

# Ratchaburi Electricity Generating Holding PLC

Announcement no. 873

9 May 2012

**Company Rating:** AA

**Outlook:** Stable

**New Issue Rating:** -

**Rating History:**

Date	Company	Issue (Secured/ Unsecured)
09/02/11	AA/Sta	-
15/06/05	AA-/Sta	-
12/07/04	A+/Sta	-
26/06/03	A+	-

**Rating Rationale**

TRIS Rating affirms the company rating of Ratchaburi Electricity Generating Holding PLC (RATCH) at “AA”. The rating reflects the company’s leading position as the largest group of private power producers in Thailand, the sizable and reliable stream of dividends received from its power projects, the strong relationship with the Electricity Generating Authority of Thailand (EGAT). The rating also takes into consideration the company’s diversified portfolio of power plants and its investment plan to develop power and power-related projects in Thailand and other countries. Nevertheless, these strengths are constrained by the company’s increasing use of leverage and the risks arising from its overseas investments.

RATCH is a power holding company, established in 2000 to purchase the Ratchaburi power plant from EGAT. The company was listed on the Stock Exchange of Thailand (SET) in 2000. As of March 2012, EGAT continued to be RATCH’s major shareholder with a 45% stake. RATCH’s power portfolio consisted of 21 power projects with an aggregate power generating capacity of 11,262 megawatts (MW) of which 6,644 MW contributed to RATCH. Ten projects (5,314 MW) are in operation while 11 projects (1,330 MW) are under construction or development. For operating power capacity; 85% of generating capacity is connected with Thai’s power grid, 14% is in Australia and 1% is in Lao PDR. RATCH’s power generating capacity of 4,509 MW in Thailand represents 14% of total installed power generating capacity of the country, making the company the largest privately owned power generator in Thailand. All projects connected with Thai’s power grid hold power purchase agreements (PPAs) with EGAT and the Provincial Electricity Authority (PEA).

In 2011, RATCH diversified into the Australian power market after it acquired a 56.16% stake in Transfield Services Infrastructure Fund (TSIF) with the investment of AU\$203 million. TSIF was delisted and renamed RATCH-Australia Corporation Limited (RAC). Currently, RATCH increased its interest to 68.1% of RAC and plans to hold an 80% stake in RAC within July 2012. RAC’s aggregate power generating capacity is 1,126 MW. By virtue of its 68.1% stake, RATCH’s share of RAC’s capacity was 766 MW as of March 2012. Although RAC’s revenue is mostly secured by the PPAs, RATCH continues to expose to some business risk due to the unfamiliar competitive environment in Australia.

During the last five years, RATCH’s earnings before interest, tax, depreciation, and amortization (EBITDA) averaged Bt10,000 million per year. RATCH’s reliance on dividend contribution from Ratchaburi Electricity Generating Co., Ltd. (RATCHGEN) has been decreasing from 100% to 85% of total dividend income. In 2011, RATCH received dividend income of Bt5,239 million from its power investments. RATCHGEN remained the major dividend contributor, providing 85% of RATCH’s dividend income. The remaining 15% was from dividend received from Tri Energy Co., Ltd. (TECO), Ratchaburi Power Co., Ltd. (RPCL), and Chubu Ratchaburi Electric Services Co., Ltd. (CRESCO).

The company’s financial profile is sound. Its capital structure weakened after the acquisition of RAC in 2011, as RAC has high leverage and debt funding for this transaction. The debt to capitalization ratio increased from 26.5% in 2010 to 44.3% in 2011. The company’s capital expenditures during 2012-2016 will be approximately Bt27,000 million. With the EBITDA of approximately Bt10,000 million per year, along with cash on hand and short-term investments totaling

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Bt13,710 million as of December 2011, the company has the ability to fund most of its capital expenditures with its operating cash flow. However, the company may need external financing for any big acquisitions or investments beyond existing portfolio.

### Rating Outlook

The “stable” outlook reflects the expectation that RATCH will receive a reliable income stream from the good quality power projects in its portfolio, owing to the reliable PPAs with EGAT. The company is expected to maintain its strong capital structure when pursuing its growth strategy and making future investments.

## Ratchaburi Electricity Generating Holding PLC (RATCH)

Company Rating:

AA

Rating Outlook:

Stable

### KEY RATING CONSIDERATIONS

#### Strengths/Opportunities

- Reliable income from long-term PPAs with EGAT
- Long track record in the power industry
- Strong relationship with EGAT
- Solid balance sheet

#### Weaknesses/Threats

- Highly dependent on RATCHGEN
- Risks associated with the overseas investments

### CORPORATE OVERVIEW

RATCH was established and listed on SET in 2000, in order to purchase the Ratchaburi power plant from EGAT. As of March 2012, EGAT continued to be RATCH’s major shareholder with a 45% stake. For RATCH’s power plants that are connected with the Thai power grid, EGAT is the sole purchaser of power under the PPAs. In addition, EGAT has operated the Ratchaburi power plant, a major power plant in RATCH’s portfolio, under an operation and maintenance agreement (OMA).

RATCH is the largest private power producer in Thailand. As of March 2012, RATCH’s power plant portfolio had a total installed capacity of 4,509 MW, representing 14% of the installed generating capacity in Thailand. Under Independent Power Producer (IPP) scheme, RATCH’s IPP power plants of 4,345 MW accounted for 36% of the capacity of all IPPs. In addition to IPP projects in Thailand, RATCH also invests in IPP projects in Lao PDR. In 2011, RATCH entered the Australian power market by holding 56.16% interest in TSIF. As of March 2012, RATCH’s power portfolio consisted of 21 power projects with an aggregate

power generating capacity of 11,262 MW, of which 6,644 MW were contributed to RATCH.

**Table 1: RATCH’s Projects in Operation as of Mar 2012**

Project Name	100% Capacity (MW)	Holding (%)	RATCH Capacity (MW)	Equity Investment (Bt Mil.)
1. RATCHGEN	3,645.0	99.99	3,645.0	18,275
2. TECO	700.0	50	350.0	1,809
3. RPCL	1,400.0	25	350.0	1,831
4. NN2	615.0	25	153.8	2,202
5. PTO-A	2.6	100	2.6	95
6. Solarta	3.1	49	1.5	49
7. SOT-A	3.6	100	3.6	187
8. Korat 3	6	40	2.4	65
<b>Total connects to Thai power grid</b>	<b>6,375.3</b>		<b>4,508.9</b>	<b>24,513</b>
9. EDL-Gen	387.0	10	38.7	1,456
10. RAC	1,125.6	68.1	766.6	7,875
<b>Grand Total</b>	<b>7,887.9</b>		<b>5,314.2</b>	<b>33,844</b>

Source: RATCH

For RATCH’s power operating capacity, 82% of generating capacity is located in Thailand, 14% in Australia and 3% in Lao PDR. For the projects under development and construction phases, it comprises two hydro power plants (208 MW) and a lignite-fired power plant (751 MW) in Lao PDR, plus two small power producer (SPP) co-generation projects (139 MW) and six renewable power projects (99 MW) in Thailand.

**Table 2: RATCH's Projects Under Construction and Development as of Mar 2012**

Project	100% Capacity (MW)	Holding (%)	RATCH Capacity (MW)	Fuel Type
1. Hongsa	1,878	40	751	Lignite
2. Nam Ngum 3	440	25	110	Hydro
3. Xe-Pian Xe-Namnoy	390	25	98	Hydro
4. RW Cogen	224	40	90	Gas
5. NNEG	122	40	49	Gas
6. Solarta	31	49	15	Solar
7. Khao Kor	60	55	33	Wind
8. Huay Bong 2	104	20	21	Wind
9. Huay Bong 3	104	20	21	Wind
10. Solar Power (Korat 4, 7)	12	40	5	Solar
11. Songkhla Biomass	10	40	4	Biomass
<b>Total</b>	<b>3,375</b>		<b>1,196</b>	

Source: RATCH

## RECENT DEVELOPMENTS

### ▪ *Nam Ngum 2 project started up in March 2011*

Nam Ngum 2 project (NN2), a hydroelectric power project in Lao PDR, started the initial operation on 26 March 2011. NN2 has an installed capacity of 615 MW. RATCH has a 25% stake in this project. The project holds a PPA with EGAT, spanning for 27 years including the initial operation date (IOD) period. The project is expected to supply approximately 2,218 gigawatt-hour (GWh) per annum to the Thai power grid. The total investment cost of this project is approximately Bt30,800 million. RATCH-LAO Services Co., Ltd., a subsidiary of RATCH, provides services to the project under an Operation and Maintenance Agreement (O&M) during the concession period. The services have been subcontracted to EGAT under an O&M subcontract agreement.

### ▪ *Entered Australian power market*

On 5 July 2011, RATCH acquired a 56.16% stake in TSIF, an infrastructure fund listed on the Australian Securities Exchange (ASX). After completing the transaction, TSIF was renamed RATCH-Australian Corporation Limited (RAC). The transaction was worth AU\$203 million (approximately Bt6,575 million) and financed by debentures worth JPY15,000 million (Bt6,200 million) issued in August 2011. RAC's power project portfolio totals 1,126 MW, comprising three gas-fired

power plants (569 MW), two coal-fired power plants (489 MW), three wind farms (68 MW). RATCH will increase its stake in RAC to 80% within July 2012.

### ▪ *Established new project company in Lao PDR*

In March 2012, the Xe-Pian Xe-Namnoy Power Co., Ltd. was established in Lao PDR to implement and develop the Xe-Pian Xe-Namnoy Hydroelectric Power Project. The project company is owned by RATCH (25%), SK Engineering and Construction (26%), Korea Western Power (25%) and Lao Holding State Enterprise (LHSE) (24%). The project has a capacity of 390 MW, with estimated project cost of US\$830 million. The project is expected to start up within 2018. Currently, the project is negotiating for the PPA and Concession Agreement (CA), after having signed a memorandum of understanding (MOU) with EGAT in 2010 regarding the electricity tariff.

### ▪ *Investing in renewable energy*

During 2011-2012, RATCH has been involved in many renewable power projects, such as wind turbine power, solar power, and bio-mass fired plants. As of March 2012, RATCH's portfolio for renewable energy had a total capacity of 329.1 MW, of which 102.4 MW were contributed to RATCH (accounted for 1.5% of RATCH's portfolio).

**Table 3: RATCH's Renewable Power Projects as of Mar 2012**

Project	Plant Type	100% Capacity (MW)	Holding (%)	RATCH's share of Capacity (MW)	Equity Investment (Bt Mil.)
<b>In Operation</b>					
1. Solarta	Solar	3.1	49	1.5	49
2. Solar Power (Korat 3)	Solar	6.0	40	2.4	65
<b>Total</b>		<b>9.1</b>		<b>3.9</b>	<b>114</b>
<b>Under Construction &amp; Development</b>					
3. Solarta	Solar	31.2	49	15.3	490
4. Solar Power (Korat 4, 7)	Solar	12.0	40	4.8	130
5. Khao Kor	Wind	60.0	55	33.1	627
6. Huay Bong2	Wind	103.5	20	20.7	370
7. Huay Bong3	Wind	103.5	20	20.7	400
8. Songkhla Biomass	Biomass	9.9	40	3.9	84
<b>Total</b>		<b>320.1</b>		<b>98.5</b>	<b>2,101</b>
<b>Grand Total</b>		<b>329.1</b>		<b>102.4</b>	<b>2,215</b>

Source: RATCH

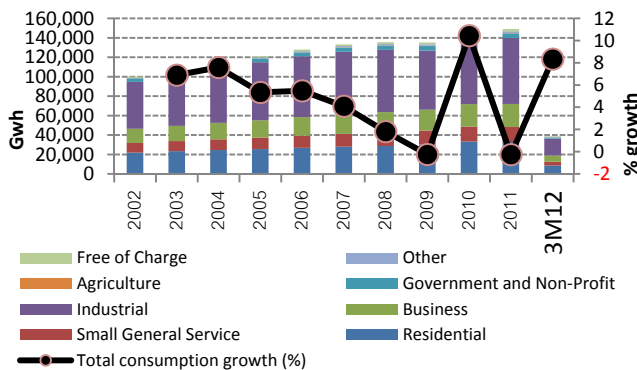
RATCH's renewable portfolio comprises 74.5 MW of wind turbine power plant (73% of renewable portfolio), 24.0 MW of solar power plant (23% of renewable portfolio), and 4 MW of biomass power plant (4% of renewable portfolio). Currently, only two projects (3.9 MW) of renewable power are in operation. The rest projects are expected to be completed and start-up within 2014.

**INDUSTRY ANALYSIS**

▪ **Electricity consumption in 2011 fell due to natural disasters**

Electricity consumption in Thailand in 2011 dropped slightly, falling by 0.26% from a year earlier. Electricity consumption declined just a year after a significant surge in 2010 when consumption accelerated by 10.5%. In contrast to 2010, electricity consumption in 2011 was less due to various factors, including the devastating tsunami in Japan that affected the large portion of the automobile supply chains of Japanese automakers, including those firms located in Thailand. Many automobile assembly and production lines were forced to halt and wait for essential electronic parts that were produced by Japanese firms. After tsunami in March 2011, electricity consumption in Thailand dropped each month, from March to May.

**Chart 1: Electricity Consumption, Growth Rate, and Real GDP Growth**



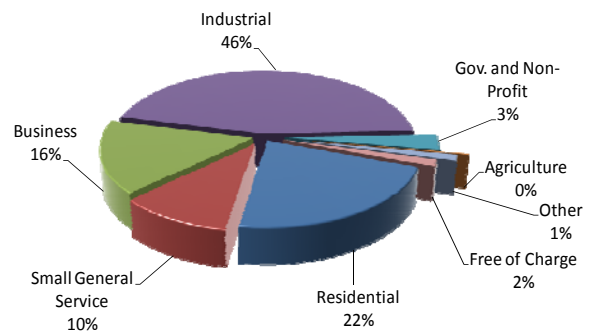
Sources: 1) National Economic and Social Development Board (NESDB)  
2) Energy Policy and Planning Office (EPPO)

After electricity demand rebounded and the growth rate climbed between June and September 2011, an unexpected unfortunate event occurred in Thailand in the last quarter. Severe floods affected a large part of the

northern and central regions including several major industrial estates, plus other parts of the northern and western areas in and around Bangkok. Since most inundated areas had been affected for more than three months, major economic activities ceased between September and December 2011. Electricity consumption shrank year on year (y-o-y) by an average of 3.1% per month.

The industrial sector has been the largest power consumer, taking 46% of total power consumption in 2011. Other power customers are residential (22%), business (16%), small general services companies (10%), and others. The amount of electricity sold to most consumers declined in 2011, except for business customers which showed a small amount of growth.

**Chart 2: Consumption of Electricity by Sector in 2011**



Source: EPPO

▪ **Lower temperatures in 2011 cut electricity consumption**

Contrary to 2010, temperatures in 2011 were relatively cooler. The average temperature in Thailand dropped drastically after tsunami in Japan in March 2011. Demand, which generally peaks in May, dropped slightly to 24,518 GWh in May 2011. Factors which determine peak demand include the average temperature during the year and economic conditions. According to the Power Development Plan (PDP) 2010, peak demand over the next five years (2012-2016) is forecasted to grow approximately 4.4% annually.

Despite the severe floods in the last quarter of 2011, the Thai economy is projected to grow favorably in 2012, rising by 5.5% to 6.5%. This growth rate is much higher than the 0.1% growth shown in 2011, according to the National Economic and Social Development Board

(NESDB). Economic growth in 2012 will be supported by more total investment, which is projected to grow by 12.3%, and total consumption, which will rise by 4.4%.

▪ **PDP is waiting for new revision**

The new version of the power development plan is under review. It is expected to be published in the second half of 2012. The latest version is still the PDP2010, which was approved by the Cabinet on 12 March 2010. The existing PDP2010 lays out power development guidelines from 2010 to 2030. By 2030, the sources of energy used in Thailand will be more diversified according to the sources of fuel. Power generated from natural gas will fall from 66.7% of Thailand’s total power needs by the end of 2011 to 39% by 2030. Coal and lignite will increase from 19.5% to 23% during the same period. Imported power is projected to increase from 6.6% to about 19% of total power supply by 2030.

▪ **Imported power has increasing role**

The government started the privatization plan for the electricity generating sector in 1992 by encouraging private companies to produce and sell electricity to EGAT. The SPP scheme was introduced in 1992, followed by the IPP scheme in 1994. Both IPPs and SPPs have 20- to 25-year PPAs with EGAT. The PPAs are designed to mitigate the market risk of the generators, leaving mainly operating risk to be managed. Private producers under the IPP scheme are obligated to sell all their electricity output to EGAT, while private power producers under the SPP scheme can sell electricity to EGAT and/or to industrial users.

As of March 2012, Thailand had a combined installed electricity generating capacity of 31,439 MW. EGAT accounted for 48% of the total, followed by IPPs (38%), SPPs (7%), and power imported from Lao PDR and Malaysia (7%). The proportion of imported power has increased recently, mainly from new generating capacities of power plants in Lao PDR. According to PDP2010, the share of EGAT’s electricity generating capacity will gradually decline, while SPPs and imported power will take larger shares.

**BUSINESS ANALYSIS**

RATCH’s business profile is based on its leading position as the largest owner of private power plants in

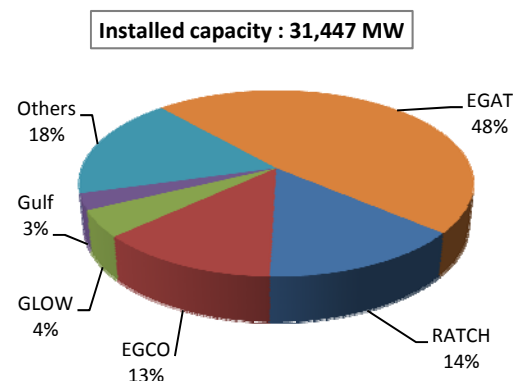
Thailand. RATCH’s investments in good quality assets and projects have yielded a sizable and reliable stream of dividend income. The expansion into Australia’s power market provides the company with growth potential as well as market and execution risks.

▪ **The largest owner of private power projects in Thailand**

As of March 2012, the company’s power portfolio consisted of 21 power projects. RATCH’s portion of the aggregate power generating capacity equaled to 6,644 MW. Ten projects (5,314 MW) are in operation, eleven projects (1,196 MW) are in the construction or development phase, and 134 MW will be added after rising stake in RAC. Among projects in operating phases, 4,509 MW are connected to the Thai power grid, constituting approximately 14% of the installed power generating capacity in Thailand, making RATCH the largest private power generator in Thailand. All projects in Thailand and in Lao PDR have long-term PPAs with EGAT and PEA.

Out of the company’s operating capacity of 5,314 MW, 82% is from IPP Projects in Thailand, 14% from Australia and 3% from Lao PDR. The eleven projects (1,196 MW) under construction and development comprise two hydro power plants (208 MW) and a lignite-fired power plant (751 MW) in Lao PDR, while the remaining projects are SPP co-generation plants (139 MW) and renewable power projects (99 MW) in Thailand. RATCH’s portion of generating capacity is expected to be 6,644 MW by 2018. This level should sustain the company’s leading position in the power industry in Thailand.

**Chart 3: Thailand’s Installed Electricity Capacity as of Dec 2011**



Sources: Companies’ websites and TRIS Rating’s estimates

▪ **Reliable dividends from RATCHGEN**

RATCH's cash flow remains dependent on dividend income from RATCHGEN, though this dependency is decreasing. However, this income source is relatively stable as a result of RATCHGEN's well-designed project structures, state-of-the-art power plants, and long-term PPA with EGAT.

RATCHGEN has 25-year PPAs with EGAT that are well structured to protect RATCHGEN from fluctuations in power demand and supply. The pay-if-available payment structure of the PPAs provides a stable flow of cash to RATCHGEN, while the revenue adjustment mechanism limits foreign exchange rate risk and inflation risk. Fuel price risk is limited through the structure of the energy payments specified in the PPAs, and through a 25-year gas sale agreement (GSA) with PTT PLC. EGAT has an obligation to take a minimum level of gas under the take-or-pay master gas sale agreement (MGSA).

Technology and operating risks are mitigated by the OMA with EGAT. With over 30 years of operating experience, EGAT has developed a strong reputation for running its power plants efficiently. EGAT has a long-term contract to operate and maintain RATCHGEN's entire plant on a daily basis. The Contractual Service Agreement (CSA) is a supply contract with General Electric International Operation Co., Inc. and GE Energy Parts, Inc. (GE) for major gas turbine parts. The CSA helps minimize operational risk as it mitigates price risk and major parts availability risk.

RATCHGEN's operations have been satisfactory. In 2011, the equivalent availability factor (EAF) of the thermal units was 87.8%, higher than the PPA target of 85.0%. The combined cycle units also outperformed the targets specified in the PPA. The EAF of 90.1% was better than the PPA target of 85.7%.

▪ **TECO underperformed PPA targets**

TECO is a 700 MW gas-fired combined cycle IPP located in Ratchaburi province. Its shareholders comprise Ratchaburi Gas Co., Ltd. (50%), which is RATCH's wholly-owned subsidiary, and Chevron Thailand Energy Company One (50%). The plant location, approximately 10 kilometers (kms.) from RATCHGEN's power plant, benefits both plants through cooperation between RATCHGEN and TECO. TECO commenced commercial operations in July 2000 under a 20-year PPA with EGAT. In 2011, TECO underperformed the PPA target. The plant's EAF of 82.4%

was lower than 86.6% targeted in PPA due to an unexpected forced outage in August 2011. As a result, TECO's revenue fell below budget. However the drop in revenue will be offset by the penalty fee assessed against GE, an O&M services provider for this plant. In terms of fuel efficiency, TECO's net plant heat rate of 7,250 BTU/kWh was in line with the target of 7,208 BTU/kWh for 2011.

▪ **RPCL's operations match the target**

RATCH holds a 25% stake in RPCL, with an investment cost of Bt1,831 million as of December 2011. RPCL, a two-block combined cycle power plant using turbine technology from Mitsubishi Heavy Industries Ltd. (MHI), has a total generating capacity of 1,400 MW. The plant commenced commercial operations in March 2008 for Block 1 and in June 2008 for Block 2, under a 25-year PPA with EGAT. Operations at RPCL are smooth and RPCL has generated a net profit since the first year of its operation. RPCL announced the first dividend payment in 2010. In 2011, the company paid a dividend of Bt2,300 million, of which Bt575 million was paid to RATCH. In 2011, the plant's EAF of 91.6% was slightly lower than the target of 93.6%, while the net heat rate of 7,096 BTU/kWh was in line with the target.

▪ **NN2 recorded a net profit in the first year of operation**

NN2, which is hold a 25% stake by RATCH, recorded a revenue and net profit of Bt3,913 million and Bt1,259 million, respectively, for an eight-month operation in 2011. The higher revenue than target reflected an exceptional water inflow into the reservoir resulting from heavy rain fall in 2011. Looking forwards, NN2 is expected to generate revenue of approximately Bt4,000 million per annum during 2012-2018. This project is expected to contribute approximately Bt150-Bt200 million in dividend per annum to RATCH. As a hydroelectric power plant, there is no fuel cost in the NN2's cost structure. Electricity generated from hydropower like NN2 is quite competitive compared with other types of power plant, as it offers a lower electricity tariff. In addition, its gross margin is relatively high compared with combined cycle gas turbine (CCGT) and thermal power plant.

▪ **Greater contribution from power plants in Lao PDR**

RATCH's has four power projects in Lao PDR with a combined capacity of 1,113 MW. All projects will sell electricity to Thailand under long-term PPAs with EGAT. Other than NN2, RATCH has invested in three other projects in Lao PDR: the Hongsa, Nam Ngum 3, and Xe-Pian Xe-Namnoy projects. All are in the construction or development phases. These projects will add 959 MW of capacity to RATCH between 2015 and 2018.

**Table 4: RATCH's Project in Lao PDR**

Project Name	100% Capacity (MW)	Holding (%)	RATCH's Share of Capacity (MW)	Expected COD
<b>Hydro</b>				
1. Nam Ngum 2	615	25	154	Jan11 (IOD) Jan13 (COD)
2. Nam Ngum 3	440	25	110	2017
3. Xe-Pian Xe-Namnoy	390	25	98	2018
<b>Lignite-Fired</b>				
5. Hongsa	1,878	40	751	2015
<b>Total</b>	<b>3,323</b>	-	<b>1,113</b>	

Source: RATCH

RATCH's investments are focused in Lao PDR due to its great potential to generate power for the region. According to the PDP of Lao PDR, prepared by Electricite du Laos (EDL) and covering 2010-2020, the total generating capacity in Lao PDR is expected to increase from 1,917 MW in 2010 to 24,022 MW by 2020. Eighty five percent of total capacity will be for export. The government of Lao PDR signed MOUs with neighboring governments to supply electric power, with a target to supply 7,000 MW to Thailand and 5,000 MW to Vietnam by 2020.

▪ **Diversifying operating base into Australia**

RATCH has diversified into Australia after acquiring RAC in 2011. RATCH spent AU\$203.03 million to acquire 56.16% of RAC in July 2011. The company plans to increase its interest to 80% within July 2012, with total investment of AU\$289.23 million. About 45% or AU\$130.25 million was injected as equity, while the rest (AU\$158.98 million) was provided as a shareholder's loan note. RAC owns eight power plants, contributing a capacity of 1,126 MW across Australia, of which six are wholly-owned and other two power plants are partly-owned. Approximately 80% of

power capacity in portfolio is secured by PPAs with major customers. There are two projects exposed to the market risk (20% of RAC's capacity). The Starfish Hill (wind turbine) does not hold PPA and sells electricity directly to the Australian power market. A Loy Yang A plant is 40% secured by PPA, while the rest is sold through the Australian power market. The returns from this investment will come as both dividends and interest received.

**Table 5: RAC's Portfolio**

Plant	Capacity (MW)	Holding (%)	RAC Capacity (MW)	Fuel	PPA Expiry
Townsville	234	100	234	Gas	2025
Kemerton	300	100	300	Gas	2030
Kwinana	118	30	35	Gas	2021
Collinsville	180	100	180	Coal	2016
Loy Yang A	2,200	14	309	Coal	2036
Starfish Hill	34	100	34	Wind	n.a.
Toora	21	100	21	Wind	2012
Windy Hill	12	100	12	Wind	2015
<b>Total</b>	<b>3,099</b>		<b>1,126</b>		

Source: RATCH

**FINANCIAL ANALYSIS**

RATCH's financial position has weakened. The company's leverage has increased due to the acquisition of RAC in 2011. With reliable and sizable stream of dividends received from RATCHGEN and other IPPs, this income plus its cash on hand are considered sufficient to fund the existing projects in the pipeline. External funding may be needed for any sizable acquisitions.

▪ **Current operating assets contributed reliable income streams**

With a clear policy to pay out 100% of net profit after the debt service reserve requirements, RATCHGEN provided dividend income of Bt4,498 million in 2011 to RATCH. Dividends from RATCHGEN are expected to be in the range of Bt3,000-Bt4,000 million per year for the next three years.

TECO and RPCL are other sources of RATCH's dividend income. In 2011, TECO announced a dividend payment of Bt293 million, of which Bt146 million went to RATCH. The dividend income from TECO is expected to decrease in the future as structured in the PPA. In 2011, RPCL reported a

net profit of Bt2,496 million and announced a dividend payment of Bt2,300 million, of which Bt575 million went to RATCH. RATCH expects to receive annual dividends of Bt400-Bt500 million from the RPCL investment.

NN2 recorded a profit of Bt1,263 million for 2011 after it started initial operation in March 2011. NN2 will be another reliable source of incomes to RATCH. The dividends from this project are expected to amount to Bt150-Bt200 million per annum, starting in 2013.

▪ **More contribution from new investments**

On a consolidated basis, RATCH's sales increased by 3% (y-o-y) to Bt43,457 million, despite lower energy payment (EP) revenues from RATCHGEN. The rise was mainly due to the consolidation of RAC to the financial statements of RATCH. RATCH's operating profit before depreciation and amortization improved from 18.6% in 2010 to 21.9% in 2011. RATCH's EBITDA increased by 19% over the last year to Bt11,773 million. RATCH's equity income from associates decreased by 8% over the last year to Bt1,333 million in 2011s due to lower contribution from both TECO and RPCL. Equity income accounted for about 11% of EBITDA in 2011. However, due to the highly leveraged structure of RAC and the higher interest rate charged to RAC, RATCH's interest expenses increased significantly and its net profit decreased by 7% to Bt4,841 million in 2011.

▪ **Leverage increased due to acquisition**

Despite a drop in leverage at RATCHGEN, RATCH's total debt increased significantly in 2011 due to the acquisition of RAC. The company issued JPY15,000 million (or approximately Bt6,200 million) in new debentures to finance the acquisition of 56.16% of RAC. In addition, RAC had higher leverage balance sheet than RATCH, which deteriorated RATCH's financial profile after consolidation. As of December 2011, RATCH's total debt was Bt38,662 million, of which Bt14,456 was debt of RAC. As a result, the total debt to capitalization ratio increased to 44.3% at the end of December 2011, from 26.5% at the end of December 2010. The EBITDA interest coverage ratio decreased to 6.8 times in 2011, down from 14.6 times in 2010.

▪ **Sufficient cash flow to fund projects under development**

RATCH's capital expenditures during 2012-2016 are set at Bt27,000 million in total. RATCH generally generates a fund from operation (FFO) of Bt6,500-Bt7,500 million per year from its existing investments. RATCH had cash on hand and short-term investments totaling Bt13,710 million as of December 2011. With this level of fund, most of its capital expenditures will be financed by operating cash flow. However, the company may need external financing for any big acquisitions or investments beyond the existing portfolio.

RATCH's Power Generation Portfolio\*

	----- Year Ended 31 December -----					
	2011	2010	2009	2008	2007	2006
<b>Electricity Generation Capacity (MW)</b>						
<b>RATCH Portion</b>						
RATCHGEN**	3,645	3,645	3,645	3,645	3,645	3,645
TECO	350	350	350	350	350	350
RPCL	350	350	350	350	350	350
SEAN	154	154	154	154	154	154
RAC	632	-	-	-	-	-
Total	5,131	4,499	4,499	4,499	4,499	4,499
<b>Investment (cost method)</b>						
RATCHGEN**	18,275	18,275	18,275	18,275	18,275	18,275
TECO	1,809	1,809	1,809	1,809	1,809	1,809
RPCL	1,831	1,831	1,831	1,831	1,342	563
SEAN	2,202	2,143	1,903	1,378	891	325
RAC	4,193	-	-	-	-	-
Total	28,310	24,058	23,818	23,293	22,317	20,972
<b>Investment (equity method)</b>						
RATCHGEN	-	-	-	-	-	-
TECO	4,919	4,676	4,391	4,070	3,654	3,292
RPCL	3,358	3,318	3,086	1,894	1,092	341
SEAN	2,425	2,052	1,833	1,334	862	310
RAC	-	-	-	-	-	-
Total	10,702	10,046	9,310	7,298	5,608	3,943
<b>Dividend received</b>						
RATCHGEN**	4,498	3,550	5,692	4,987	6,617	5,135
TECO	146	332	214	362	460	218
RPCL	575	725	-	-	-	-
SEAN	-	-	-	-	-	-
RAC	-	-	-	-	-	-
Total	5,219	4,607	5,906	5,349	7,077	5,353

\* Consolidated financial statements

\*\* Based on stand-alone financial statements

**Financial Statistics and Key Financial Ratios\***

Unit: Bt million

	----- Year Ended 31 December -----				
	2011	2010	2009	2008	2007
Sales	43,457	42,181	35,351	42,210	43,821
Gross interest expense	1,720	677	861	1,293	1,365
Net income from operations	4,876	5,177	6,740	6,493	5,829
Funds from operations (FFOs)	7,011	6,578	7,860	8,465	7,708
Capital expenditures	193	383	140	263	378
Total assets	95,899	69,582	69,342	69,672	70,301
Total debts	38,662	16,860	19,640	22,831	26,400
Shareholder equity	48,611	46,676	44,524	40,975	37,480
Operating income before depreciation and amortization as % of sales	21.9	18.6	25.4	22.0	18.1
Pretax return on permanent capital (%)	11.0	11.2	13.2	12.5	11.4
Earnings before interest, tax, depreciation and amortization (EBITDA) interest coverage (times)	6.8	14.6	13.1	8.4	7.5
FFOs/total debt (%)	18.1	39.0	40.0	37.1	29.2
Total debt/capitalization (%)	44.3	26.5	30.6	35.8	41.3

\* Consolidated financial statements

## Rating Symbols and Definitions

TRIS Rating uses eight letter rating symbols for announcing medium- and long-term credit ratings. The ratings range from AAA, the highest rating, to D, the lowest rating. The medium- and long-term debt instrument covers the period of time from one year up. The definitions are:

- AAA** The highest rating, indicating a company or a debt instrument with smallest degree of credit risk. The company has extremely strong capacity to pay interest and repay principal on time, and is unlikely to be affected by adverse changes in business, economic or other external conditions.
- AA** The rating indicates a company or a debt instrument with a very low degree of credit risk. The company has very strong capacity to pay interest and repay principal on time, but is somewhat more susceptible to the adverse changes in business, economic, or other external conditions than AAA rating.
- A** The rating indicates a company or a debt instrument with a low credit risk. The company has strong capacity to pay interest and repay principal on time, but is more susceptible to adverse changes in business, economic or other external conditions than debt in higher-rated categories.
- BBB** The rating indicates a company or a debt instrument with moderate credit risk. The company has adequate capacity to pay interest and repay principal on time, but is more vulnerable to adverse changes in business, economic or other external conditions and is more likely to have a weakened capacity to pay interest and repay principal than debt in higher-rated categories.
- BB** The rating indicates a company or a debt instrument with a high credit risk. The company has less than moderate capacity to pay interest and repay principal on time, and can be significantly affected by adverse changes in business, economic or other external conditions, leading to inadequate capacity to pay interest and repay principal.
- B** The rating indicates a company or a debt instrument with a very high credit risk. The company has low capacity to pay interest and repay principal on time. Adverse changes in business, economic or other external conditions could lead to inability or unwillingness to pay interest and repay principal.
- C** The rating indicates a company or a debt instrument with the highest risk of default. The company has a significant inability to pay interest and repay principal on time, and is dependent upon favourable business, economic or other external conditions to meet its obligations.
- D** The rating for a company or a debt instrument for which payment is in default.

The ratings from AA to C may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within a rating category.

TRIS Rating's short-term ratings focus entirely on the likelihood of default and do not focus on recovery in the event of default. Each of TRIS Rating's short-term debt instrument covers the period of not more than one year. The symbols and definitions for short-term ratings are as follows:

- T1** Issuer has strong market position, wide margin of financial protection, appropriate liquidity and other measures of superior investor protection. Issuer designated with a "+" has a higher degree of these protections.
- T2** Issuer has secure market position, sound financial fundamentals and satisfactory ability to repay short-term obligations.
- T3** Issuer has acceptable capacity for meeting its short-term obligations.
- T4** Issuer has weak capacity for meeting its short-term obligations.
- D** The rating for an issuer for which payment is in default.

All ratings assigned by TRIS Rating are local currency ratings; they reflect the Thai issuers' ability to service their debt obligations, excluding the risk of convertibility of the Thai baht payments into foreign currencies.

TRIS Rating differentiates a "structured finance product" from other debt instruments by attaching the "(sf)" identifier next to the original letter rating symbol. The "(sf)" identifier is assigned to all debt instruments that are deemed to meet the definition of a "structured finance product" defined by the Securities and Exchange Commission (SEC). The addition of this subscript to the rating symbol does not change the definition of the letter rating symbols mentioned above.

TRIS Rating also assigns a "Rating Outlook" that reflects the potential direction of a credit rating over the medium to long term. In formulating the outlook, TRIS Rating will consider the prospects for the rated company's industry, as well as business conditions that might have an impact on the fundamental creditworthiness of the company. The rating outlook will be announced in conjunction with the credit rating. In most cases, the outlook of each debt obligation is equal to the outlook assigned to the issuer or the obligor. The categories for "Rating Outlook" are as followed:

- Positive** The rating may be raised.
- Stable** The rating is not likely to change.
- Negative** The rating may be lowered.
- Developing** The rating may be raised, lowered, or remain unchanged.

TRIS Rating may announce a "CreditAlert" as a part of its monitoring process of a publicly announced credit rating when there is a significant event that TRIS Rating considers to potentially exerting a substantial impact on business or financial profiles of the rated entity. Due to an insufficient data or incomplete developments of the event, such as merger, new investment, capital restructuring, and etc., current credit rating remains unchanged. The announcement aims to forewarn investors to take a more cautious stance in investment decision against debt instruments of the rated entity. CreditAlert report consists of a "Rational" indicating warning reasons, a "CreditAlert Designation", and a current credit rating. Rating Outlook is withheld in the announcement.

CreditAlert Designation illustrates a short-term rating outlook indicative of the characteristics of impacts on the credit rating in one of the three directions (1) *Positive* (2) *Negative* and (3) *Developing*.

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