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CREDIT OPINION
18 October 2018

Update

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RATINGS

Ratchaburi Electricity Generating Holding PCL

Domicile	Thailand
Long Term Rating	Baa1
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

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Ratchaburi Electricity Generating Holding PCL

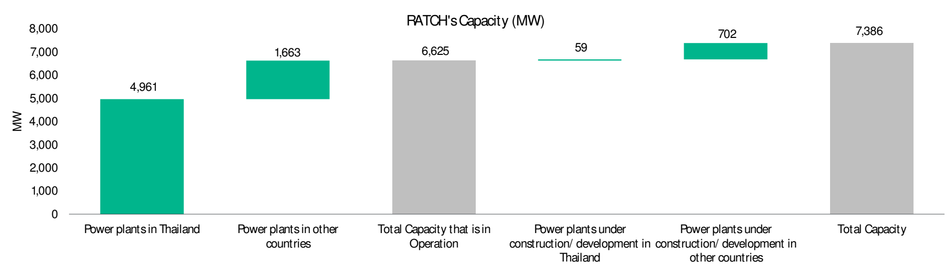
Update of Credit Opinion

Summary

Ratchaburi Electricity Generating Holding PCL (Ratch, Baa1 stable) credit benefits from strong relationship with its parent Electricity Generating Authority of Thailand (EGAT, unrated). Ratch's credit profile factors in its strong and strategic position as Thailand's largest IPP. Ratch's credit quality is also supported by its sound business profile which is underpinned by its power purchase agreements (PPAs).

On the other hand, the company's overseas expansion strategy and sizable capex plan could lead to increased execution and development risks, and could create pressure for its credit profile. Sizable debt exposures at its JVs also pressure Ratch's adjusted credit metrics, which incorporate its pro-rata share in the JVs.

Exhibit 1
Ratch's capacity - current and under construction
~25% of Ratch's capacity consists of power plants located outside of Thailand, and 92% of its current power plant developments are focused on overseas markets



Source: Ratch

Ratch's credit profile is enhanced by our expectation that EGAT will provide support to Ratch in times of need. The parent's credit profile is stronger than Ratch's.

Credit Strengths

» Strategic importance to Thailand's power sector, due to its position as the country's largest independent power producer (IPP)

» Long-term power purchase agreements (PPAs) and secure fuel supply support stable performance

» Close links with, and expected support from its parent, EGAT, a state-owned power generation company

» Moderate credit metrics, owing to sizable capex and joint venture (JV) exposures

Credit Challenges

» Uncertainties associated with expansion strategy outside Thailand and non-power sectors

Rating Outlook

The stable rating outlook reflects our expectation that there will be no material adverse changes to the regulatory environment for Thailand's electricity market over the next 12-18 months. The stable outlook is also consistent with the rating of the sovereign, which is the 100% owner of Ratch's parent, EGAT.

Factors that Could Lead to an Upgrade

Upgrade momentum in the rating is unlikely in absence of an upgrade of Thailand's sovereign rating. However, ratios that Moody's would look for an upgrade in Ratch's standalone profile include adjusted FFO/debt increasing above 20% and FFO/Interest staying above 4.5x (both based on pro-rata consolidation of JVs) on a consistent basis.

A sovereign rating upgrade could trigger a review of Ratch's rating because its operations and credit profile are closely linked to those of EGAT and therefore to Thailand's sovereign rating.

Factors that Could Lead to a Downgrade

The rating could be downgraded if Ratch's credit strength deteriorates substantially, which could be due to aggressive debt-funded investments or a material increase in its business risk profile, likely due to overseas expansions or to material increase in regulatory risk.

The key metrics that Moody's would consider for a downgrade include adjusted FFO/interest coverage below 2.5x and adjusted FFO/debt below 10% on a sustained basis. The ratios are based on figures that take into account Ratch's JV exposures.

A downgrade of Thailand's sovereign rating or a reduction of EGAT's stake in the company would also be negative for Ratch's rating.

Key Indicators

Exhibit 2

KEY INDICATORS [1]

Ratchaburi Electricity Generating Holding PCL

	31/12/17	31/12/16	31/12/15	31/12/14
(CFO Pre-W/C + Interest) / Interest	7.7x	9.4x	8.1x	7.9x
(CFO Pre-W/C) / Debt	42.1%	44.5%	42.8%	43.9%
RCF / Debt	26.8%	31.3%	27.6%	29.2%

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations.
Source: Moody's Financial Metrics™

Corporate Profile

Founded in 2000, Ratch was established to purchase power plants from its parent, the state-owned power generation company, EGAT.

As of June 2018, Ratch's key operations were in Thailand, Laos, Australia, with a total installed capacity of 6.6 gigawatts (GW), of which, almost 5.0 GW was from power plants located in Thailand.

The 5.0 GW accounted for almost 12.0% of Thailand's total power generating capacity as of June 2018, with EGAT as the major buyer. About 88% of its domestic capacity comes from its 99.99%-owned subsidiary, Ratchaburi Electricity Generating Company Limited. The remainder is from its JV companies.

Ratch currently has about 1.0 GW under construction and development, which will increase its current capacity to 7.6 GW by 2021.

Ratch was listed on the Stock Exchange of Thailand in 2000. EGAT, which owns a 45% stake, is its largest shareholder and the sole offtaker of Ratch's power generation capacity.

EGAT is fully owned by the Thai government (Baa1 stable) and is mainly involved in the generation and transmission of energy throughout the country.

Detailed Credit Considerations

(1) STRATEGIC IMPORTANCE TO THAILAND'S POWER SECTOR

Ratch will continue to benefit from its strategic importance to the country's power sector, given its position as the largest IPP in Thailand by installed capacity, and its established operations.

Thailand's growing energy needs have led to an increased reliance on IPPs and energy imports from neighboring countries; thereby allowing the company to benefit from projected steady growth in electricity demand over the next 3-5 years.

The growth in domestic generation capacity has slowed down in recent years as a result of increasing electricity import and steady growth in electricity demand. As of August 2018, around 9% of total capacity was imported from neighboring countries. This figure will rise as projects in neighboring countries commence commercial operations.

Thailand’s Power Development Plan (PDP 2015-2036) focuses on clean energy as well as clean coal power generation and a reduced reliance on gas fired power generation. Imported electricity is another highlight in the plan. Ratch's operations are key to Thailand achieving the aims of its Power Development Plan for 2015 - 2036. The plan targets to increase the country's generating capacity to 70.4 GW by end-2036.

As of June 2018, Ratch's attributable generation capacity accounted for around 12% of Thailand's total capacity. Further, Ratch's expansion to the neighboring countries also support the government's promotion of imported electricity.

(2) LONG-TERM PPAs AND SECURE FUEL SUPPLY SUPPORT STABLE PERFORMANCE

Ratch's long term PPAs and secure fuel supply will remain the key credit strengths of its rating. The PPAs are robustly structured to limit the impact of fluctuations in both fuel costs and foreign exchange rates, as well as changes in demand and the company's debt servicing ability.

The unique characteristics embedded in PPAs differentiate Ratch from other rated unregulated power companies, which usually exhibit high exposure to wholesale price volatilities.

As for its fuel supply, the company has secured stable gas supplies to meet its obligations under the PPAs, through gas sales agreements with PTT Public Company Limited (Baa1 stable).

Currently, over 87% of Ratch's capacity is secured by EGAT under long-term PPAs, ranging between five and 27 years. The renewable PPAs can be automatically renewed every 5 years. In addition, 93.6% and 6.4% of capacity from the Hongsa thermal power plant has been contracted to EGAT and state-owned Electricite du Laos under 25-year PPA.

EGAT has a strong track record of meeting its PPA obligations. As a result, demand is assured and market competition is limited for Ratch's existing operations.

Moreover, under energy payment provisions, Ratch is insulated from fluctuations in fuel input prices, allowing the company to pass through any increases in fuel costs, as long as Ratch's plants meet the agreed heat rates.

The majority of Ratch's EBITDA comes from availability payments, which cover the fixed operational and maintenance costs and debt services, plus an agreed return on equity. Availability payments are irrespective of the dispatch of electricity, as long as the power plants are available at the agreed capacity.

Ratch has a solid track record in maintaining high levels of availability; often exceeding plant-specific targets. It has also regularly met targeted heat rates, suggesting that the efficiency of its assets is in line with expectations.

(3) CLOSE LINKS WITH EGAT RESULT IN EXPECTED PARENTAL SUPPORT

We expect that Ratch will maintain its close links with EGAT, given that its parent is its single largest shareholder and the sole offtaker of Ratch's existing domestic capacity, as well as its capacity for plants under construction in Laos.

We also believe that EGAT will provide support to Ratch in times of need, given the strategic importance of Ratch to Thailand's power sector.

Importantly, EGAT also provides operating and maintenance services for most of Ratch's plants, and supports Ratch in environmental management.

Ratch's power plants maintain high performance standards, with minimal forced outages, because of the strong operational support from EGAT.

Another indication of the close link between the two companies is the fact that six of Ratch's 13 board members -- including its chairman and CEO -- are EGAT representatives. A number of Ratch's key management officers have also previously worked for EGAT.

Our assessment of support from EGAT to Ratch in times of need, results in a one-notch uplift within Ratch's rating. During the Asian financial crisis of 1997-98, for instance, EGAT and the Thai government ensured the performance stability and debt servicing ability of IPPs by restructuring their PPAs to avoid huge foreign exchange losses.

EGAT also has a strong ability to provide support, given its strong credit profile which is supported by its role as a strategic state-owned enterprise. This results in a credit profile that is closely linked to that of the sovereign.

(4) MODERATE CREDIT METRICS OWING TO JV EXPOSURES AND OVERSEAS CAPEX

We expect Ratch's financial metrics -- including the pro-rata shares from its JVs -- to remain moderate, due to its sizeable debt exposures at the JV level, as well as the company's plans to develop offshore projects.

Ratch's financial profile -- excluding JV adjustments -- is sound, given its stable cash flow from established operations and its deleveraging plan during 2012-13, after its acquisition of Transfield Services Infrastructure Fund in July 2011.

However, the consolidated financial profile does not fully reflect Ratch's debt exposure as a JV partner. Ratch's JV debt exposures totaled THB 49.1 billion at end-2017. Of this total, around 67% is attributed to the Hongsa project in Laos.

We have included Ratch's JV debt in our assessment of its rating, even though the debt is non-recourse, to reflect Ratch's potential exposure as a JV partner, particularly in instances where a project is of strategic importance to the company.

We expect the company's projected credit metrics to remain appropriate for its Baa1 rating over the next two to three years. Under Moody's base case scenario, projected funds from operations (FFO) interest coverage will measure 3.5x-4.5x and projected FFO/debt 15%-20%, which are within the rating tolerance.

Annual capital expenditure is estimated at THB 8 billion - THB 12 billion in 2018 and 2019, mainly for the committed projects.

The company is also undertaking separate feasibility studies for renewable projects in Southeast Asia and Australia. These projects, if the company decides to go ahead, will result in additional capex which is not factored in our estimates currently.

(5) UNCERTAINTIES ASSOCIATED WITH EXPANSION STRATEGY OUTSIDE THAILAND AND NON-POWER SECTORS

Ratch's strategy to expand overseas capacity is mainly driven by lack of opportunities to expand in Thailand. Ratch's plan to grow its overseas portfolio will provide diversification benefits, but the increased exposure, especially to developing countries such as Laos and Myanmar, will introduce uncertainties to its credit profile, including execution risks, higher levels of regulatory risk, and rising capital requirements.

Ratch recently announced that it intends to increase its generating capacity to 10 GW by 2023. This ambitious growth target will increase its current capacity by 2.4 GW after the inclusion of assets currently under construction and development. The capacity expansion to 10 GW will be via both organic and inorganic routes - mergers and acquisitions (M&A), mostly in overseas markets.

The funding structure of Ratch's updated investment plan will be an influential factor in gauging its impact on its rating. Sizable debt exposures at Ratch's JVs level will put pressure on Ratch's adjusted credit metrics, which incorporate its pro-rata share in the JVs. If this new investment plan requires aggressive debt-funding or is such that it represents a material increase in Ratch's business risk profile, this will challenge Ratch's credit profile

Ratch has currently 952 megawatts (MW) generation capacity under construction and development which will take its installed capacity base to 7.6 GW by 2021. Ratch's future growth will be driven primarily by growth in its international business acquisitions and JV partners in countries where such partners exhibit existing operations, such as in Laos, Australia and Southeast Asia.

We expect that the company's business portfolio will exhibit greater geographical diversification by 2021, with 70% of its total capacity from plants in Thailand and 30% from overseas markets versus the current 75% and 25%.

Its Thai operations will continue to represent the cornerstone of its business, providing stable cash flows to fund its growing overseas businesses. As of 31 December 2017, around 94% of total revenues were generated through domestic electricity generation.

Ratch's expansion will entail execution risks, including potential cost overruns or construction delays. It will also require large amounts of funding. Such risks are partly mitigated by the stable recurring cash flows from its operating plants.

As of June 2018, Laos is Ratch's second largest market, accounting for 15% of its capacity. Australia is the next largest market at 10%. However, the new projects in Laos are exposed to higher regulatory risk than is the case for projects in Thailand and Australia, as the political, regulatory and economic environment in Laos is less developed.

The Hongsa project in Laos is a particularly large project, with a total cost of USD3.7 billion, and in which Ratch holds a 40% ownership. This project includes the construction of three generation units, all of which came online between June 2015 and Mar 2016. The project is secured by EGAT's PPA of 25 years, under which, EGAT is the major offtaker.

The supply risk associated with the project is well managed, as its coal mine is expected to have adequate lignite reserves to meet the power plant's consumption needs. In addition, execution risks will be somewhat mitigated by the company's partnership with Banpu Power (unrated), a company with extensive experience in the coal industry.

While the Hongsa project is not covered by political risk insurance, the political risk of the project is partly alleviated by the terms and condition of the concession agreement.

Any changes in the legal system in Laos that adversely affect the project company's operations and ability to service its liability will constitute a political force majeure event. In such a scenario, the project company can terminate its contract and is entitled to compensation by the Government of Lao PDR under the concession agreements and EGAT's PPA.

Ratch's exposure to Laos and its large capex obligations are further mitigated by the fact that Ratch has set up JVs with partners and local governments. In addition, the construction contracts for the Hongsa plants have fixed prices that partly mitigate the risk of cost overruns. In addition, the majority of the payments and financing for the project are in either USD or THB; thereby minimizing forex risk.

In July 2018, there was a collapse in the saddle dam of the Xe-Pian Xe-Namnoy (Xe-Pian) hydroelectric power project - for which Ratch has a 25% stake - in Laos. The dam is under construction and was earlier expected to be completed in 2019. The assessment of the damage is currently still underway, however, any additional costs due to this accident are expected to be borne by the engineering, procurement and construction (EPC) company, SK Engineering & Construction Company (unrated), as per the contract terms. The project company for Xe-Pian also has insurance which will cover part of the costs related to reconstruction of the project damaged by the saddle dam collapse. Ratch’s stake in Xe-Pian represents 1.5% of its current installed capacity.

Since 2017, Ratch has also announced its participation in other projects such as its 49% stake in PT Medco Ratch Power Riau, a combined-cycle power plant project in Indonesia that will start operations in 2021, its acquisition of an additional 50% stake into Australia’s Mount Emerald Wind Farm Pty that will start operations in 2018, as well as its investment in a non-power project – the MRT Pink Line Project and MRT Yellow Line Project through its 10% stake in the BSR Joint Venture. In May 2018, Ratch signed a project development agreement for setting up an additional 340 MW hydroelectric power project in Laos.

We will monitor Ratch’s investment strategy in non-power sectors over time. We expect Ratch will participate with a minority stake in the MRT line projects and thus the relevant financial impact should be manageable.

Other considerations

We do not currently notch down the senior unsecured ratings due to structural subordination given:

1) the highly diverse nature of Ratch's subsidiaries and joint venture investments, which have independent and non-recourse financing,

2) Ratch's plans to raise more debt at the holding company and/or RHIS level, thereby decreasing the overall concentration of priority debt over time, and

3) the fair recovery expectation for the creditors through Ratch's major operating subsidiary (namely Ratchaburi Electricity Generating Company Ltd, or RatchGen), which is conservatively leveraged.

Liquidity Analysis

Ratch has a strong liquidity profile for the next 12 to 18 months. At June 2018, its cash sources comprised sizable cash holdings and short-term investments totaling THB 15 billion. We expect its operating cash flows to be around THB 7 billion - THB 8 billion over the next 12 months.

On the other hand, we expect the company's projected cash outlays for the next 12 months to include capex of THB 8 billion - THB 10 billion, as well as THB 3.5 billion of dividend payments.

Rating Methodology and Scorecard Factors

(1) Mapping to Moody's Unregulated Utilities and Power Companies Methodology:

Ratch's business profile is more akin to an unregulated power company, given that its business is governed by PPAs, based on bilateral negotiations with offtakers.

Ratch maps to a Baa2 under the methodology, according to the 3-year projected credit metrics (2018-2020), which incorporate pro-rated JV adjustments.

Exhibit 3

Unregulated Utilities and Unregulated Power Companies Industry Grid [1]	FY2017		Moody's 12-18 Month Forward View As of October 2018 [2]	
Factor 1 : Scale (10%)	**Measure**	**Score**	**Measure**	**Score**
a) Scale (USD Billion)	Ba	Ba	Ba	Ba
Factor 2 : Business Profile (40%)				
a) Market Diversification	Ba	Ba	Ba	Ba
b) Hedging and Integration Impact on Cash Flow Predictability	Aa	Aa	Aa	Aa
c) Market Framework & Positioning	A	A	A	A
d) Capital Requirements and Operational Performance	Aa	Aa	Aa	Aa
e) Business Mix Impact on Cash Flow Predictability				
Factor 3 : Financial Policy (10%)				
a) Financial Policy	Baa	Baa	Baa	Baa
Factor 4 : Leverage and Coverage (40%)				
a) (CFO Pre-W/C + Interest) / Interest (3 Year Avg)	4.2x-8x	Baa	4.2x-8x	Baa
b) (CFO Pre-W/C) / Debt (3 Year Avg)	12%-20%	Ba	12%-20%	Ba
c) RCF / Debt (3 Year Avg)	3%-8%	B	3%-8%	B
Rating:				
a) Indicated Rating from Grid		Baa2		Baa2
b) Actual Rating Assigned		Baa1		Baa1

[1] All ratios are based on 'Adjusted' financial data and incorporate Moody's Global Standard Adjustments for Non-Financial Corporations. The ratios also account for investments in JVs.
[2] This represents Moody's forward view; not the view of the issuer; and unless noted in the text, does not incorporate significant acquisitions and divestitures

Ratings

Exhibit 4

Category	Moody's Rating
RATCHABURI ELECTRICITY GENERATING HOLDING PCL	
Outlook	Stable
Issuer Rating	Baa1
Senior Unsecured MTN	(P)Baa1
RH INTERNATIONAL (SINGAPORE) CORP. PTE. LTD.	
Outlook	Stable
Bkd Senior Unsecured	Baa1

Source: Moody's Investors Service

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