacity to RATCH:	97.5 MW. (25%)
PPA :	n.a.
IOD :	n.a.
COD :	In 2017
Project Cost :	USD 830 Million
Debt to Equity :	70:30 times
Lender :	n.a.
Investment Amount (for RATCH) :	USD 63 Million

### Project Progress

- Joint Development Agreement signed with SK Engineering & Construction and Korean Western Power on August 6, 2007
- Project Development Agreement signed with the government of Lao PDR on November 14, 2008
- **Tariff MOU endorsed by Energy Policy and Planning Office (EPPO)**

### Shareholders' Structure





# Projects under Development

## Nam Bak Project

### Projects Summary

Location :	Lao PDR
Technology :	Hydro Power Plant
Total Capacity :	160 MW.
Contributed capacity to RATCH:	40 MW. (25%)
PPA :	n.a.
IOD :	n.a.
COD :	In 2017
Project Cost :	n.a.
Debt to Equity :	70:30 times
Lender :	n.a.
Investment Amount (for RATCH) :	n.a.

### Project Progress

- Tariff proposal sent to EGAT



# RATCHGEN Generation Information: *Dispatch Factor*



	Q1/2010		2009		2008		2007		2006	
	DF.	EAF	DF.	EAF	DF.	EAF	DF.	EAF	DF.	EAF
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
TP#1	44.65	85.98	48.82	86.03	51.36	99.41	62.05	80.99	75.79	90.34
TP#2	7.96	100.00	52.33	87.38	52.12	90.40	64.18	81.83	76.10	98.52
CCGT #1	72.33	98.52	76.69	81.04	74.12	88.95	81.62	85.88	75.85	80.11
CCGT #2	74.72	97.27	80.34	90.84	80.31	93.44	79.76	80.15	86.08	94.80
CCGT #3	77.11	88.88	61.24	90.53	70.55	78.47	84.55	91.42	79.13	90.86

# RATCHGEN Generation Information: *By Type of Power Plant*



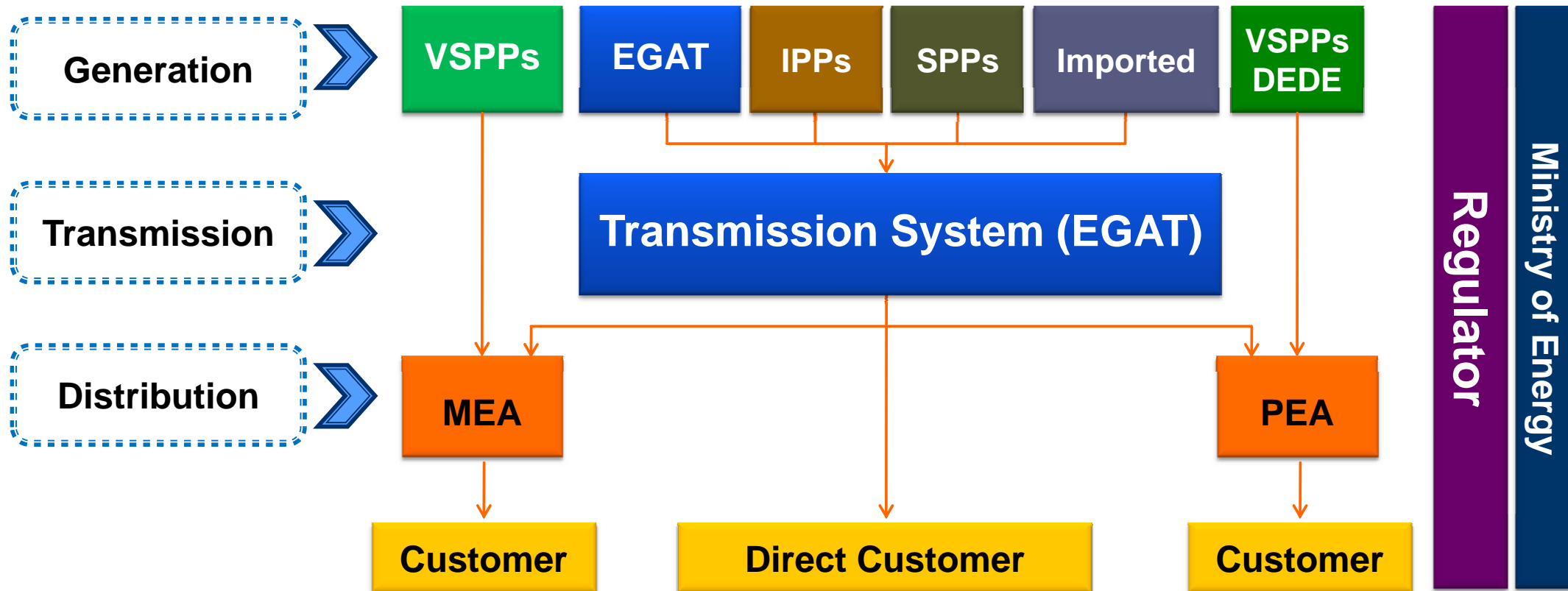
	Q1/2010	2009	2008	2007	2006
<b>Total Net Generation (GWh)</b>	<b>3,799.47</b>	<b>12,324.21</b>	<b>16,468.39</b>	<b>19,841.64</b>	<b>23,585.21</b>
<b>Net Generation (TP#1-2) (GWh)</b>	<b>728.12</b>	<b>1,787.77</b>	<b>3,465.10</b>	<b>6,329.18</b>	<b>9,166.72</b>
- By Gas	557.41	1,631.84	3,094.53	5,789.47	8,688.97
- By Oil	170.71	155.93	370.57	539.71	477.75
<b>Net Generation (CCGT#1-3) (GWh)</b>	<b>3,071.35</b>	<b>10,536.44</b>	<b>13,003.29</b>	<b>13,512.46</b>	<b>14,418.49</b>
- By Gas	3,049.09	10,536.44	12,976.22	13,512.46	14,413.21
- By Oil	22.26	-	27.07	-	5.28

# RATCHGEN Generation Information: *Fuel*



		Q1/2009	2009	2008	2007	2006
<b>Fuel Consumption (TH#1-2)</b>						
- Gas	Million MMBTU	5.71	16.45	31.34	56.53	83.16
- Heavy Oil	Million Liters	39.85	38.18	92.07	131.89	115.59
<b>Fuel Consumption (CCGT#1-3)</b>						
- Gas	Million MMBTU	21.90	76.02	93.94	96.70	102.36
- Diesel	Million Liters	4.96	0.48	6.39	0.96	1.65
<b>Gas Price (Average) Baht/MMBTU</b>		<b>227.57</b>	<b>240.88</b>	<b>224.78</b>	<b>198.07</b>	<b>195.29</b>
<b>Heavy Oil Price (Average) Baht/Liters</b>		<b>16.58</b>	<b>16.09</b>	<b>17.82</b>	<b>14.22</b>	<b>13.53</b>

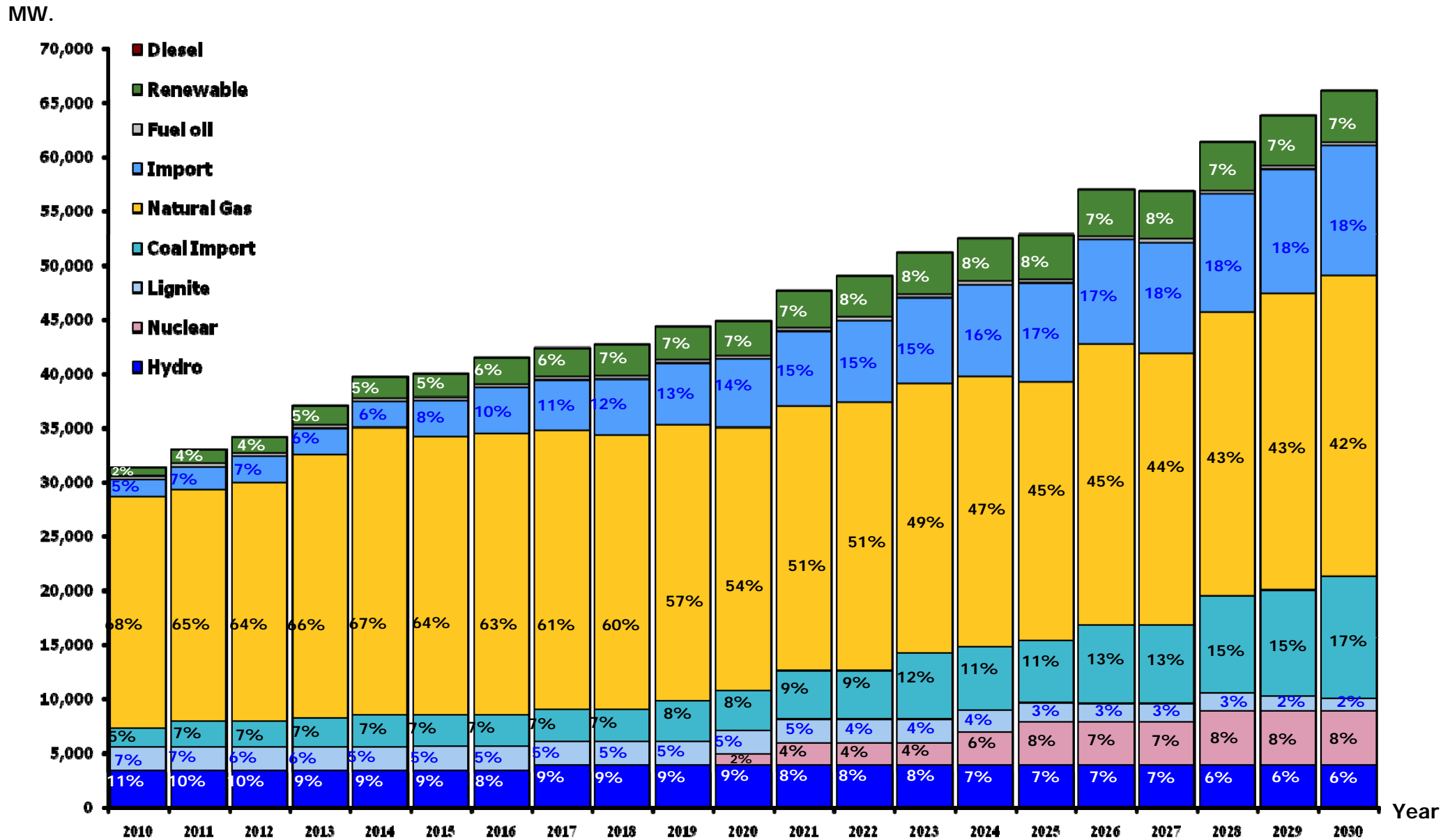
# Thailand Electricity Market Structure



- EGAT : Electricity Generating Authority of Thailand
- PEA : Provincial Electricity Authority
- MEA : Metropolitan Electricity Authority
- IPPs : Independent Power Producer
- SPPs : Small Power Producer
- VSPPs : Very Small Power Producer
- DEDE : Department of Alternative Energy Development and Efficiency

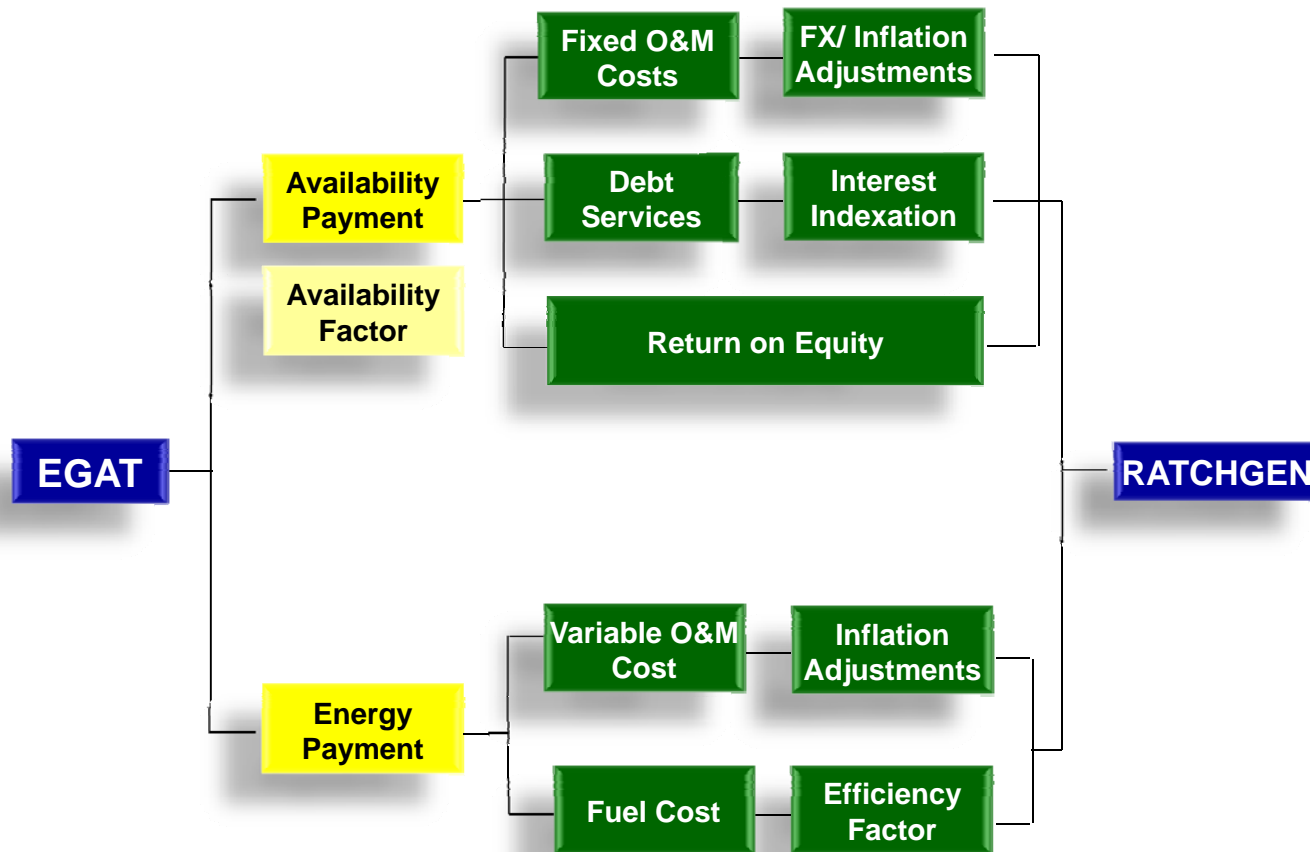
Source: EPPO

# PDP 2010 : Electricity Capacity by Type of fuel



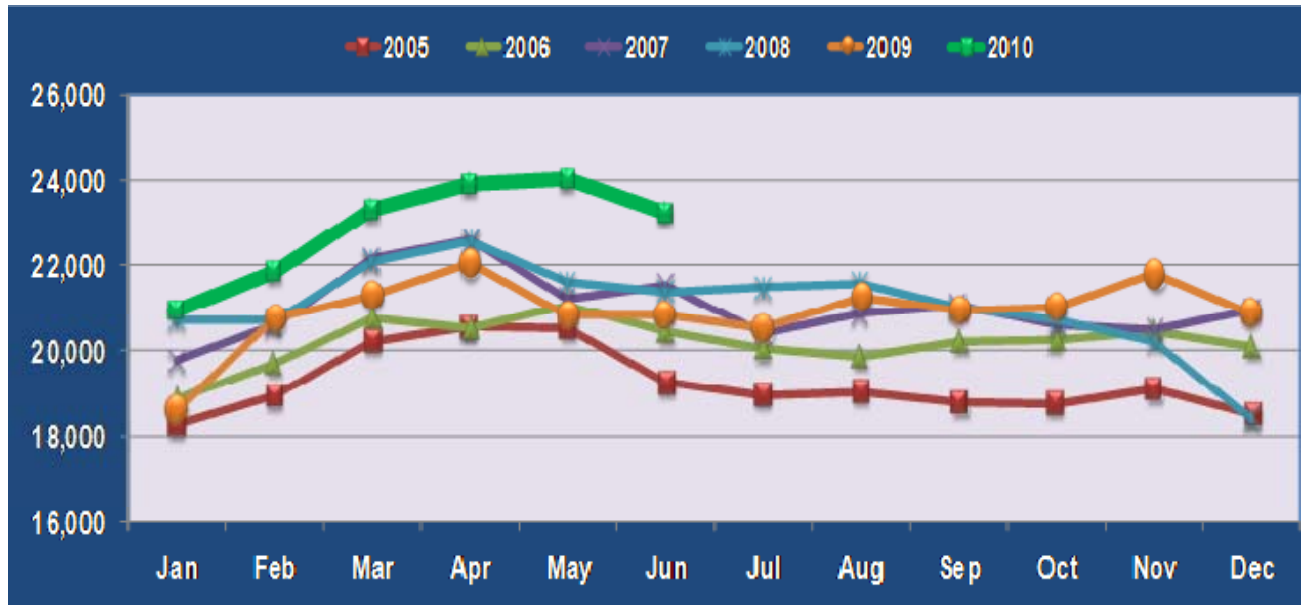
# Power Purchase Agreement (PPA)

## RATCHGEN: PPA Tariff Structure



- Thermal Units and Combined Cycle Units have separate 25 year PPAs.
- Tariff is designed to cover all operating and financing costs and yield IRR of 19%.
- Revenues are from Availability Payments (“AP”) and Energy Payments (“EP”).
- AP (Baht/MW/month) - includes fixed operation and maintenance expenses, debt servicing, and return on equity.
- AP is payable irrespective of whether electricity is dispatched or not as long as plants are available as agreed capacity.
- EP (Baht/MWh) - includes fuel costs and variable operation and maintenance costs with inflation indexation and pass through mechanism.

# Monthly Peak Generation

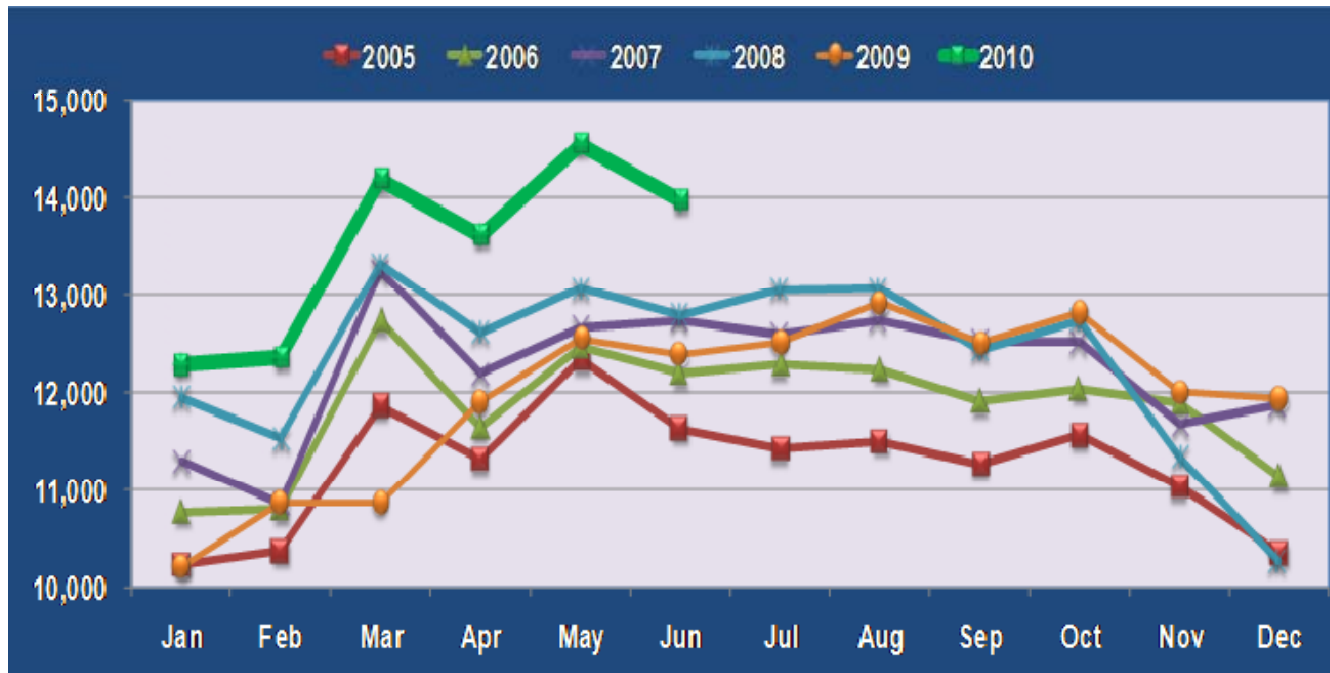


Year	Peak Generation		
	MW.	Increase (Decrease )	
		MW.	%
2010	24,010	1,965	8.91
2009	22,045	(523)	(2.32)
2008	22,568	(18)	(0.08)
2007	22,586	1,522	7.23
2006	21,064	526	2.56
2005	20,538	1,212	6.27

- In 2009, the highest peak generation was 22,045 MW on April -2.32% decrease yoy.
- In 2010 (1<sup>st</sup> Half), the highest peak generation was 24,010 MW on May 8.91% increase yoy.



# Monthly Energy Generation



Year	Energy Generation		
	MW.	Increase (Decrease )	
		MW.	%
2010 (1 <sup>st</sup> Half)	80,942	12,174	17.70
2009 (1 <sup>st</sup> Half)	68,768		
2009	143,456	(4,980)	(3.35)
2008	148,436	1,552	1.06
2007	146,884	4,797	3.38
2006	142,088	7,234	5.36
2005	134,854	7,364	5.78

- In 2009, average monthly energy generation growth was -3.35%
- In 2010, average monthly energy generation growth was 17.70%



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