

POWER STOCKS – A GOOD BULWARK AGAINST MARKET VOLATILITY

22 November 2018

Hinh Dinh

hinh.dinh@vndirect.com.vn

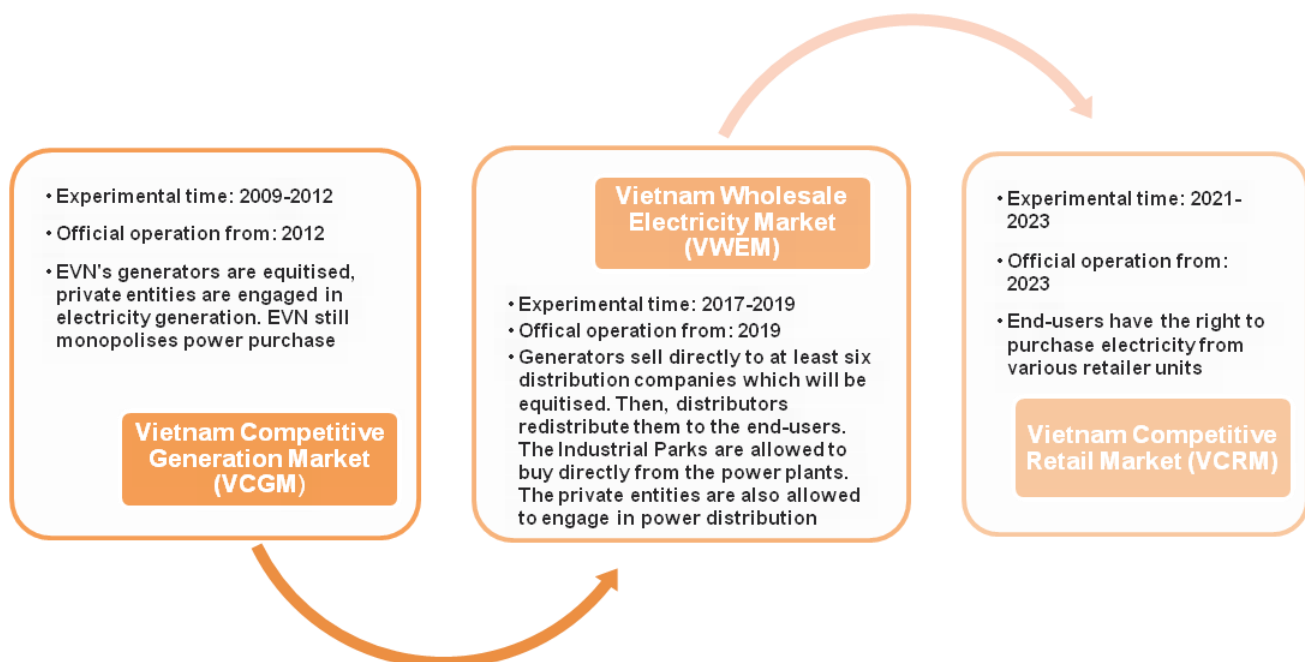
Anirban Lahiri

anirban.lahiri@vndirect.com.vn

The liberalisation of the power sector will boost competition and efficiency in the industry.

Vietnam’s Competitive Generation Market (VCGM) has grown significantly in the past few years. The liberalisation of the power sector began with the establishment of VCGM in 2012. According to regulation QD_95/QD_DTDL passed by the Electricity Regulatory Authority in December 2017, 81 power plants were expected to directly participate in VCGM in 2018 with a total installed capacity of 22,238MW, accounting for 52.3% of the total system-wide installed capacity. As at September 2018, the number of power plants directly involved in VCGM has grown to 87, surpassing the target set last year. However, the market remains regulated and the selling prices for the majority (approximately 80%) of power sold are determined through Power Purchase Agreements (PPA) between Vietnam Electricity Enterprise (EVN) and power generators. According to the Ministry of Industry and Trade (MOIT), only 10% of Vietnam’s electricity market had been liberalised by 2017. This is expected to increase to 15% by end-2018 and up to a maximum of 40% in the following years, to the benefit of cost-competitive power generators.

Figure 1: Vietnam is carrying out a phased liberalisation of its power industry



Source: EVN, VNDIRECT

Vietnam’s Wholesale Electricity Market (VWEM) is ready to go into official operation in 2019. Following the development of the VCGM, the Ministry of Industry and Trade (MOIT) started trial operations of VWEM in 2016 in the form of a market simulation exercise. Five state-owned power distributors (buyers) (including Northern Power Corporation, Central Power Corporation, Southern Power Corporation, Hanoi Power Corporation and Ho Chi Minh City Power Corporation - all subsidiaries of EVN) – and power generators (sellers) participated in the simulated form of the VWEM, which provided market parameters periodically (such as supply and demand, sources of mobilisation) to determine electricity prices in VWEM.

However, real payments and power transfers have not yet been effected based on these parameters and actual electricity prices are still determined between only one buyer (EVN) and each power generator through PPA or the VCGM mechanism. In 2018, MOIT will put into trial the VWEM with real payments and power transfers for a portion of the output of power generators. These preparations will pave the way for the VWEM to commence official operations from 2019 onwards.

If the VWEM begins official operations in 2019, it will be a big step forward in the liberalisation of Vietnam’s electricity sector.

The operation of VWEM will gradually erase EVN's monopoly over power distribution. Currently, power generators must sell electricity to Electric Power Trading Company (EPTC - EVN’s unit), so they have limited power to negotiate the terms of the PPA. EPTC then sells electricity to customers through five power distribution companies mentioned above. Under the VWEM, power generators are free to sell electricity directly to the five power distribution companies (which will be publicly-listed in the next few years) as well as to EPTC. In addition, private entities will be allowed to engage in power distribution and the power generators can sell electricity to them directly. Furthermore, power generators will be able to sell electricity directly to large customers such as industrial parks, cement plants and steel plants by directly connecting to the transmission grid.

Figure 2: The differences between VCGM and VWEM

Comparative criteria	Vietnam's Competitive Generation Market (VCGM)	Vietnam's Wholesale Electricity Market (VWEM)
Buyers	Electric Power Trading Company (EPTC). EPTC is a unit within EVN.	EPTC and five state-owned power distributors (Northern Power Corporation, Central Power Corporation, Southern Power Corporation, Hanoi Power Corporation, Ho Chi Minh City Power Corporation). These distributors are 100% owned by EVN and will be equitised following the government's plan in the following years. In addition, industrial parks and large industrial plants are allowed to buy directly from power plants
Sellers	Power plants with a capacity of over 30MW	All power plants
Power Purchase Agreement (PPA)	Each seller has only one PPA contract because there is only one buyer	As the power plants are allowed to sell electricity to different buyers, each seller could have more than one PPA contract
Electricity price	The mechanism for determining the selling price is based on input variable costs	Competitive bidding method
Transmission fees	Fixed number and paid by EPTC	Power transmission rights are auctioned and paid by the wholesalers

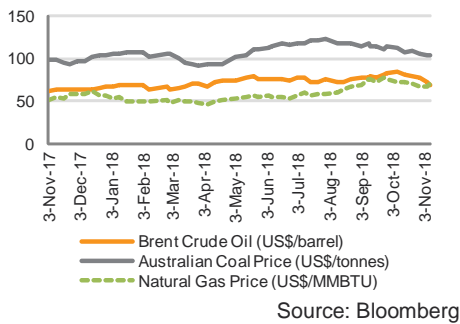
Source: MOIT, EVN

Power purchase prices will increase due to rising electricity demand, higher production costs and more competition between wholesalers when VWEM begins operations.

The price for purchasing power from power plants will rise to reflect the increase in production cost. The cost of electricity production could increase significantly in the next few years as the electricity produced from cheap sources such as hydropower and domestic coal have been exploited to the limit; almost all new power supply comes from coal thermal power plants using imported coal, gas-fired power plants or renewable power plants all which have higher costs of production as we can see in figure 4. Besides, increasing coal and gas prices will increase the production cost of existing coal thermal power plants and gas-fired power plants.

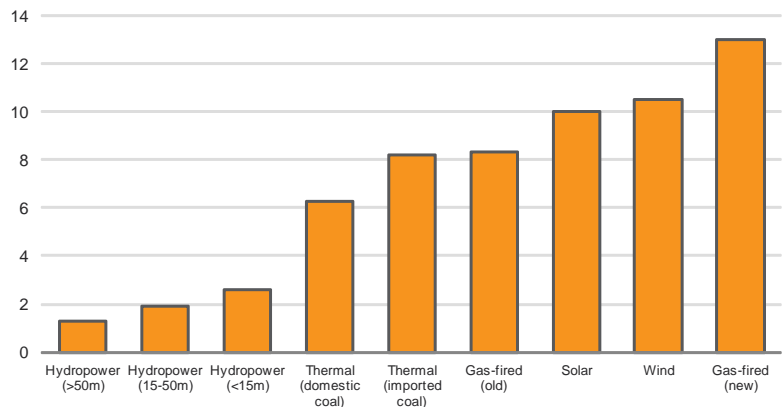
Competition between wholesale buyers will raise the bargaining power of power generators. Current wholesale electricity prices do not reflect actual supply and demand as there is only one wholesale buyer (EVN). Without EVN’s monopoly over power distribution, power plants will be more able to negotiate selling prices and other terms in

Figure 3: Crude oil, natural gas and coal prices (Nov 2017-Nov 2018)



the PPA contract with multiple buyers. With more power distributors, power generators will be able to sell electricity at a price closer to market as buyers have to compete with each other. This is an important pre-requisite for the development of the electricity industry as market-based pricing mechanisms will probably increase wholesale prices from power plants as well as retail electricity prices, thereby attracting much-needed private sector participation in generation.

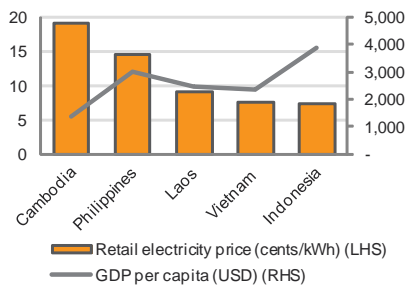
Figure 4: Unit cost of electricity production by source (cents/kWh)



Source: MOIT, EVN, VNDIRECT

Retail electricity prices in Vietnam are currently 30% lower than the regional average and should rise in the next few years.

Figure 5: Retail electricity price (cents/kWh)

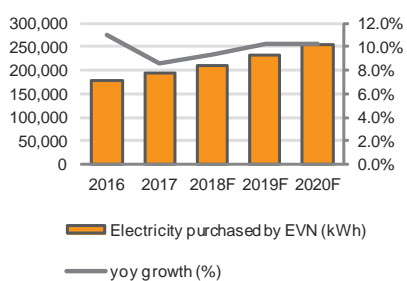


Source: VNDIRECT

Currently, the average retail electricity price in Vietnam is much lower than retail prices in regional peers as shown in the chart on the left. Therefore, we will probably see an increase in retail electricity prices over time as the sector is liberalised and hidden subsidies are dismantled. EVN estimates that retail electricity prices can rise from 7.6 cents/kWh currently to 9.0 cents/kWh by 2020.

VWEM's competitive bidding method will create incentives for power plants to save costs and improve service standards. Ultimately, end-users will benefit from more reliable power at reasonable and transparent prices.

Figure 6: Electricity purchased by EVN (kWh)



Source: EVN

The government is likely to complete only 60% of the implementation of the power plan VII (period 2018-2020). Electricity shortages may occur in the period 2020-2023.

According to EVN, in the period 2018 to 2030, the demand for electricity will continue to grow at a high rate of 10.3%-11.3% per year from 2016 to 2020 and 8.0-8.5% per year from 2021 to 2030.

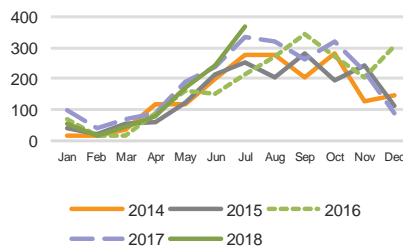
The report on the implementation of the power plan VII of the Ministry of Industry and Trade (MOIT) recently showed that the total increase in nationwide installed capacity over 2018-2020 will only amount to 8,900MW (average 3,000MW/year), equal to 60% of the planned total capacity addition over the period under the power plan VII (15,140MW).

Multiple projects with a cumulative designed capacity of up to 6,400MW are at risk of delay due to capital constraints and policy changes. These include O Mon III (750 MW) and Ialy Expansion hydropower plant (360 MW).

Almost all new electricity supply in the south will come from thermal and gas-fired power plants as new hydropower supply will be limited.

EVN sees the possibility of power shortages in the south of Vietnam in the period 2020-2023. New power projects in the south are almost all thermal power plants developed using the BOT model. Several BOT projects have been delayed due to the changes in government policies relating to BOT projects which, in turn, has impacted capital-raising. The following plants are at risk of not meeting the initial schedule, including Duyen Hai 2 (2021 - 2023, Long Phu 2 (2021 - 2022), Song Hau 2 (2021 - 2022), Vinh Tan 3 (2021 - 2023), and Van Phong (2022). As a result, existing thermal power plants located in the south are expected to operate at approximately 90%-100% capacity in the coming years.

Figure 7: Average nationwide monthly rainfall by year (mm)



Source: National Centre for Hydro - Meteorological Forecasting (NCHMF)

Hydropower plants will benefit from the official commencement of VWEM

Hydropower plants can offer far more competitive prices than thermal power plants and gas-fired power plants. Currently, the cost of production of hydropower plants is about 1.3-2.6 cents/kWh while cost of production of thermal power plants (imported coal) and new gas-fired plants are about 8 cents/kWh and 12-15 cents/kWh respectively. In addition, the upward trend of coal, gas and oil prices (as shown in Figure 3) will cause the production costs of thermal power plants and gas-fired plants to continue to increase, further eroding their competitiveness vis-à-vis hydropower plants. Currently, fuel costs (natural gas, coal, diesel oil) account for more than 80% of the electricity production cost of the listed thermal power plants such as NT2, BTP and PPC. Hence, while new hydropower capacity addition will be limited, we see existing hydropower plants as being the biggest beneficiaries of the transition to a market-based wholesale pricing mechanism.

Vietnamese power stocks provide high dividend yields while also protecting against rising volatility in the stock market.

Power stocks are highly defensive with relatively stable cash flows, high dividend yield and low beta. With peak level power shortages looming across the country and new capacity additions constantly playing catch-up to electricity demand growth, this is definitely a good time to be looking at power generators. We think that some allocation to power stocks to add a defensive element to investment portfolios is warranted in this market environment as equities get buffeted by rising global bond yields and geopolitical and economic headwinds.

Power stocks will benefit from rising electricity prices. As we discussed above, only few new power plants will become operational in the period 2018-2020 while the demand for electricity is expected to grow at 10% per annum for the period 2018-2020, thus reducing the reserve margin to very low levels (the reserve margin is the gap between the total usable capacity of generators and the peak power demand). Therefore, power plants will continue to operate at high utilisation rates in the coming years. Also, the retail electricity price and purchasing price from power plants will further increase to reflect tight supply-demand conditions, potentially boosting the profitability of power generators. Finally, while the operation of the VWEM might benefit hydropower producers over thermal power producers, we see limited risk of market share erosion for thermal power producers due

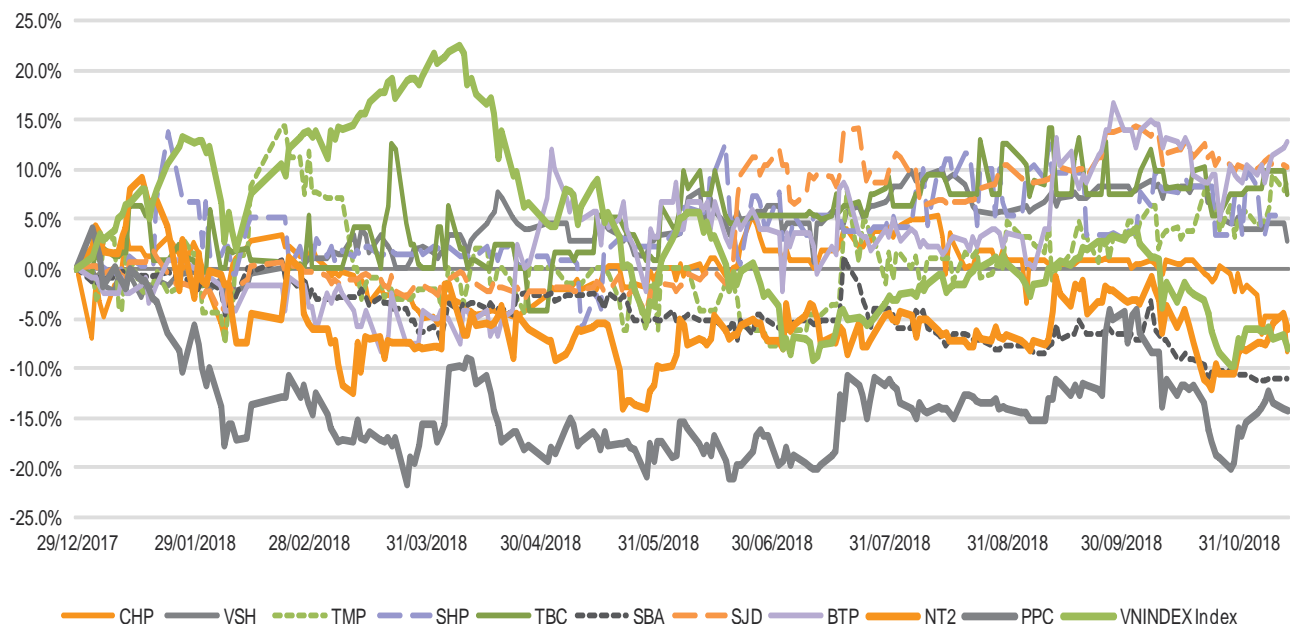
to the limited pipeline of new hydropower capacity and falling reserve margins.

Figure 8: List of power stocks with high dividend yield (19 Nov 2018)

Ticker	Market Cap (VNDbn)	TTM P/E (x)	TTM P/B (x)	TTM ROE (%)	2017 dividend per share (VND)	Dividend Yield (%)	TTM EPS (VND)	Financial Leverage (x)	ADTV (VNDbn)	Beta (x)
NT2	7,298	8.6	2.0	19.3%	3,000	11.8%	2,947	2.2	1,897	0.43
PPC	5,899	6.1	1.0	17.1%	2,500	13.6%	3,024	1.3	3,850	0.57
VSH	3,444	10.4	1.2	11.1%	1,000	6.0%	1,605	2.6	88	0.19
CHP	3,021	28.1	1.9	5.9%	1,600	7.3%	777	1.7	240	0.20
GEG	2,777	9.6	1.2	9.8%	1,000	7.0%	1,491	1.4	2,663	0.17
SJD	1,835	9.1	1.9	19.9%	2,500	9.4%	2,934	1.7	1,642	0.19
SBA	838	7.8	1.2	14.8%	1,500	10.8%	1,774	1.8	171	0.16
BTP	705	2.9	0.6	20.9%	2,090	17.9%	4,025	1.6	97	0.32

Source: VNDIRECT,

Figure 9: Most power stocks have outperformed the VN-Index year-to-date



Source: Bloomberg

Hydropower stocks look particularly attractive. The average TTM P/E of hydropower stocks is 9.2x compared to the TTM P/E of 15.9x of the VN-INDEX while the average TTM P/B of hydropower stocks is 1.4x compared to the TTM P/B of 2.5x of the VN-INDEX. In addition, the average dividend yield of hydropower stocks stands at 8.3%, which is far higher than the average dividend yield of 2.1% of the VN-INDEX. Given that output growth for most hydro plants is constrained by capacity, we do appreciate that the stocks do not command a “growth premium” unlike several other listed names. However, with corporate earnings growth likely to slow over the coming quarters and high price volatility in the stock market, we believe that investors will focus more on stability of earnings and cash dividend yields than on growth. Furthermore, existing hydropower plants should still be able to see earnings growth through falling depreciation burdens and improving efficiency.

Forex debt remains a key risk in power stocks. Power stocks do come with their share of risks related to government policies and regulations, unfavourable weather conditions, rising input prices (mainly gas and coal). We however see exchange rate risk as the key

risk due to high foreign currency debt exposure for several power generators (US\$, €, ¥ and Rmb) and potential for further VND devaluation over the medium term.

Figure 10: Foreign-denominated debt of some power companies

Ticker	Currency of foreign currency-denominated debt	(VNDbn)	Foreign- denominated debt/equity	Foreign- denominated debt/EBITDA
BTP*	Won	449,879	39%	272%
CHP*		-	-	-
GEG		-	-	-
NT2	USD and EUR	3,202,679	87%	278%
PPC	JPY	969,162	16%	86%
SBA		-	-	-
SJD*	USD	104,457	12%	69%
VSH*	USD	588,463	20%	177%

Source: Financial reports

DISCLAIMER

The content of this report (including the views and opinions expressed therein, and the information comprised therein) has been prepared by and belongs to VNDIRECT Securities Corporation, and is distributed by CGS-CIMB or CIMB Investment Bank Berhad ("CIMB"), as the case may be, pursuant to an arrangement between VNDIRECT Securities Corporation and CGS-CIMB. VNDIRECT Securities Corporation is not an affiliate of CGS-CIMB or CIMB.

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.

By accepting this report, the recipient hereof represents and warrants that he is entitled to receive such report in accordance with the restrictions set forth below and agrees to be bound by the limitations contained herein (including the "Restrictions on Distributions" set out below). Any failure to comply with these limitations may constitute a violation of law. This publication is being supplied to you strictly on the basis that it will remain confidential. No part of this report may be (i) copied, photocopied, duplicated, stored or reproduced in any form by any means or (ii) redistributed or passed on, directly or indirectly, to any other person in whole or in part, for any purpose without the prior written consent of CGS-CIMB or CIMB, as the case may be.

The information contained in this research report is prepared from data believed to be correct and reliable at the time of issue of this report. VNDIRECT Securities Corporation may or may not issue regular reports on the subject matter of this report at any frequency and may cease to do so or change the periodicity of reports at any time. None of VNDIRECT Securities Corporation, CGS-CIMB or CIMB is under any obligation to update this report in the event of a material change to the information contained in this report. None of VNDIRECT Securities Corporation, CGS-CIMB or CIMB has any and will accept any, obligation to (i) check or ensure that the contents of this report remain current, reliable or relevant, (ii) ensure that the content of this report constitutes all the information a prospective investor may require, (iii) ensure the adequacy, accuracy, completeness, reliability or fairness of any views, opinions and information, and accordingly, VNDIRECT Securities Corporation, CGS-CIMB and CIMB and their respective affiliates and related persons including China Galaxy International Financial Holdings Limited ("CGIFHL") and CIMB Group Sdn. Bhd. ("CIMBG") and their respective related corporations (and their respective directors, associates, connected persons and/or employees) shall not be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof. In particular, VNDIRECT Securities Corporation, CGS-CIMB and CIMB disclaim all responsibility and liability for the views and opinions set out in this report.

Unless otherwise specified, this report is based upon reasonable sources. Such sources will, unless otherwise specified, for market data, be market data and prices available from the main stock exchange or market where the relevant security is listed, or, where appropriate, any other market. Information on the accounts and business of company(ies) will generally be based on published statements of the company(ies), information disseminated by regulatory information services, other publicly available information and information resulting from our research. Whilst every effort is made to ensure that statements of facts made in this report are accurate, all estimates, projections, forecasts, expressions of opinion and other subjective judgments contained in this report are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Past performance is not a reliable indicator of future performance. The value of investments may go down as well as up and those investing may, depending on the investments in question, lose more than the initial investment. No report shall constitute an offer or an invitation by or on behalf of CGS-CIMB, CIMB, or VNDIRECT Securities Corporation, or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) to any person to buy or sell any investments.

CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation and/or their respective affiliates and related corporations (including CGIFHL, CIMBG and their respective related corporations), their respective directors, associates, connected parties and/or employees may own or have positions in securities of the company(ies) covered in this research report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities. Further, CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation, and/or their respective affiliates and their respective related corporations (including CGIFHL, CIMBG and their respective related corporations) do and seek to do business with the company(ies) covered in this research report and may from time to time act as market maker or have assumed an underwriting commitment in securities of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation and/or their respective affiliates (including CGIFHL, CIMBG and their respective related corporations) may enter into an agreement with the company(ies) covered in this report relating to the production of research reports. CGS-CIMB, CIMB and/or VNDIRECT Securities Corporation may disclose the contents of this report to the company(ies) covered by it and may have amended the contents of this report following such disclosure.

The analyst responsible for the production of this report hereby certifies that the views expressed herein accurately and exclusively reflect his or her personal views and opinions about any and all of the issuers or securities analysed in this report and were prepared independently and autonomously. No part of the compensation of the analyst(s) was, is, or will be directly or indirectly related to the inclusion of specific recommendations(s) or view(s) in this report. The analyst(s) who prepared this research report is prohibited from receiving any compensation, incentive or bonus based on specific investment banking transactions or for providing a specific recommendation for, or view of, a particular company. Information barriers and other arrangements may be established where necessary to prevent conflicts of interests arising. However, the analyst(s) may receive compensation that is based on his/their coverage of company(ies) in the performance of his/their duties or the performance of his/their recommendations and the research personnel involved in the preparation of this report may also participate in the solicitation of the businesses as described above. In reviewing this research report, an investor should be aware that any or all of the foregoing, among other things, may give rise to real or potential conflicts of interest. Additional information is, subject to the duties of confidentiality,

available on request.

The term “VNDIRECT Securities Corporation” shall, unless the context otherwise requires, mean VNDIRECT Securities Corporation and its affiliates, subsidiaries and related companies. The term “CGS-CIMB” shall denote, where appropriate, the relevant entity distributing or disseminating the report in the particular jurisdiction referenced below, or, in every other case except as otherwise stated herein, CIMB Securities International Pte. Ltd. and its affiliates, subsidiaries and related corporations.

CGS-CIMB

Country	CGS-CIMB Entity	Regulated by
Hong Kong	CGS-CIMB Securities Limited	Securities and Futures Commission Hong Kong
India	CGS-CIMB Securities (India) Private Limited	Securities and Exchange Board of India (SEBI)
Indonesia	PT CGS-CIMB Sekuritas Indonesia	Financial Services Authority of Indonesia
Singapore	CGS-CIMB Research Pte. Ltd.	Monetary Authority of Singapore
South Korea	CGS-CIMB Securities Limited, Korea Branch	Financial Services Commission and Financial Supervisory Service
Thailand	CGS-CIMB Securities (Thailand) Co. Ltd.	Securities and Exchange Commission Thailand

CIMB

Country	CIMB Entity	Regulated by
Malaysia	CIMB Investment Bank Berhad	Securities Commission Malaysia

(i) As of 22 November 2018 VNDIRECT Securities Corporation has a proprietary position in the securities (which may include but not limited to shares, warrants, call warrants and/or any other derivatives) in the following company or companies covered or recommended in this report:

(a) -

(ii) As of 22 November 2018, the analyst(s) who prepared this report, and the associate(s), has / have an interest in the securities (which may include but not limited to shares, warrants, call warrants and/or any other derivatives) in the following company or companies covered or recommended in this report:

(a) -

This report does not purport to contain all the information that a prospective investor may require. CGS-CIMB, and VNDIRECT Securities Corporation and their respective affiliates (including CGIFHL, CIMBG and their related corporations) do not make any guarantee, representation or warranty, express or implied, as to the adequacy, accuracy, completeness, reliability or fairness of any such information and opinion contained in this report. None of CGS-CIMB, CIMB and VNDIRECT Securities Corporation and their respective affiliates nor their related persons (including CGIFHL, CIMBG and their related corporations) shall be liable in any manner whatsoever for any consequences (including but not limited to any direct, indirect or consequential losses, loss of profits and damages) of any reliance thereon or usage thereof. This report is general in nature and has been prepared for information purposes only. It is intended for circulation amongst CGS-CIMB's, CIMB's and their respective affiliates' (including CGIFHL's, CIMBG's and their respective related corporations') clients generally and does not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive this report. The information and opinions in this report are not and should not be construed or considered as an offer, recommendation or solicitation to buy or sell the subject securities, related investments or other financial instruments or any derivative instrument, or any rights pertaining thereto.

Investors are advised to make their own independent evaluation of the information contained in this research report, consider their own individual investment objectives, financial situation and particular needs and consult their own professional and financial advisers as to the legal, business, financial, tax and other aspects before participating in any transaction in respect of the securities of company(ies) covered in this research report. The securities of such company(ies) may not be eligible for sale in all jurisdictions or to all categories of investors.

Australia: Despite anything in this report to the contrary, this research is provided in Australia by CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited. This research is only available in Australia to persons who are “wholesale clients” (within the meaning of the Corporations Act 2001 (Cth) and is supplied solely for the use of such wholesale clients and shall not be distributed or passed on to any other person. You represent and warrant that if you are in Australia, you are a “wholesale client”. This research is of a general nature only and has been prepared without taking into account the objectives, financial situation or needs of the individual recipient. CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited do not hold, and are not required to hold an Australian financial services license. CIMB Securities (Singapore) Pte. Ltd. and CIMB Securities Limited rely on “passporting” exemptions for entities appropriately licensed by the Monetary Authority of Singapore (under ASIC Class Order 03/1102) and the Securities and Futures Commission in Hong Kong (under ASIC Class Order 03/1103).

Canada: This research report has not been prepared in accordance with the disclosure requirements of Dealer Member Rule 3400 – Research Restrictions and Disclosure Requirements of the Investment Industry Regulatory Organization of Canada. For any research report distributed by CIBC, further disclosures related to CIBC conflicts of interest can be found at <https://researchcentral.cibcwm.com>.

China: For the purpose of this report, the People's Republic of China (“PRC”) does not include the Hong Kong Special Administrative Region, the Macau Special Administrative Region or Taiwan. The distributor of this report has not been approved or licensed by the China Securities Regulatory Commission or any other relevant regulatory authority or governmental agency in the PRC. This report contains only marketing

information. The distribution of this report is not an offer to buy or sell to any person within or outside PRC or a solicitation to any person within or outside of PRC to buy or sell any instruments described herein. This report is being issued outside the PRC to a limited number of institutional investors and may not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose.

France: Only qualified investors within the meaning of French law shall have access to this report. This report shall not be considered as an offer to subscribe to, or used in connection with, any offer for subscription or sale or marketing or direct or indirect distribution of financial instruments and it is not intended as a solicitation for the purchase of any financial instrument.

Germany: This report is only directed at persons who are professional investors as defined in sec 31a(2) of the German Securities Trading Act (WpHG). This publication constitutes research of a non-binding nature on the market situation and the investment instruments cited here at the time of the publication of the information.

The current prices/yields in this issue are based upon closing prices from Bloomberg as of the day preceding publication. Please note that neither the German Federal Financial Supervisory Agency (BaFin), nor any other supervisory authority exercises any control over the content of this report.

Hong Kong: This report is issued and distributed in Hong Kong by CIMB Securities Limited ("CHK") which is licensed in Hong Kong by the Securities and Futures Commission for Type 1 (dealing in securities), Type 4 (advising on securities) and Type 6 (advising on corporate finance) activities. Any investors wishing to purchase or otherwise deal in the securities covered in this report should contact the Head of Sales at CIMB Securities Limited. The views and opinions in this research report are of VNDIRECT Securities Corporation as of the date hereof and are subject to change. If the Financial Services and Markets Act of the United Kingdom or the rules of the Financial Conduct Authority apply to a recipient, our obligations owed to such recipient therein are unaffected. CHK has no obligation to update its opinion or the information in this research report.

This publication is strictly confidential and is for private circulation only to clients of CHK.

CHK does not make a market on other securities mentioned in the report.

India: This report is issued and distributed in India by CIMB Securities (India) Private Limited ("CIMB India") which is registered with the National Stock Exchange of India Limited and BSE Limited as a trading and clearing member under the Securities and Exchange Board of India (Stock Brokers and Sub-Brokers) Regulations, 1992. In accordance with the provisions of Regulation 4(g) of the Securities and Exchange Board of India (Investment Advisers) Regulations, 2013, CIMB India is not required to seek registration with the Securities and Exchange Board of India ("SEBI") as an Investment Adviser. CIMB India is registered with SEBI as a Research Analyst pursuant to the SEBI (Research Analysts) Regulations, 2014 ("Regulations").

This report does not take into account the particular investment objectives, financial situations, or needs of the recipients. It is not intended for and does not deal with prohibitions on investment due to law/jurisdiction issues etc. which may exist for certain persons/entities. Recipients should rely on their own investigations and take their own professional advice before investment.

The report is not a "prospectus" as defined under Indian Law, including the Companies Act, 2013, and is not, and shall not be, approved by, or filed or registered with, any Indian regulator, including any Registrar of Companies in India, SEBI, any Indian stock exchange, or the Reserve Bank of India. No offer, or invitation to offer, or solicitation of subscription with respect to any such securities listed or proposed to be listed in India is being made, or intended to be made, to the public, or to any member or section of the public in India, through or pursuant to this report.

The research analysts, strategists or economists principally responsible for the preparation of this research report are segregated from the other activities of CIMB India and they have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues, client feedback and competitive factors. Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed or proposed to be performed by CIMB India or its affiliates.

CIMB India has not received any investment banking related compensation from the companies mentioned in the report in the past 12 months.

CIMB India has not received any compensation from the companies mentioned in the report in the past 12 months.

Indonesia: This report is issued and distributed by PT CIMB Sekuritas Indonesia ("CIMBI"). The views and opinions in this research report are our own as of the date hereof and are subject to change. CIMBI has no obligation to update its opinion or the information in this research report. Neither this report nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable Indonesian capital market laws and regulations.

This research report is not an offer of securities in Indonesia. The securities referred to in this research report have not been registered with the Financial Services Authority (Otoritas Jasa Keuangan) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market law and regulations.

Ireland: CGS-CIMB is not an investment firm authorised in the Republic of Ireland and no part of this document should be construed as CGS-CIMB acting as, or otherwise claiming or representing to be, an investment firm authorised in the Republic of Ireland.

Malaysia: This report is distributed by CIMB solely for the benefit of and for the exclusive use of our clients. CIMB has no obligation to update, revise or reaffirm its opinion or the information in this research reports after the date of this report.

New Zealand: In New Zealand, this report is for distribution only to persons who are wholesale clients pursuant to section 5C of the Financial Advisers Act 2008.

Singapore: This report is issued and distributed by CIMB Research Pte Ltd ("CIMBR"). CIMBR is a financial adviser licensed under the Financial Advisers Act, Cap 110 ("FAA") for advising on investment products, by issuing or promulgating research analyses or research reports, whether in electronic, print or other form. Accordingly CIMBR is a subject to the applicable rules under the FAA unless it is able to avail itself to any prescribed exemptions.

Recipients of this report are to contact CIMB Research Pte Ltd, 50 Raffles Place, #16-02 Singapore Land Tower, Singapore in respect of any

matters arising from, or in connection with this report. CIMBR has no obligation to update its opinion or the information in this research report. This publication is strictly confidential and is for private circulation only. If you have not been sent this report by CIMBR directly, you may not rely, use or disclose to anyone else this report or its contents.

If the recipient of this research report is not an accredited investor, expert investor or institutional investor, CIMBR accepts legal responsibility for the contents of the report without any disclaimer limiting or otherwise curtailing such legal responsibility. If the recipient is an accredited investor, expert investor or institutional investor, the recipient is deemed to acknowledge that CIMBR is exempt from certain requirements under the FAA and its attendant regulations, and as such, is exempt from complying with the following :

- (a) Section 25 of the FAA (obligation to disclose product information);
- (b) Section 27 (duty not to make recommendation with respect to any investment product without having a reasonable basis where you may be reasonably expected to rely on the recommendation) of the FAA;
- (c) MAS Notice on Information to Clients and Product Information Disclosure [Notice No. FAA-N03];
- (d) MAS Notice on Recommendation on Investment Products [Notice No. FAA-N16];
- (e) Section 36 (obligation on disclosure of interest in securities), and
- (f) any other laws, regulations, notices, directive, guidelines, circulars and practice notes which are relates to the above, to the extent permitted by applicable laws, as may be amended from time to time, and any other laws, regulations, notices, directive, guidelines, circulars, and practice notes as we may notify you from time to time. In addition, the recipient who is an accredited investor, expert investor or institutional investor acknowledges that a CIMBR is exempt from Section 27 of the FAA, the recipient will also not be able to file a civil claim against CIMBR for any loss or damage arising from the recipient's reliance on any recommendation made by CIMBR which would otherwise be a right that is available to the recipient under Section 27 of the FAA, the recipient will also not be able to file a civil claim against CIMBR for any loss or damage arising from the recipient's reliance on any recommendation made by CIMBR which would otherwise be a right that is available to the recipient under Section 27 of the FAA.

CIMBR, its affiliates and related corporations, their directors, associates, connected parties and/or employees may own or have positions in securities of the company(ies) covered in this research report or any securities related thereto and may from time to time add to or dispose of, or may be materially interested in, any such securities. Further, CIMBR, its affiliates and its related corporations do and seek to do business with the company(ies) covered in this research report and may from time to time act as market maker or have assumed an underwriting commitment in securities of such company(ies), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform significant investment banking, advisory, underwriting or placement services for or relating to such company(ies) as well as solicit such investment, advisory or other services from any entity mentioned in this report.

As of 22 November 2018,, CIMBR does not have a proprietary position in the recommended securities in this report.

CIMBR does not make a market on the securities mentioned in the report.

South Korea: This report is issued and distributed in South Korea by CIMB Securities Limited, Korea Branch ("CIMB Korea") which is licensed as a cash equity broker, and regulated by the Financial Services Commission and Financial Supervisory Service of Korea. In South Korea, this report is for distribution only to professional investors under Article 9(5) of the Financial Investment Services and Capital Market Act of Korea ("FSCMA").

Spain: This document is a research report and it is addressed to institutional investors only. The research report is of a general nature and not personalised and does not constitute investment advice so, as the case may be, the recipient must seek proper advice before adopting any investment decision. This document does not constitute a public offering of securities.

CGS-CIMB is not registered with the Spanish Comision Nacional del Mercado de Valores to provide investment services.

Sweden: This report contains only marketing information and has not been approved by the Swedish Financial Supervisory Authority. The distribution of this report is not an offer to sell to any person in Sweden or a solicitation to any person in Sweden to buy any instruments described herein and may not be forwarded to the public in Sweden.

Switzerland: This report has not been prepared in accordance with the recognized self-regulatory minimal standards for research reports of banks issued by the Swiss Bankers' Association (Directives on the Independence of Financial Research).

Thailand: This report is issued and distributed by CIMB Securities (Thailand) Co. Ltd. ("CIMBT") based upon sources believed to be reliable (but their accuracy, completeness or correctness is not guaranteed). The statements or expressions of opinion herein were arrived at after due and careful consideration for use as information for investment. Such opinions are subject to change without notice and CIMBT has no obligation to update its opinion or the information in this research report.

CIMBT may act or acts as Market Maker, and issuer and offerer of Derivative Warrants and Structured Note which may have the following securities as its underlying securities. Investors should carefully read and study the details of the derivative warrants in the prospectus before making investment decisions.

AAV, ADVANC, AMATA, ANAN, AOT, AP, BA, BANPU, BBL, BCH, BCP, BCPG, BDMS, BEAUTY, BEC, BEM, BJC, BH, BIG, BLA, BLAND, BPP, BTS, CBG, CENTEL, CHG, CK, CKP, COM7, CPALL, CPF, CPN, DELTA, DTAC, EA, EGCO, EPG, GFPT, GLOBAL, GLOW, GPSC, GUNKUL, HMPRO, INTUCH, IRPC, ITD, IVL, KBANK, KCE, KKP, KTB, KTC, LH, LHBANK, LPN, MAJOR, MALEE, MEGA, MINT, MONO, MTLs, PLANB, PSH, PTL, PTG, PTT, PTTEP, PTTGC, QH, RATCH, ROBINS, S, SAWAD, SCB, SCC, SCCC, SIRI, SPALI, SPRC, STEC, STPI, SUPER, TASCO, TCAP, THAI, THANI, THCOM, TISCO, TKN, TMB, TOP, TPIPL, TRUE, TTA, TU, TVO, UNIQ, VGI, WHA, WORK.

Corporate Governance Report:

The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general

public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey result may be changed after that date. CIMBT does not confirm nor certify the accuracy of such survey result.

Score Range:	90 - 100	80 – 89	70 - 79	Below 70 or	No Survey Result
Description:	Excellent	Very Good	Good	N/A	

United Arab Emirates: The distributor of this report has not been approved or licensed by the UAE Central Bank or any other relevant licensing authorities or governmental agencies in the United Arab Emirates. This report is strictly private and confidential and has not been reviewed by, deposited or registered with UAE Central Bank or any other licensing authority or governmental agencies in the United Arab Emirates. This report is being issued outside the United Arab Emirates to a limited number of institutional investors and must not be provided to any person other than the original recipient and may not be reproduced or used for any other purpose. Further, the information contained in this report is not intended to lead to the sale of investments under any subscription agreement or the conclusion of any other contract of whatsoever nature within the territory of the United Arab Emirates.

United Kingdom and European Economic Area (EEA): In the United Kingdom and European Economic Area, this material is also being distributed by CIMB Securities (UK) Limited (“CIMB UK”). CIMB UK is authorized and regulated by the Financial Conduct Authority and its registered office is at 27 Knightsbridge, London, SW1X7YB. The material distributed by CIMB UK has been prepared in accordance with CGS-CIMB’s policies for managing conflicts of interest arising as a result of publication and distribution of this material. This material is for distribution only to, and is solely directed at, selected persons on the basis that those persons: (a) are eligible counterparties and professional clients of CIMB UK; (b) have professional experience in matters relating to investments falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the “Order”), (c) fall within Article 49(2)(a) to (d) (“high net worth companies, unincorporated associations etc”) of the Order; (d) are outside the United Kingdom subject to relevant regulation in each jurisdiction, material(all such persons together being referred to as “relevant persons”). This material is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this material relates is available only to relevant persons and will be engaged in only with relevant persons.

Where this material is labelled as non-independent, it does not provide an impartial or objective assessment of the subject matter and does not constitute independent “research” (cannot remove research from here under the applicable rules of the Financial Conduct Authority in the UK. Consequently, any such non-independent material will not have been prepared in accordance with legal requirements designed to promote the independence of research (cannot remove research from here) and will not subject to any prohibition on dealing ahead of the dissemination of research. Any such non-independent material must be considered as a marketing communication.

United States: This research report is distributed in the United States of America by CIMB Securities (USA) Inc, a U.S. registered broker-dealer and a related company of CIMB Research Pte Ltd, PT CIMB Sekuritas Indonesia, CIMB Securities (Thailand) Co. Ltd, CIMB Securities Limited, CIMB Securities (India) Private Limited, and is distributed solely to persons who qualify as “U.S. Institutional Investors” as defined in Rule 15a-6 under the Securities and Exchange Act of 1934. This communication is only for Institutional Investors whose ordinary business activities involve investing in shares, bonds, and associated securities and/or derivative securities and who have professional experience in such investments. Any person who is not a U.S. Institutional Investor or Major Institutional Investor must not rely on this communication. The delivery of this research report to any person in the United States of America is not a recommendation to effect any transactions in the securities discussed herein, or an endorsement of any opinion expressed herein. CIMB Securities (USA) Inc, is a FINRA/SIPC member and takes responsibility for the content of this report. For further information or to place an order in any of the above-mentioned securities please contact a registered representative of CIMB Securities (USA) Inc.

CIMB Securities (USA) Inc. does not make a market on other securities mentioned in the report.

CIMB Securities (USA) Inc. has not managed or co-managed a public offering of any of the securities mentioned in the past 12 months.

CIMB Securities (USA) Inc. has not received compensation for investment banking services from any of the company mentioned in the past 12 months.

CIMB Securities (USA) Inc. neither expects to receive nor intends to seek compensation for investment banking services from any of the company mentioned within the next 3 months.

Other jurisdictions: In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is only for distribution to professional, institutional or sophisticated investors as defined in the laws and regulations of such jurisdictions.

RECOMMENDATION FRAMEWORK

Stock Ratings

Definition:

- Add The stock's total return is expected to reach 15% or higher over the next 12 months.
- Hold The stock's total return is expected to be between negative 10% and positive 15% over the next 12 months.
- Reduce The stock's total return is expected to fall below negative 10% over the next 12 months.

The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

Sector Ratings

Definition:

- Overweight An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
- Neutral A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
- Underweight An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

Country Ratings

Definition:

- Overweight An Overweight rating means investors should be positioned with an above-market weight in this country relative to benchmark.
- Neutral A Neutral rating means investors should be positioned with a neutral weight in this country relative to benchmark.
- Underweight An Underweight rating means investors should be positioned with a below-market weight in this country relative to benchmark.

Anirban Lahiri – Head of Research

Email: anirban.lahiri@vndirect.com.vn

Hinh Dinh – Analyst

Email: hinh_dinh@vndirect.com.vn

VNDIRECT Securities Corporation

1 Nguyen Thuong Hien Str – Hai Ba Trung Dist – Ha Noi

Tel: +84 2439724568

Email: research@vndirect.com.vn

Website: <https://vndirect.com.vn>