TRIS RATING

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News for Investors

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# Ratchaburi Electricity Generating Holding Public Company Limited

**Company Rating:** AA-

**Rating Outlook**: Stable

| Rating History: | Company Rating | Issue Rating | |
|---|---|---|---|
| | | Secured | Unsecured |
| 15 Jun 2005 | AA-/Stable | - | - |
| 12 Jul 2004 | A+/Stable | - | - |
| 26 Jun 2003 | A+ | - | - |

**Rating Rationale**

TRIS Rating affirms the company rating of Ratchaburi Electricity Generating Holding PLC (RATCH) at "AA-". The rating reflects the strong and reliable dividends received from its investments in Independent Power Producer (IPP) projects namely -- Ratchaburi Electricity Generating Co., Ltd. (RATCHGEN) and Tri Energy Co., Ltd. (TECO), as well as its portfolio of good quality power plants. The rating also takes into consideration its strong balance sheet and investment plans to develop power and power related projects in Lao PDR. However, the growth of gross domestic product (GDP) which is lower than expectation may lead to a revision of the current Power Development Plan (PDP) and a postponement of some power development projects in Thailand.

RATCH was established in 2000 as a holding company to purchase the Ratchaburi power plant from the Electricity Generating Authority of Thailand (EGAT). As of September 2009, EGAT held a 45% stake in RATCH, followed by the BANPU Group (14.99%). Currently, RATCH's power portfolio comprises four operating power plants with total electricity generating capacity of 4,347 megawatts (MW). As of December 2009, RATCH's investments in those power plants totaled Bt21,970 million.

In 2009, RATCH received dividend income of Bt5,921 million from its power plant investment. RATCHGEN remained the major dividend contributor, constituting 96% of RATCH's dividend income. Ratchaburi Power Co., Ltd. (RPCL), another IPP project in the RATCH portfolio, successfully started commercial operation in 2008. RPCL reported a net profit of Bt3,622 million in 2009 compared with Bt2,573 million in 2008. RPCL is expected to pay dividends of Bt350-Bt700 million per year to RATCH, starting in 2010. Therefore, contribution from RPCL will increase to 15% of total dividend income of RATCH in the future.

The Hongsa project, the joint venture of RATCH, Banpu Power Co., Ltd. and Lao Holding State Enterprise, progresses well. The project comprises a lignite-fired power project (1,878 MW) and a lignite mining project in Lao PDR. The tariff memorandum of understanding (MOU) with EGAT was signed on 13 May 2009, while the power concession and mining concession were granted by the Government of Lao PDR on 30 November 2009. The project is expected to commence construction by the end of 2010 and the commercial operation date (COD) is targeted for 2015.

RATCH's investment policy has been conservative. All power plants in its portfolio have long-term power purchase agreements (PPAs) with EGAT. Because both GDP and electricity consumption in Thailand were lower than expectations in 2008-2009, the National Energy Policy Council (NEPC) is revising the current PDP (PDP2007: Revision 2) to reflect the current situation of the Thai economy and demand for electricity. The revision may limit investment potential of power business in Thailand. To pursue the company's growth strategy, RATCH aims to seek investment opportunities in power and power-related businesses in Thailand and other countries.

## Rating Outlook

The "stable" outlook reflects the expectation that RATCH will receive reliable dividend income from RATCHGEN and investments in its other power plants. With Bt4,000-Bt5,000 million in dividends received per annum, RATCH should be able to fund most of its investments with operating cash flow and maintain its financial strength.

## Key Rating Considerations

***Strengths/Opportunities***

- Reliable dividend income from RATCH-GEN and TECO
- Long track record in the power industry
- Strong relationship with major share-holder, EGAT
- Solid balance sheet
- More contribution from new invest-ments in electricity generating and power related businesses

***Weaknesses/Threats***

- Revision of the PDP may postpone some power development projects in Thailand
- High dependency on RATCHGEN
- Political uncertainty in Myanmar affects availability of gas supply to RATCHGEN

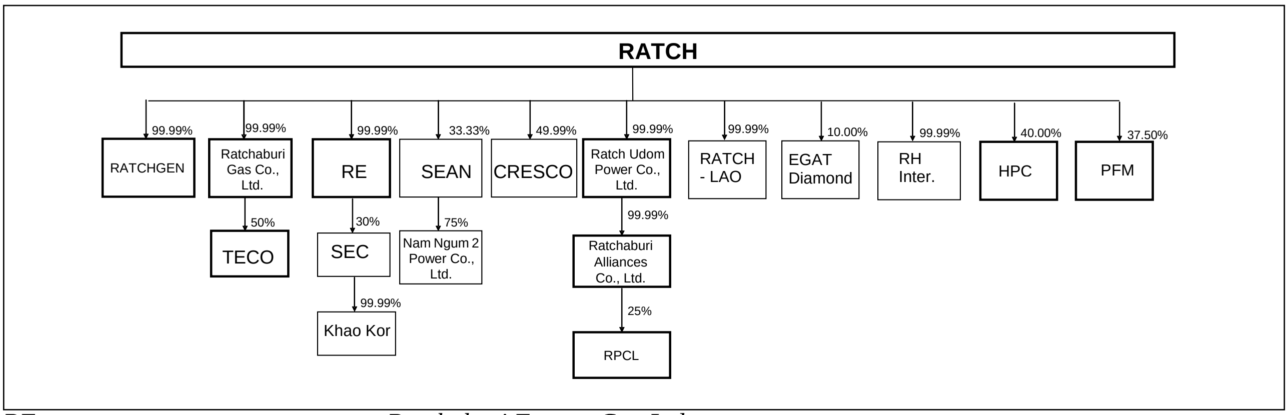
## Corporate Overview

RATCH was established and listed on the Stock Exchange of Thailand (SET) in 2000 to purchase the Ratchaburi power plant from EGAT. As of September 2009, EGAT held a 45% stake in RATCH, followed by the BANPU Group (14.99%). EGAT has a strong interest in RATCH because RATCH provides a substantial amount of cash dividends to EGAT. RATCH is also a major customer of EGAT under an operation and maintenance agreement (OMA).

RATCH holds 99.99% of RATCHGEN, the largest private power producer in Thailand. As of December 2009, RATCHGEN had total installed capacity of 3,645 MW, representing 12.5% of installed generating capacity in Thailand's and 30% of all IPPs combined. In addition to its investment in RATCHGEN, RATCH expanded power generating capacity by investing in more power plants via subsidiaries. The installed capacity of four power plants is 5,747 MW, which contributes 4,347 MW to RATCH.

Out of the generating capacity of 4,347 MW in operation, the majority continues to be from IPP projects in Thailand. However, RATCH's projects under developments are mostly located in Lao PDR.

**Chart 1: RATCH's Structure as of December 2009**




| | | |
|---|---|---|
| *RE* | = | *Ratchaburi Energy Co., Ltd.* |
| *SEAN* | = | *South East Asia Energy Co., Ltd.* |
| *CRESCO* | = | *Chubu Ratchaburi Electric Power Services Co., Ltd.* |
| *TECO* | = | *Tri Energy Co., Ltd.* |
| *RPCL* | = | *Ratchaburi Power Co., Ltd.* |
| *SEC* | = | *Sustainable Energy Corporation Ltd.* |
| *RATCH – LAO* | = | *RATCH – LAO Services Co., Ltd.* |
| *EGAT Diamond* | = | *EGAT Diamond Service Co., Ltd.* |
| *RH Inter.* | = | *RH International Corporation Ltd.* |
| *Khao Kor* | = | *Khao Kor Wind Power Co., Ltd.* |
| *HPC* | = | *Hongsa Power Co., Ltd.* |
| *PFM* | = | *Phu Fai Mining Co., Ltd.* |

*Source: RATCH*

**Table 1: RATCH's Projects in Operation as of December 2009**

| Project Name | 100% Capacity (MW) | Holding (%) | RATCH Capacity (MW) | Equity Investment (Bt Million) |
|---|---|---|---|---|
| 1. RATCHGEN | 3,645 | 99.99 | 3,645 | 18,275 |
| 2. TECO | 700 | 50 | 350 | 1,809 |
| 3. RPCL | 1,400 | 25 | 350 | 1,831 |
| Total IPPs | 5,745 | - | 4,345 | 21,915 |
| 4. PTO-A | 2 | 100 | 2 | 55 |
| **Total** | **5,747** | **-** | **4,347** | **21,970** |

*Source: RATCH*

**Table 2: RATCH's Projects under Development as of December 2009**

| Project | Fuel Type | Capacity (MW) | % Holding | Status |
|---|---|---|---|---|
| Under Construction | | | | |
| 1. Nam Ngum 2 | Hydro | 615 | 25 | Construction progress 92% |
| Under Development | | | | |
| 1. Hongsa Thermal | Coal-fired | 1,878 | 40 | PPA finalized, CA and EPC signed |
| 2. Nam Ngum 3 | Hydro | 440 | 25 | Tariff MOU approved by NEPC |
| 3. Xe Pian -- Xe Namnoy | Hydro | 390 | 25 | Tariff proposal sent to EGAT |
| 4. Nam Bak | Hydro | 160 | 25 | Tariff proposal sent to EGAT |
| 5. Khao Kor Wind farm | Wind | 60 | 30 | Preparing RFP for lenders |
| 6. Pratu Tao-A (Expansion) | Associated gas | 0.8 | 100 | EPC selection |
| Total | - | 2,929 | - | - |

*Source: RATCH*

## Recent Developments

- ***Diversified into the renewable energy***

RATCH has diversified into the renewable energy sector, consistent with the 15-year Renewable Energy Development Plan (2008-2023) of Thailand. RATCH purchased 30% stake in Sustainable Energy Corporation Co., Ltd. (SEC), the developer of the Petchabun Wind Farm Project, in February and July 2009 through its subsidiary, Ratchaburi Energy Co., Ltd. (RE). The wind farm project has installed generating capacity of 60MW with an investment cost of Bt4,274 million. The project is located in the Khao Khor district of Petchabun province and is expected to operate commercially in 2011. By using wind energy to generate electricity, the project will receive an incentive (adder) of Bt3.5 per kWh of all power sold in a ten-year period.

- ***Hongsa Mine Mouth power project moves ahead***

On 5 February 2009, RATCH, Banpu Power Co., Ltd. (BPP) and Lao Holding State Enterprise (LHSE) signed shareholders agreement to establish Hongsa Power Co., Ltd. (HPC) and Phu Fai Mining Co., Ltd. (PFMC) to operate the Hongsa Mine Mouth power project. The project comprises a power project (1,878 MW) and a lignite mining project. The tariff MOU with EGAT was signed on 13 May 2009, while the power concession and mining concession were granted by the Government of Lao PDR on 30 November 2009. The power plant is expected to commence construction by the end of 2010; the COD is targeted for 2015.

**Table 3: Hongsa Project Details**

| | Unit | Hongsa Power | Phu Fai Mining |
|---|---|---|---|
| **Investment Cost** | **Mil. US$** | **3,700** | |
| **Operation** | - | Power plant | Lignite mining |
| **Capacity** | - | 1,878 MW | 14.5Mt/yr |
| **Shareholding Structure** | | | |
| 1.RATCH | % | 40.0 | 37.5 |
| 2.BPP | % | 40.0 | 37.5 |
| 3.LHSE | % | 20.0 | 25.0 |
| Total | % | 100.0 | 100.0 |

*Source: RATCH*

- ***Signed O&M Agreement on Nam Ngum 2 project***

On 25 June 2009, RATCH-Lao Service Co., Ltd., RATCH's subsidiary in Lao PDR, signed an Operation and Maintenance Agreement (O&M Agreement) covering dam and the powerhouse with Nam Ngum 2 Power Co., Ltd. for the Nam Ngum 2 (NN2) hydroelectric power plant. The agreement values approximately Bt4,700 million with 27 years period of concession. Under the agreement, RATCH-Lao will be responsible to manage auxiliary building and other facilities, as well as providing management services. The operation and maintenance of dam and powerhouse was subcontracted to EGAT under an O&M subcontract agreement signed on 26 June 2009.

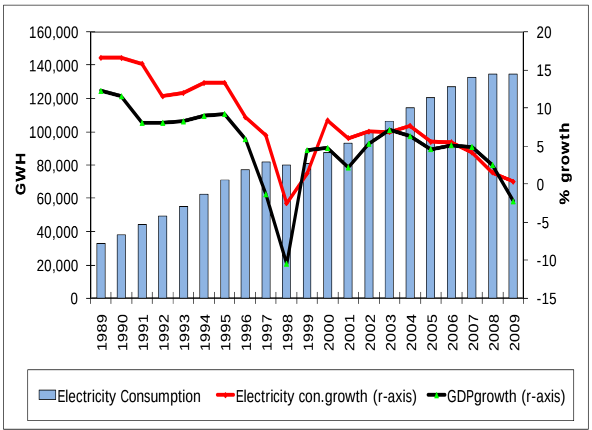
## INDUSTRY ANALYSIS

Demand for electricity was affected negatively by the economic slump that started in late 2008 and continued through the first half of 2009. However, the global and Thai economic recovery has led the electricity consumption improved gradually since the third quarter of 2009. Consequently, electricity consumption for the whole year of 2009 turned to be the same level of 2008.

- ***Demand for electricity dropped in 2009 but is expected to grow in 2010***

Electricity demand generally moves in tandem with the domestic economy. The economic slowdown that began in October 2008 hurt electricity consumption noticeably. According to EGAT, electricity sold in 2008 totaled 134,411 gigawatt hours (GWh), or 1.5% growth, down from an average annual growth rate of 7% between 2000 and 2007 and growth of 4.1% in 2007. The impact was especially visible in December 2008 as sales of electricity declined by 12.19% y-o-y. However, demand for electricity has gradually improved since the third quarter of 2009. Electricity consumption showed a growth of 1.1% y-o-y and 9.5% y-o-y in the third and fourth quarter of 2009, respectively. As a result, total electricity consumption in 2009 was relatively flat at 134,793 GWh.

**Chart 2: Electricity Consumption, Growth Rate and Real GDP Growth**

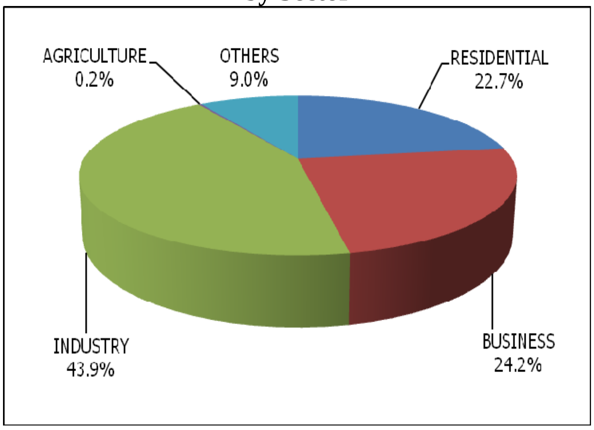



*Sources: National Economic and Social Development Board (NESDB) and Energy Policy and Planning Office (EPPO)*

The industrial sector has been the largest electricity consumer, followed by the business sector, residential customers and the agriculture sector. Among all EGAT's customers, the industrial sector is the most sensitive to the economic environment. In 2009, electricity consumption by the industrial sector, business sector and other uses fell by 1.2% More than half of the drop (53.0%) was due to a drop in consumption by industrial users while the business sector was responsible for more than one-third of the decline (39.1%). In contrast, electricity demand from households appeared resilient to the slowdown in the Thai economy. During 2009, household users increased consumption by 5.5%. Electricity consumption by the agricultural sector increased by 9.9%.

The Thai economy has shown sign of recovery since the last quarter of 2009; consumer confidence has returned. The Bank of Thailand (BOT) projects that gross domestic product (GDP) will rise in real terms by 3.3% to 5.3% in 2010. The major factor behind this optimistic forecast is the belief that the world economy will recover strongly in 2010, restoring domestic confidence and exports. BOT projects that private consumption will grow by 3.5%-5.5% and private investment will increase by 9.5%-11.5%. With this more favorable environment, electricity consumption is expected to increase in 2010.

**Chart 3: Consumption of Electricity by Sector**




*Source: EPPO*

- ***Economic crisis affects energy policy***

Energy policy is supervised by the National Energy Policy Council (NEPC), which has the responsibility to submit the national energy policy as well as the national energy management and development plan to the Council of Ministers. According to the National Energy Policy Council Act, the Prime Minister or the Deputy Prime Minister designated by the Prime Minister, will be the chairman of the Council. This reflects the influence of the ruling political party in shaping national energy policy.

Under the new government headed by Prime Minister Abhisit Vejjajiva, energy policies continued to focus on energy diversification and conservation. The government is encouraging the production and use of alternative sources of energy, particularly renewable energy. Very Small Power Producers (VSPP) which generate electricity using renewable energy can sell electricity directly to the Metropolitan Electricity Authority (MEA) or the Provincial Electricity Authority (PEA). An extra tariff rate (or an adder) will be added to the ordinary tariff rates paid to the VSPPs by these two electricity distributors.

Amid the current economic difficulties, the government announced several stimulus packages. One such plan covers payment of certain level of household electricity bills. This plan is cited as the major explanation for the increase in household electricity consumption in 2009.

- ***PDP 2007 was revised to reflect lower demand***

On 24 March 2009, the Cabinet endorsed the second revision of the Power Development Plan (PDP) 2007 (Revision 2), covering power plans for 2008 to 2021. According to the PDP 2007 (Revision 2), the targeted amount of new power generating capacity to be installed between 2009 and 2015 was reduced to 12,605 MW. New capacity from EGAT was also reduced from 4,615 MW to 3,769 MW while Small Power Producer (SPP) capacity increased from 1,193 MW to 1,985 MW. During this period, some existing power plants will be retired. Future sources of energy are planned to be a more balanced mix between natural gas, coal, ethanol, nuclear and other renewable fuels. In 2009, 71.4% of energy used nationwide to generate electricity was from natural gas, 20.1% from coal, 4.7% from hydropower, 0.3% from fuel oil and 3.5% from imports and others.

The Cabinet also agreed that the new capacity to be installed between 2016-2021 will be reviewed in the next PDP to be consistent with new projections for national economic growth as forecasted by the NESDB.

- ***Progression of IPP***

**Table 4: Winners of 2007 IPP Bidding**

| | Name | Fuel Type | Capacity (MW) | Scheduled COD* |
|---|---|---|---|---|
| 1 | Gheco-One Co., Ltd. | Coal | 660 | 2011 |
| 2 | Siam Energy Co., Ltd. | Natural gas | 1,600 | 2013 |
| 3 | National Power Supply Co., Ltd. | Coal | 540 | 2013 |
| 4 | Power Generation Supply Co., Ltd. | Natural gas | 1,600 | 2014 |
| | **Total** | **-** | **4,400** | |

* *Commercial operation date*
Source: *EPPO*

In December 2007, Gheco-One Co., Ltd., Siam Energy Co., Ltd., Power Generation Supply Co., Ltd., and National Power Supply Co., Ltd. were announced as winners of the new IPP bidding. According to the submission plans of the four winners, new power plants will be built with combined installed capacity of 4,400 MW, 1,200 MW more than the plan of the Ministry of Energy. Out of the 4,400 MW of new capacity, 3,200 MW will be gas-fueled plants, while the balance will be coal-fired plants. Gheco-One received environmental impact approval and started construction in late 2008. Other operators postponed their plans for at least another year owing to the drop in demand for electricity and lengthy EIA process.

- ***Key legislation to standardize energy policies***

The Energy Industry Act B.E. 2550 (2007) was enacted on 11 December 2007. Under the Act, the supervision of both the natural gas and electricity supply industries were brought into a single regulatory body. Established by the Act, members of the Energy Regulatory Commission (ERC) were selected on 22 January 2008. The ERC oversees the energy industry including operating regulations, awarding operating licenses, making recommendation for the PDP, announcing customer service standards, and other tasks.

- ***Private producers are encouraged to participate***

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 operators, 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 December 2009, Thailand had combined installed electricity generating capacity of 29,212 MW. EGAT accounted for 49% of the total, followed by IPPs (42%), SPPs (7%), and power imported from Laos and Malaysia (2%). EGAT's share of power generating capacity decreased from 100% before 1995 to 92% in 1999 and to 49% at the end of December 2009. EGAT has been relieved of its burden to develop and operate power plants, but remains the nation's sole electricity provider.

## BUSINESS ANALYSIS

RATCH's business profile is based on its portfolio of good quality power plants. Its current performance continues to be dominated by its largest subsidiary, RATCHGEN. As of December 2009, the investment in RATCHGEN represented approximately 83% of RATCH's total investments, while dividends received from RATCHGEN contributed 96% of RATCH's total dividend income.

- ***Reliable dividends from RATCHGEN***

RATCH's cash flow remains highly dependent on dividend income from RATCHGEN. However, this income source is relatively stable as a result of RATCHGEN's well-designed project structures, state-of-the-art power plants, and the operator's lengthy experience in the power sector.

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 stable cash flow to RATCHGEN, while the revenue adjustment mechanism limits foreign exchange rate risk and inflation rate risk. Fuel 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 GSA.

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 efficiently running its power plants. 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 Company (GE) for major gas turbine parts, which helps minimize operational risk as it mitigates price risk and major parts availability risk.

RATCHGEN's operations were mostly above target. During 2009, the equivalent availability factor (EAF) of the thermal units was 87.2%, outperforming the PPA target of 84.6%. The higher EAF was due to fewer unplanned outages. The combined cycle units also outperformed the targets specified in the PPA. The EAF was 87.4%, compared with a target of 84.3% in the PPA.

- ***TECO showing a satisfatory performance***

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 I (50%). The plant location, adjacent to RATCHGEN's power plant, benefits both plants through cooperation. TECO commenced commercial operations in July 2000 under 20-year PPAs with EGAT. In 2009, TECO's actual outages were above target due to a crack in a gas turbine rotor. The additional downtime cut the EAF to 80.2%. As a result, Availability Payments (AP) revenue was lower than PPA target by Bt235 million to Bt2,711 million in 2009. In terms of fuel efficiency, TECO's net plant heat rate of 7,137 BTU/kWh was better than the target of 7,223 BTU/kWh in 2009.

- ***RPCL operations on track***

RATCH holds a 25% stake in RPCL, with an investment cost of Bt1,831 million as of December 2009. RPCL, a two-block combined cycle power plant using turbine technology from Mitsubishi Heavy Industries Ltd. (MHI), has 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. Operations at RPCL are smooth and can generate net profit in the first year of operation as planned. For 2009, the plant's EAF of 85.3% was lower than the target of 90.4% due to an unexpected incident at the exciter in the CCGT (combined cycle gas turbine) block 1 unit 2 (GT12) in July 2009. The incident led to a minor inspection for the whole block to recheck all major components in the plant to protect against any future lost. The unit could resume operations. An investigation into the cause of incident is ongoing. RPCL reported a net profit of Bt3,622 million in 2009, compared with a net profit of Bt2,573 million in 2008. RATCH expects to receive Bt350-Bt700 million in dividends per year from RPCL beginning in 2010.

- ***Nam Ngum 2 progresses as planned***

RATCH currently holds a 25% stake in the Nam Ngum 2 hydroelectric power project (NN2 HPP), 615 MW of installed capacity, through Southeast Asia Energy Co., Ltd. (SEAN). The project is located 35 kilometers (km.) upstream of the Nam Ngum 1 dam and about 90 km. north of Vientiane in Lao PDR. In May 2006, SEAN signed a 27-year PPA with EGAT with an expected annual electrical energy generating quantity of 2,218 GWh. The project cost is estimated at Bt30,832 million with a debt to equity (D/E) ratio of 2.5:1.0. As of December 2009, the construction was 92% complete. Major construction is projected to be completed for operation by the end of 2010. RATCH expects to receive Bt100-Bt150 million in annual dividends from SEAN from 2013 onwards.

- ***Hongsa Mine Mouth power project, a new source of dividend income***

The Hongsa Mine Mouth power project comprises a lignite-fired power plant and a lignite mine. HPC will develop and operate the power plants and the mine.

The power plant consists of three units of 626 MW (total capacity of 1,878 MW). Each unit will have a flue gas desulphurization (FGD) system. HPC already signed a tariff MOU with EGAT on 13 May 2009 and was granted a power concession by the Government of Lao PDR on 30 November 2009. According to the tariff MOU, HPC will sell a 1,473 MW to EGAT at the Thai-Lao border, with an average tariff of Bt2.275/kWh over 25 years of the PPA period. The PPA between HPC and EGAT is expected to be signed in the first quarter of 2010. During the operating period, EGAT would be given a contract for operation and maintenance under an O&M agreement. The power plants will use approximately 14.5 million tonnes of lignite per year from the Hongsa Basin as the primary fuel. The initial estimated lignite reserves of 393 million tonnes will be sufficient for the power plant over PPA period.

The total project cost is US$3,700 million with target D/E ratio of 3:1. Therefore, RATCH's equity injection for the project is approximately US$370 million. The power plant is expected to commence construction by the end of 2010; the COD is targeted for 2015.

- ***To invest throughout Asia***

In addition to investments in power projects holding long-term PPAs with EGAT and renewable energy power plants, RATCH aims to diversify across Asia, including Australia. RATCH established new subsidiaries in pursuit of this goal. On 28 October 2009, RATCH established RH International Corporation Ltd. to invest in energy businesses in other countries except Lao PDR. In addition, RATCH signed a Joint Venture Agreement with EGAT, MHI, and Mitsubishi Corporation (MC) to established EGAT Diamond Service Co., Ltd. to provide a repair and maintenance services for gas turbines across Asia. Now, RATCH is conducting the study of many power and power related projects, including power plants in Australia and coal projects in Indonesia.

## FINANCIAL ANALYSIS

RATCH's financial position remains very strong. The company has enough funds for existing investments and normal dividend payout due to the consistent dividends received from RATCHGEN and other power investments.

- ***RATCHGEN and TECO remain reliable sources of income***

With a clear policy to pay out 100% of net profit after the debt service reserve requirements, RATCHGEN continued to provide dividend income of Bt4,987 million in 2008 and Bt5,692 million in 2009. Dividends from RATCHGEN will remain a dependable source of cash flow to RATCH given that RATCHGEN's structure and performance are solid.

TECO paid dividend income of Bt362 million in 2008. RATCH's dividend from TECO was lowered to Bt214 million in 2009 due to higher tax expenses after the expiration of the Board of Investment's (BOI) promotional privileges. The dividend contribution from TECO accounts for 4%-7% of RATCH's total dividend received.

According to RATCH's investments plan and projects under development, dividend income will be more diversified in the future. However, due to its large size, RATCHGEN will continue to be the major source of income for RATCH.

- ***More contribution from new investments***

In 2009, almost 100% of RATCH's consolidated revenue came from RATCHGEN. Total electricity sales decreased by 16.3% to Bt35,351 million from Bt42,210 million in 2008 due to lower energy payments (EP) from RATCHGEN. However, declining EPs did not affect RATCH's bottom line because EPs typically provide marginal profit to RATCHGEN and RATCH. RATCH's earnings before interest, tax, depreciation and amortization (EBITDA) rose by 4% over the same period last year to Bt11,286 million due to higher APs. In addition, RATCH's equity income from associates increased by 85% to Bt1,721 million from Bt932 million in 2008, mainly from higher contribution from RPCL. RPCL contributed a full year of earnings after starting up in June 2008. Equity income now accounts for about 15% of EBITDA, up from 8% in 2007 and 9% in 2008. It is expected that equity income will grow further in 2011 when Nam Ngum 2 commences initial operation. Net profit increased by 4% to Bt6,740 million in 2009, despite an increase in tax expenses after the expiration of BOI promotional privileges for the thermal units of RATCHGEN.

- ***Improved financial profile***

Leverage improved as long-term debt of RATCH was repaid as scheduled. The debt to capitalization ratio declined to 30.6% at the end of 2009 from 35.8% at the end of

December 2008. The EBITDA interest coverage ratio improved significantly to 13.1 times in 2009, up from 8.4 times in 2008. This was attributable to a drop in interest rate due to the successful negotiation with existing lenders of RATCHGEN to reduce the interest rate over the remaining time of the loan.

- ***Sufficient cash flow to fund investments under developments***

RATCH generally receives dividend from investments of approximately Bt4,000-Bt5,000 million a year. RATCH also had cash on hand and short-term investments of approximately Bt10,000 million (company only) as of December 2009. This level of funds is sufficient to support the company's equity injection in projects under development of approximately Bt11,000 million during 2010-2013. However, the company may need external financing for acquiring big projects or investments.

**RATCH's Power Generation Portfolio***

*Unit: Bt million*

| | ------------------ Year Ended 31 December ------------------ | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
| **Electricity Generation Capacity (MW)** | | | | | | |
| RATCHGEN** | 3,645 | 3,645 | 3,645 | 3,645 | 3,645 | 3,645 |
| TECO (RATCH portion) | 350 | 350 | 350 | 350 | 350 | 263 |
| RPCL (RATCH portion)*** | 350 | 350 | 350 | 350 | 350 | 350 |
| SEAN (RATCH portion)**** | 154 | 154 | 154 | 154 | 154 | - |
| PTO-A***** | 2 | 2 | 2 | 2 | - | - |
| **Total** | **4,501** | **4,501** | **4,501** | **4,501** | **4,499** | **4,258** |
| **Investment (cost method)** | | | | | | |
| RATCHGEN** | 18,275 | 18,275 | 18,275 | 18,275 | 18,275 | 18,275 |
| TECO | 1,809 | 1,809 | 1,809 | 1,809 | 1,809 | 1,284 |
| RPCL*** | 1,831 | 1,831 | 1,342 | 563 | 416 | 416 |
| SEAN**** | 1,903 | 1,378 | 891 | 325 | 44 | - |
| PTO-A***** | 55 | 55 | 55 | 55 | - | - |
| **Total** | **23,873** | **23,348** | **22,372** | **21,027** | **20,544** | **19,975** |
| **Investment (equity method)** | | | | | | |
| RATCHGEN** | 20,699 | 21,377 | 20,874 | 22,497 | 22,472 | 22,244 |
| TECO | 4,391 | 4,070 | 3,654 | 3,292 | 2,676 | 2,166 |
| RPCL*** | 3,086 | 1,894 | 1,092 | 341 | 291 | 381 |
| SEAN**** | 1,833 | 1,334 | 864 | 310 | 43 | - |
| PTO-A***** | 82 | 69 | 58 | 55 | - | - |
| **Total** | **30,091** | **28,744** | **26,542** | **26,495** | **25,482** | **24,791** |
| **Dividend received** | | | | | | |
| RATCHGEN** | 5,692 | 4,987 | 6,617 | 5,135 | 5,563 | 5,796 |
| TECO | - | 362 | 460 | 218 | 483 | 241 |
| RPCL*** | 214 | - | - | - | - | - |
| SEAN**** | - | - | - | - | - | - |
| PTO-A***** | - | - | - | - | - | - |
| CRESCO | 15 | 10 | - | - | - | - |
| **Total** | **5,921** | **5,359** | **7,077** | **5,353** | **6,046** | **6,037** |

* *Consolidated financial statements*
** *Based on stand-alone financial statements*
*** *Commercial operation of unit 1 and unit 2 started in March 2008 and June 2008, respectively*
**** *Initial operation will start in 2010*
***** *Commercial operation started in June 2007*

**Financial Statistics and Key Financial Ratios***

*Unit: Bt million*

| | --------------------Year Ended 31 December ------------------ | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
| Electricity sales | 35,351 | 42,210 | 43,821 | 50,373 | 44,035 | 39,714 |
| Total operating costs | 29,222 | 35,798 | 38,781 | 43,474 | 37,472 | 32,668 |
| Operating profit | 6,128 | 6,412 | 5,039 | 6,900 | 6,563 | 7,046 |
| Gross interest expense | 861 | 1,293 | 1,365 | 1,444 | 1,209 | 1,225 |
| Net profit | 6,740 | 6,493 | 5,829 | 6,106 | 6,066 | 6,487 |
| Funds from operations (FFO) | 7,859 | 8,461 | 7,708 | 8,922 | 8,670 | 8,750 |
| Capital expenditures | 140 | 263 | 378 | 40 | 790 | 125 |
| Cash & Short Term Investments | 12,028 | 10,622 | 11,039 | 10,885 | 9,238 | 3,253 |
| Total assets | 69,342 | 69,672 | 70,301 | 72,105 | 69,941 | 70,016 |
| Total debt | 19,640 | 22,831 | 26,400 | 29,508 | 32,586 | 35,765 |
| Shareholders' equity | 44,524 | 40,975 | 37,480 | 34,695 | 31,489 | 28,468 |
| Operating income before depreciation and amortization as % of sales | 25.4 | 22.0 | 18.1 | 19.3 | 21.7 | 24.5 |
| Pretax return on permanent capital (%) | 13.2 | 12.5 | 11.4 | 11.9 | 11.5 | 12.2 |
| Earnings before interest, tax, depreciation and amortization (EBITDA) interest coverage (times) | 13.1 | 8.4 | 7.5 | 7.2 | 8.6 | 8.5 |
| FFO/total debt (%) | 40.0 | 37.1 | 29.2 | 30.2 | 26.6 | 24.5 |
| Total debt/capitalization (%) | 30.6 | 35.8 | 41.3 | 46.0 | 50.9 | 55.7 |

* *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 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 follows:

*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.*