PV POWER (POW VN EQUITY): Electrifying Vietnam's economic development

A proxy on a multi-year energy growth story

BUY

Current price: VND 13,450

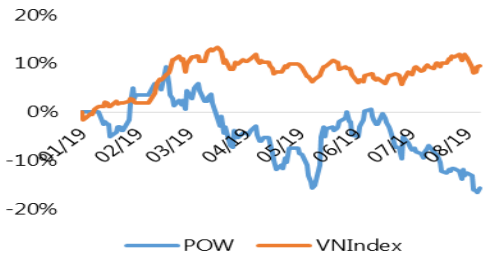
Target price: VND 17,457

Upside: 30.3%

POW is a leading IPP in an energy-hungry and undersupplied market where demand is set to grow more rapidly than GDP for at least the next decade. Its diversified power production capacity allows for stable production during periods of disruption for any single power generation source. Short-term catalysts include substantial reductions in depreciation and interest expenses in 2019-20E. In our view, the current 1.0x 2020E P/BV valuation offers an attractive entry opportunity. **We initiate coverage with a BUY rating and expect 32.5% 12-m total shareholder returns**.

52-week Price Range (VND)	Market Capitalization	FY19E Dividend Yield	Remaining Foreign Room	Free-float	ADTV-3month
12,700-17,600	**USD 1.3 bn**	**2.2%**	**36%**	**14.0%**	**USD1.4mn**

Price performance



Event catalysts

- Electricity demand to grow at 8% CAGR in 2020-30E (source: EVN).
- Installed capacity to grow 31% by 2023, with 2 additional plants.
- Reduced depreciation and interest costs going forward.

Risks to our call

- Insufficient supply of gas and coal may affect the business.
- Hydropower is sensitive to meteorological conditions.
- Concentration & counterparty risks: EVN is the sole buyer.

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Company profile: POW is Vietnam's second largest independent electricity supplier with installed capacity of 4,208 MW, accounting for 10% of Vietnam's power installed capacity. The firm's production sources comprise gas fired thermal power (64% of the firm's power production mix), coal fired thermal power (29%), and hydropower (7%).

Key metrics	2018A	2019E	2020E
Revenue growth (%)	9.9	5.5	6.9
NPAT growth (%)	(14)	31	28
GPM (%)	13.7	14.3	15.1
Debt/Equity (%)	61.5	35.7	27.9
ROAE (%)	7.0	9.1	10.7
ROAA (%)	3.2	4.5	5.9
EPS (VND/share)	820	1,076	1,372
EPS growth (%)	(14)	31	28
PE (x)	16.4	12.5	9.8
PB (x)	1.2	1.1	1.0

Source: Company data, Bloomberg, Yuanta Vietnam

Vietnam's electricity shortage should increase to 48 bn kWh by 2025. Assuming that Electricity-to-GDP demand elasticity remains stable at 1.6x GDP growth, electricity supply would be required to increase by 11% each year to support 7% GDP growth in 2020-25E. By 2025, we estimate that Vietnam will require production of 400 bn kWh, implying a supply gap of around 48 bn kWh.

POWering up for growth. POW is investing in two new gas-fired thermal power projects, NT3 and NT4. Both should have installed capacity of 650-880 MW, increasing POW's total installed capacity by 31% to reach 5.508 MW by 2023.

Short-term catalyst: lower depreciation. Machinery depreciation from Ca Mau 1 & 2 and Nhon Trach 1 will end in 2019 and 2020, respectively. We reckon this will add VND 875bn to 2019E PATMI and another VND 325bn in 2020E PATMI.

Yuanta vs consensus. Our 2020E EPS forecast is 5% higher than the Street. We see upside to our forecasts if and when the company resolves its input constraints, especially those related to coal.

We initiate coverage with a BUY recommendation and target price of VND 17,457 based on an EV/EBITDA multiple valuation method. Our target implies 2019E PE of 16.2x and 2020E PE of 12.7x, which we view as reasonable. Our target EV/EBITDA of 6.7x is 20% below the regional peer average.

POW: Electrifying Vietnam's Economic Growth

POW, as the second largest independent power generator, is a beneficiary of Vietnam's energy shortage.

POW is Vietnam's second largest independent power producer (IPP), accounting for 10% of total national production. We view the company as a key beneficiary of Vietnam's energy shortage amidst rapidly increasing demand.

Unlike smaller IPPs, POW offers a diversified range of energy sources comprising gas-fired thermal power, coal-fired thermal power, and hydropower, most of which operate under long-term power purchase agreements with EVN.

The investment story is primarily about volume growth as POW ramps up generation capacity to help fuel Vietnam's economic development amidst shortage of power supply. POW plans to capture the undersupplied market by expanding its installed capacity by at least 33% via two additional gas-fired thermal power projects, which we expect to be operational by 2023.

Other short-term catalysts include declines in deprecation expenses of 22.4% YoY in 2019E and 10.4% YoY in 2020E. This is because deprecation will expire at Ca Mau 1&2 in 2019E and at Nhon Trach 1 in 2020E. In addition, deleveraging should result in lower interest payments over the next two years. This should drive profit margin improvements.

POW has little control over its ASP, but purchasing agreements mean that input costs are passed on to the buyer. Thus, operating margins are likely to remain flat at best – again, the core investment case for POW is based on topline growth in the years ahead.

Stock view – Recent weakness offers an attractive entry opportunity

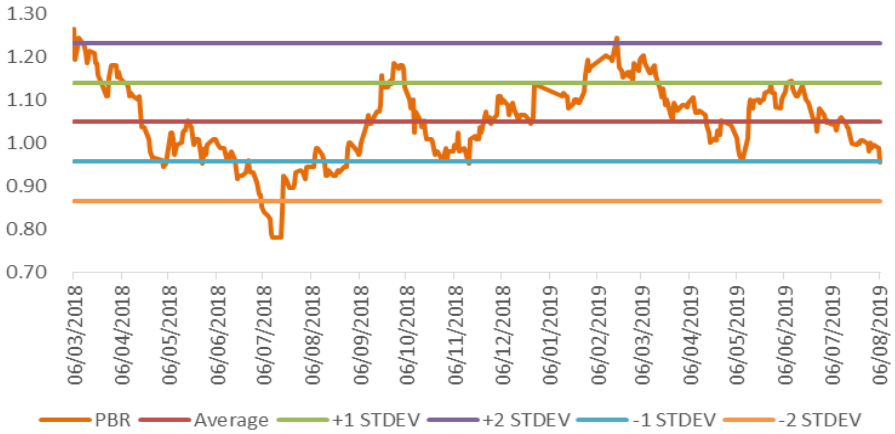
POW has decreased by 16% YTD, underperforming the index by 25ppt. We believe this is due to concerns over the stability of input supply (i.e., gas and coal). We believe that these problems are being resolved, as POW states that it has initiated coal import procedures. Given that the shortage of domestic coal is leading to a shortage of energy amidst rapidly rising demand, we strongly believe that POW will be allowed to import coal directly, thus ensuring input stability. Unfortunately, we have no visibility on the timing of any relaxation on coal imports, but we would consider it a catalyst for earnings upgrades if and when it occurs.

In addition, issues related to gas inputs for the Ca Mau 1 & 2 thermal power plants have apparently been settled, as PVN and Petronas have agreed on gas distribution terms from PM3, their shared-ownership gas field. We have no concerns about gas supply for NT1 and NT2 because it is sourced domestically.

Admittedly, POW's trading history is short. But the stock has rallied sharply higher from this level (-1 SD) in the past.

POW is trading at 1x 2020E P/BV, 1 standard deviation below its historical average. Admittedly, the March 2018 listing does not leave a particularly long history, which limits the informational value of this approach. However, the stock has typically rallied sharply when it reached these levels over the past 15 months (with the exception of June-July 2018, when the entire market was in a steep decline).

Fig. 1: POW is trading at 1x 2020E P/BV, 1 standard deviation below its historical average



Source: Bloomberg, POW, Yuanta Vietnam

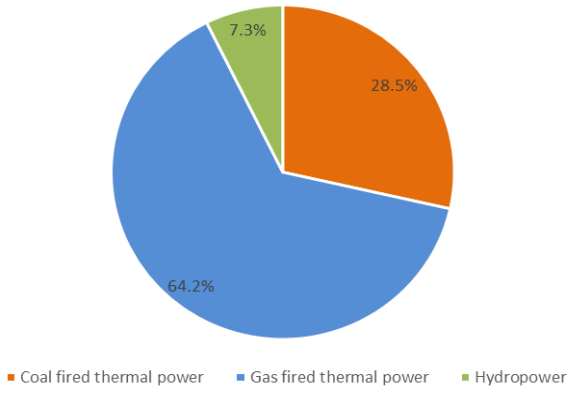
In any case, our recommendation on POW is not meant to be a trading call. We view the current valuation as an attractive entry point for long-term shareholders given the strong thematic drivers: POW is a proxy on growth in Vietnam's energy demand amidst a sustained shortage of power supply. The company's strong 1H19 financial performance also backs up our positive fundamental view.

Diverse sources of power production

POW's diverse range of power generation capacity (i.e., coal, gas, and hydro) is a key differentiating factor with smaller IPPs

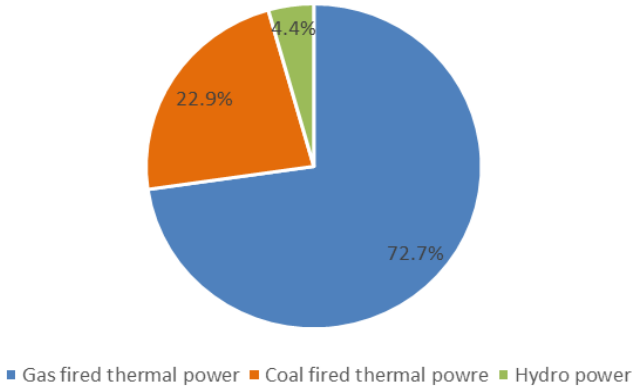
As noted above, POW is Vietnam's second-largest IPP with installed capacity of 4,208 MW, just behind Power Generation JSC 3 (Genco 3 – Upcom: PGV, Not Rated by Yuanta). POW is well placed to capture growing demand for power in Vietnam and should also be a beneficiary of multi-year electricity shortages. POW's diverse energy generation sources of gas, coal, and hydro. This mix of generation capacity should allow for smooth consolidated business operations when disruptions occur in any single segment (e.g., input supply interruptions or unfavorable weather).

Fig. 2: Installed capacity mixed



Source: POW

Fig. 3: Revenue mix by power source



Source: POW

Multiple production sources mean that POW captures growth through periods of input constraints (e.g. coal) or unfavorable weather (e.g. hydropower).

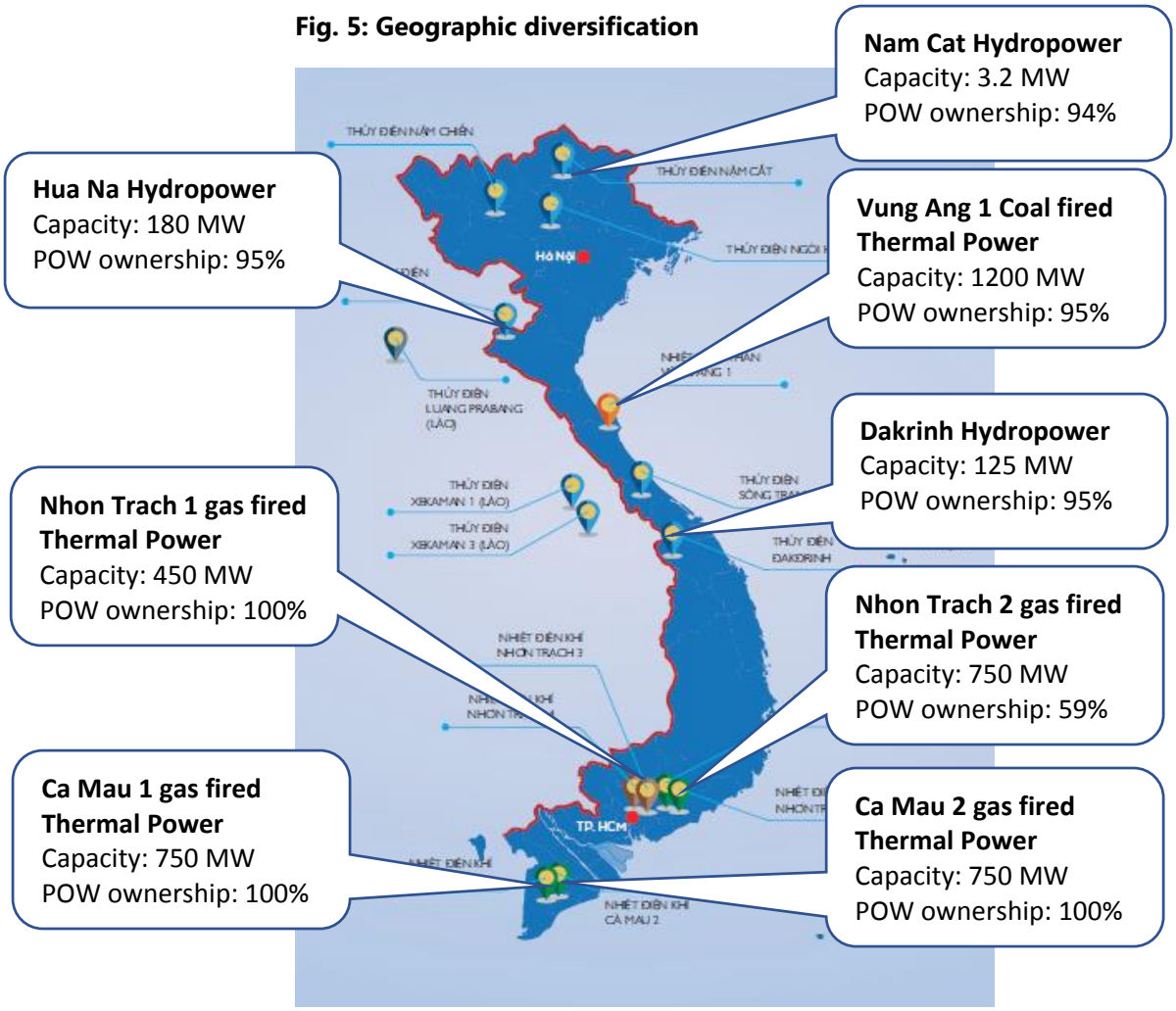
This is because when disruptions occur in, for example, coal supply, POW's gas and hydro capacity stand ready as a substitute source of energy. This is a key differentiating factor with POW's smaller peers. Its diversified sources of power include one coal-fired power plant (28.5% of total installed capacity), four gas-fired plants (64.2%) and three hydropower plants (7.3%), all of which have long-term power purchase agreements (PPAs). Thus, the company's business operations are relative smooth during dry (or draught) seasons and periods of input constraints.

Fig. 4 Diversified power sources

Plants	Type	Capacity (MW)	POW ownership (%)	Power Purchase Agreement (years)
Vũng Áng 1	Coal fired thermal power	1200	100%	10
Nhon Trach 1	Gas fired thermal power	450	100%	10
Ca Mau 1	Gas fired thermal power	750	100%	20
Ca Mau 2	Gas fired thermal power	750	100%	20
Nhon Trach 2	Gas fired thermal power	750	59%	10
Dakdrinh	Hydropower	125	95%	10
Hua Na	Hydropower	180	95%	10
Nam Cat	Hydropower	3.2	94%	20

Source: POW

Fig. 5: Geographic diversification



Source: POW

Capacity expansion focused on gas fired thermal power

POW's total installed capacity to expand by at least 31% by 2022.

POW has been appointed as the sole investor in two gas-fired thermal power plants, Nhon Trach 3 and Nhon Trach 4, that have installed capacity of 650-880 MW each (Decision 234/QĐ-TTg issued on 27 Feb 2019). The projects are to be located next to the existing Nhon Trach 2 plant in Dong Nai province. The two projects are expected to be launched by 2022-2023, expanding the total capacity of the company by at least 31%.

Total capex of the two projects is set at VND 33 trn, equivalent to USD 1.4bn (~USD 700mn each), of which 70% will be financed by debt. We think that POW has sufficient financial resources to carry out these projects. The projects will require 0.49–0.67 mn tons of LNG per year, which is to be sourced from the LNG Thi Vai project.

Gas fired thermal power is cheaper and greener, and gas input supply is less of a concern than coal.

Among the advantages of gas-fired thermal power is that it requires smaller investments than other types of power. According to POW, the required investment for gas-fired thermal power plant is 50% that of average investments in hydropower and coal-fired power of similar capacity levels. We think that LNG is also a good alternative to coal for Vietnam because it is more environmentally friendly and gas supply is less of a concern. Shell forecasts that LNG supply will increase by 35 mn tonnes in 2019, in which case gas supply will continue to expand more quickly than other major input sources for energy.

We think that power capacity expansion is necessary in Vietnam given the general shortage of electricity, which is particularly acute in the South. Electricity production must be prioritized to ensure economic growth, especially in the South.

POW may also invest in a 1,400MW hydropower project in Luang Prabang in Laos. This project is not expected to become operational until 2027, and we have not factored it into our model.

Production output is the main driver, whereas ASP depends on input costs

As a leading IPP amidst a supply shortage and growing demand, POW's business outlook is bright.

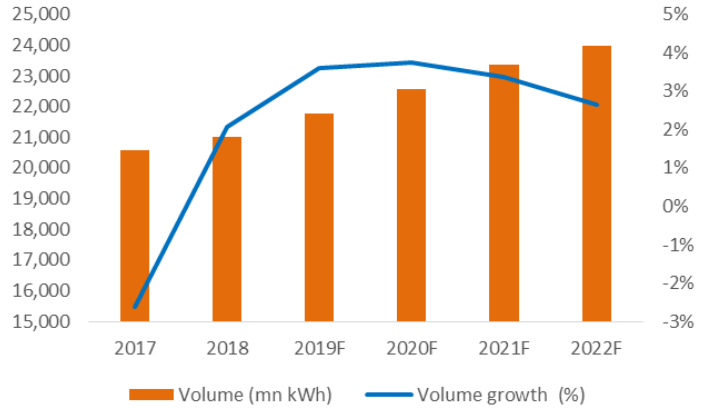
As mentioned above, Vietnam faces a shortage of electricity, which in turn pressures the power sector. As a leading IPP, we believe that POW has a good chance to expand its business by maximizing its production. Most of its thermal power plants are running at an average of 65% of capacity, which leaves plenty of room for increased production even before the new capacity is added.

However, average selling price (ASP) is constrained by a contractual framework that links its ASP with material costs (i.e,, the prices of gas and coal). Power companies have some flexibility on ASP, as they have engaged in the competitive power generation market and more recently the Vietnam Wholesale Electricity Market (VWEM). Currently, about 20% of production

trades on the VWEM. But ultimately, there is only one buyer at the consolidated level given that the five VWEM buyers are all EVN entities.

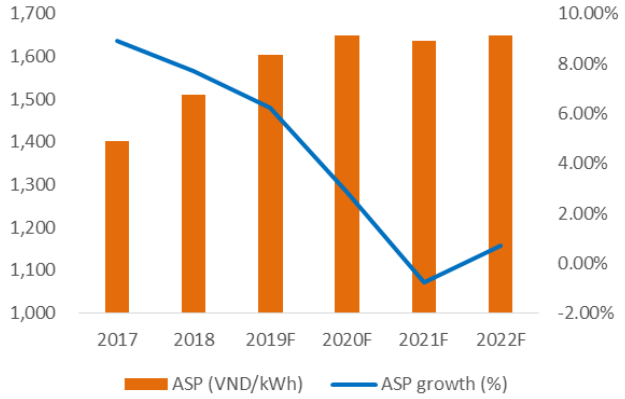
Thus, we are not optimistic about POW's ability to control ASP going forward; our increased profit margin forecasts for 2019-20E are based on reductions in depreciation expenses rather than operating margin improvements. However, the severely undersupplied market should at least help maintain ASP stability in the years ahead.

Fig. 6: Power shortages drive electricity production



Source: POW, Yuanta Vietnam

Fig. 7: ASP to correlate with input material



Source: POW, Yuanta Vietnam

The PPAs allow POW to transfer price fluctuation to energy buyers

Input price fluctuation is transferred to buyers

As a predominantly thermal power company, POW's main inputs are gas (~3 billion Sm3) and coal (~2.7mn tons). Input material costs accounted for 74% of COGS in 2018. The company's power purchasing agreement (PPAs) allow POW to transfer input price fluctuations to the energy buyers (i.e., the five subsidiaries of EVN), which results in stable margin for POW during periods of input price volatility.

Fig. 8: Power plants hold long-term PPAs

Plants	Launch	Power purchase agreement (PPA- years)	End PPA
Vũng Áng 1	2015	10	2026
Nhon Trach 1	Jun-08	10	2022
Ca Mau 1	Mar-08	20	2028
Ca Mau 2	Dec-08	20	2028
Nhon Trach 2	Oct-11	10	2021
Dakdrinh	Jun-14	10	2024
Hua Na	Mar-13	10	2023
Nam Cat	Apr-12	20	2032

Source: POW

PPAs also regulate sales volumes, thus ensuring stability of output for IPPs.

PPAs also regulate sales volume (Qc) which help ensure stability of output for IPPs such as POW. The overall mechanism is regulated by Circular 56/2014/TT-BCT (issued in 2014), which includes the detailed variables to compute fixed costs plus variable costs as outlined below (for thermal power plants):

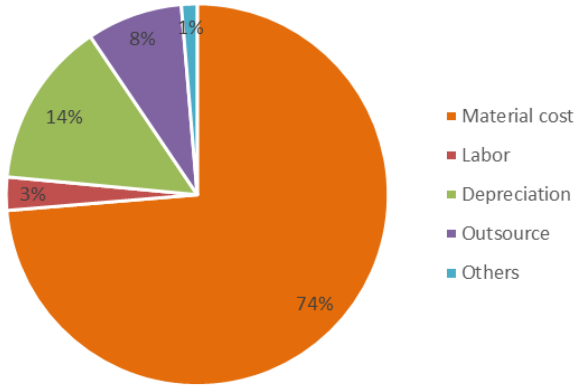
PPA price = FC + FOMC + VC + Pvc

- FC: Fixed costs (IRR = or < 12%)
- FOMC: Fixed operating and maintenance costs
- VC: Variable costs (main inputs + substitutes)
- Pvc: Transportation of inputs

In 2018, POW's Vung Ang 1 coal-fired thermal power sourced 2.2mn tons of input coal mainly from Vinacomin, the country's main supplier. POW tells us that they require an additional 400,000 tons in 2019 and 1 million tons annually in the long term, on the top of the supply from Vinacomin. POW plans to import from overseas and mix with the imported coal with domestic coal. Thus, we forecast POW's coal price to increase by 15% in 2019 as domestic coal prices have increased and the cost of imported coal is even more expensive. Our model suggests that coal prices will remain relatively stable from 2020 onwards, which is in line with Bloomberg consensus.

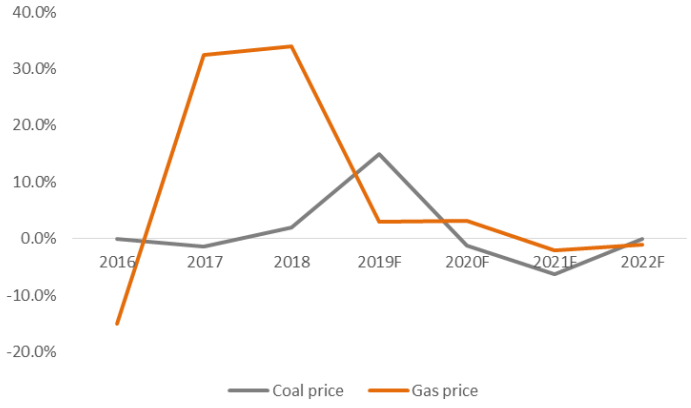
Ca Mau 1 & 2 source gas input from PM3 CAA, whereas Nhon Trach 1 & 2 source gas input from different gas fields Bock 06.11, Hai Thach Moc Tinh, Thien Ung Dai Hung. We assume gas input cost increases of 3% in 2019E and 2020E, with costs then falling by -2% in 2021E and -1% in 2022E, in accordance with Bloomberg consensus.

Fig. 9: COGS mix



Source: POW, Yuanta Vietnam

Fig. 10: Input materials growth forecast



Source: POW, Bloomberg, Yuanta Vietnam

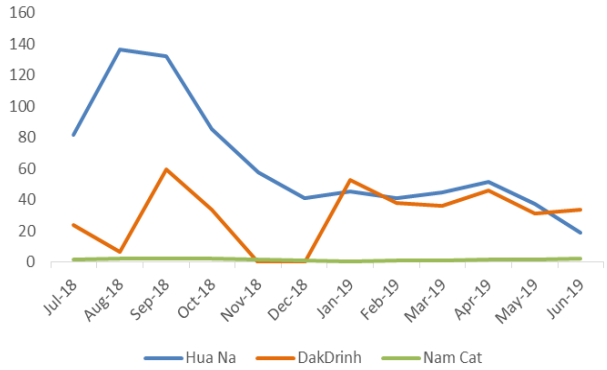
Hydropower hit by unfavorable weather in 2019…

Hydropower has dried up in 1H19, thanks to El Niño

POW's hydropower power plants have been impacted by the El Niño phenomenon, which has resulted in low rainfall and low water levels. The unfavorable weather has thus affected hydropower operations across the country.

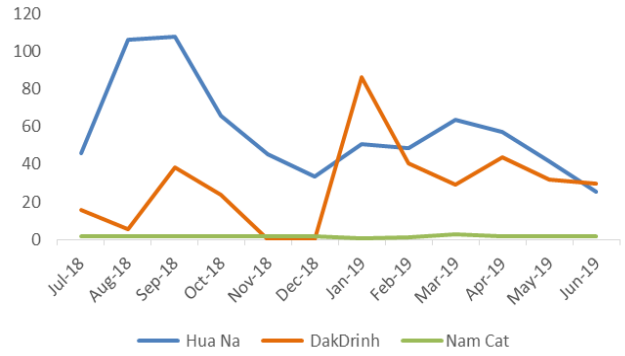
Like other hydropower producers, PV POW's plants recorded low production levels due to reduced water flow in 1H2019. Hydropower production fell by 14% QoQ in 2Q19, reaching just 223 mn kWh. The situation might improve in 2H19, but forecasts suggest less rain than during the same period last year.

Fig. 11: Hydropower production (mn kWh)



Source: POW

Fig. 12: Hydropower revenue (VND bn)



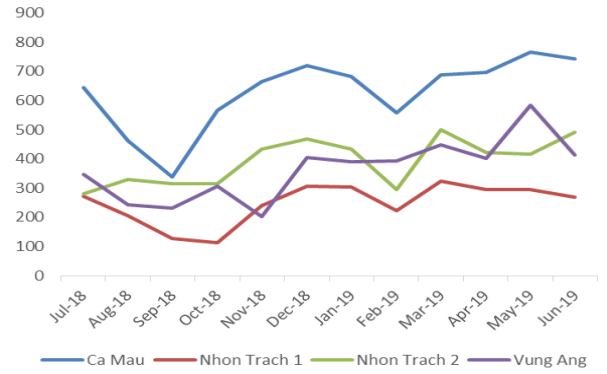
Source: POW

… but lack of rain is great for thermal power

POW's hydropower were hit by El Nino phenomenon

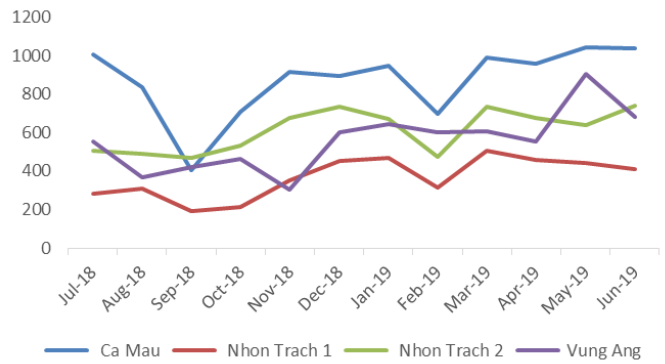
Given that hydropower accounts for 12% of the country's production and 17% of installed capacity, the dry weather has substantially exacerbated the energy shortage. Thermal power plants have been used to cover the imbalance. Because thermal power accounts for 65% of POW's installed capacity, the dry weather has actually been a benefit to the company (see the discussion of POW's 1H2019 results below).

Fig. 13: Thermal power production (mn kWh)



Source: POW

Fig. 14: Thermal power revenue (VND bn)



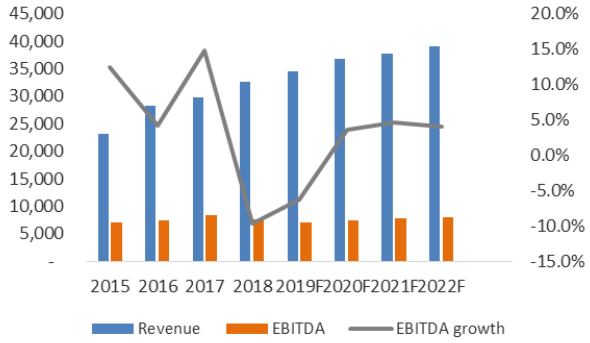
Source: POW

Financial analysis

Business performance improving in FY2019

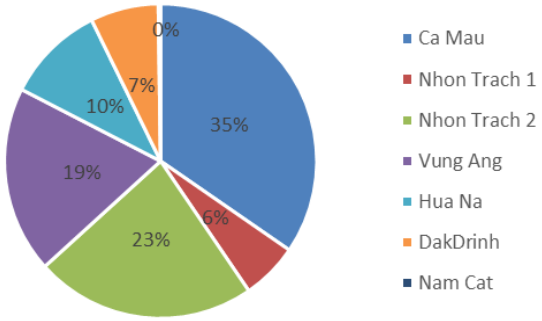
POW has delivered relatively smooth revenue growth of 7.6% CAGR in 2014-2018, driven largely by sales CAGR of 7% in the same period. We expect POW's FY2019 business performance to continue improving due to higher production output and relatively stable ASP. We expect FY2019 revenue to grow at 5.5% YoY to VND 34,453 bn and net profit to grow at 31.2% YoY to VND 2,521 bn.

Fig. 15: Expected financial performance



Source: POW, Yuanta Vietnam

Fig. 16: FY 2018 Gross profit mix (VND bn)



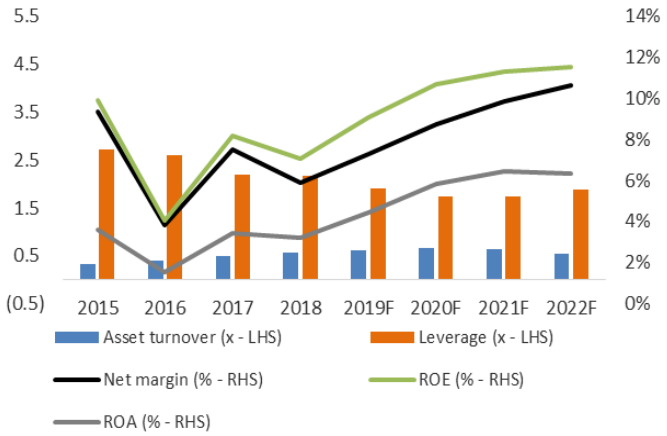
Source: POW, Yuanta Vietnam

Profit margin improvement in 2019-20E is due to falling depreciation and interest expenses.

We expect ROE to improve starting from 2019E given the increased net margin from reduced depreciation and interest expenses in 2019-20E and a gradual increase in asset utilization going forward. We forecast depreciation expense to decrease by 22.3% YoY in 2019E and 10.6% YoY in 2020E.

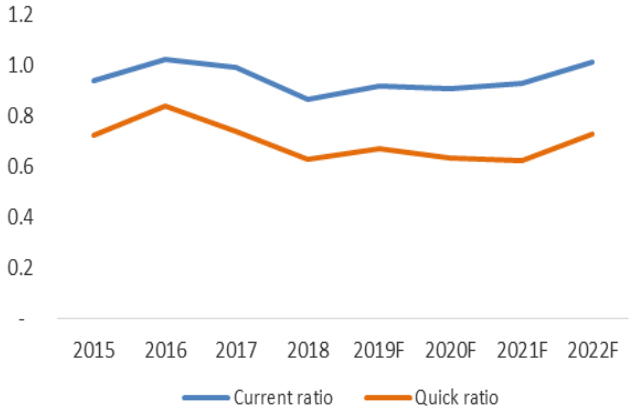
Leverage has been declining since 2015 given the lack of major investments. We expect financial leverage to continue in 2019-20E and to bottom out in 2021E before picking up again in 2022E as the company invests in NT3 and NT4.

Fig. 17: Dupont Analysis



Source: POW, Yuanta Vietnam

Fig. 18: Liquidity should remain strong

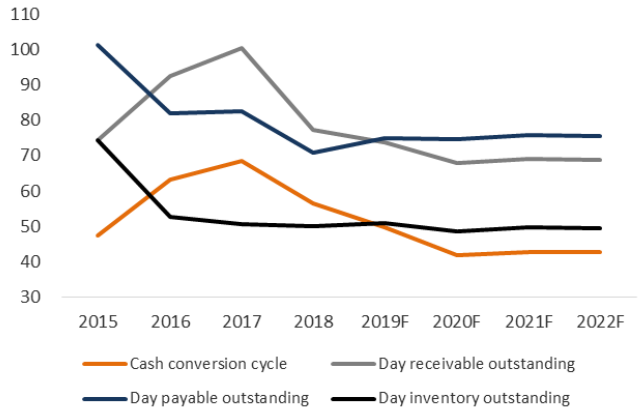


Source: POW, Yuanta Vietnam

POW's cash conversion cycle improved in 2018 as receivables turnover increased. Going forward, we expect the cash conversion cycle to improve marginally, mainly driven by improved receivables and payables turnover.

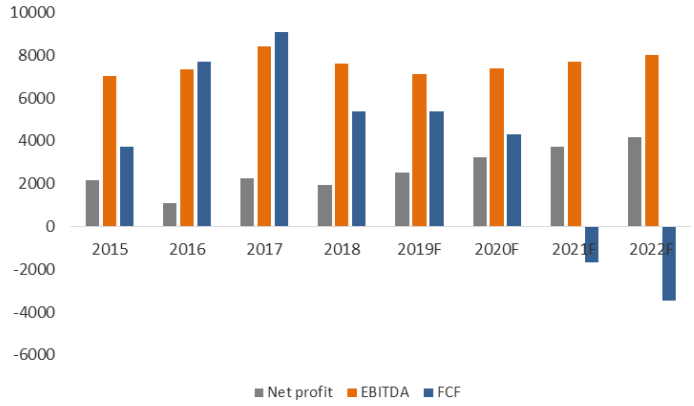
Going forward, free cash flow is likely to be impacted by the substantial investments in NT3 and NT4. However, we expect POW's business performance to improve thanks to the higher output production that should result from these investments after 2023, when NT3 and NT4 are launched.

Fig. 19: Efficiency (days)



Source: POW, Yuanta Vietnam

Fig. 20: Cash flow



Source: POW, Yuanta Vietnam

1H19 PATMI jumped by 26.2% YoY

1H19 PATMI jumped by 26.2% YoY thanks to margin expansion

POW's 1H2019 revenue rose by 2.7% YoY to VND 18,317bn. Production volume fell by 2% YoY to 11.5 bn kWh, mostly because of the slowdown in hydropower which was due to unfavorable weather. However, this was offset by higher ASP, which increased by 2.4% YoY to VND 1,500 per kWh.

1H19 gross margin expanded to 14.6%, up from 13.9% in 1H2018. This improvement was mainly attributable to 1) increased ASP, 2) a 18.6% YoY decline in depreciation to VND 1,635 bn, and 3) an 18% YoY fall in SG&A cost, which reduced the SG&A-to-revenue ratio to 1.9% (vs 2.4% in 1H18). As a result, 1H19 PATMI jumped by 26.2% YoY to reach VND 1,572bn.

OUR VIEW, VALUATION, AND RISKS TO OUR CALL

Our view

The story is all about production and sales growth as POW powers Vietnam's GDP growth amidst a supply shortage.

As Vietnam's second largest IPP, POW is a key beneficiary of Vietnam's shortage of energy – which is only going to worsen in the years ahead – in our view. Unlike its smaller peers, the company operates diversified sources of energy production including gas-fired thermal power, coal-fired thermal power and hydropower, all of which have long-term PPAs with buyers.

Installed capacity will be expanded by at least 33% to capture undersupplied market.

Crucially, POW plans to expand its installed capacity by at least 33% to capture the undersupplied market by investing in two gas-fired thermal power projects (Nhon Trach 3 and Nhon Trach 4) that we expect to be operational by 2023.

Short-term catalysts include lower depreciation and financial expenses in 2019-20E.

Short-term catalysts include reductions in depreciation of 22.4% YoY in 2019E and 10.4% YoY in 2020E as Ca Mau 1&2 and Nhon Trach 1 become fully depreciated. In addition, POW's deleveraging should result in lower interest payments over the next two years.

Valuation

Our target price of VND 17,457 is based on an EV/EBITDA multiple valuation method

Our target price of VND 17,457 is based on EV/EBITDA multiple valuation method. The target EV/EBITDA of 6.7x is 20% below the average for regional peers, which we view as reasonable given the input constraints facing Vietnamese IPPs. Our target price of VND 17.457 per share implies PE multiples of 16.2x for FY2019E and 12.7x for FY2020.

Fig. 21: EBITDA valuation method

Target EV/EBITDA (x)	6.7
Enterprise value (VND bı	49,626
Cash (VND bn)	2,333
Debts (VND bn)	11,078
Market cap (VND bn)	40,881
Target Price (VND)	**17,457**
Current price (VND	**13,400**
Upside (%)	**30.3**

Source: Yuanta Vietnam Research estimates

Fig. 22: Regional peers

Name	Market cap	PER (x)	PBR (x)	Next year EV/EBITDA(x)	ROE (%)	ROA (%	Dividend yield (%)
PetroVietnam Nhon	7,039	10.9	1.7	5.1	16.9	7.4	9.8
Pha Lai Thermal Pov	7,887	8.0	1.4	5.6	17.2	13.2	11.0
Beijing Jingneng Cle	31,498	4.3	0.5	5.6	10.5	3.8	5.9
Huadian Fuxin Energ	35,360	5.0	0.5	7.9	11.2	2.1	4.5
JSW Energy Ltd	37,189	16.3	1.0	6.0	5.9	2.6	1.4
CK Power PCL	39,064	66.0	2.6	20.1	4.0	1.2	0.4
Malakoff Corp Bhd	23,657	14.9	0.7	1.6	4.4	1.0	6.4
First Gen Corp	40,960	7.2	0.9	4.7	15.1	5.0	2.2
Manila Electric Co	180,840	17.4	5.3	10.7	32.2	7.1	4.4
Ratch Group PCL	72,217	14.7	1.6	16.8	10.6	6.5	3.6
Average	-	15.7	1.2	8.4	12.8	5.0	5.0
PetroVietnam Pow	**31,498**	**16.4**	**1.3**	**5.9**	**7.6**	**3.2**	**-**

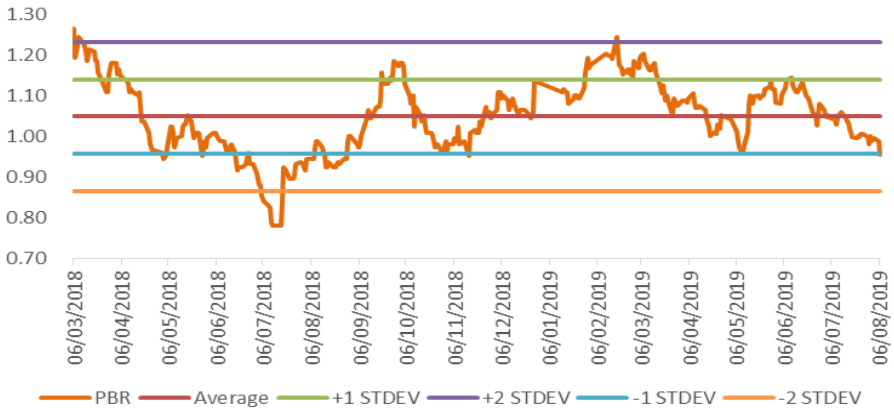
Source: Yuanta Vietnam Research estimates

POW is trading at 1 standard deviation below the average since listed

POW trades at 1 standard deviation below the (17-month) historical mean

POW is trading at 1 standard deviation below its average P/BV valuation since its listing in March 2018. We admit that the limited trading history reduces the value of the historical data. However, we view this level as attractive given the positive outlook for energy demand in Vietnam going forward, POW's diversified mix of power generation capacity, and our expectation for improved financial performance (which is bolstered by the strong 1H2019 results).

Fig. 23: PBR (x) remains at a relatively low level vs Brent prices



Source: Bloomberg

Risks to our call

- The key downside risks include the possible renegotiation of PPAs as proposed by EVN. Nhon Trach 2 Thermal power plant (HOSE: NT2, Not Rated) has stated that they must renegotiate their PPA with EVN, especially in terms of pricing, and that this is likely to be less favorable for NT2 than the original PPA. Other plants also under consideration for PPA renegotiation include Dakrinh and Hua Na hydropower.
- As a power generation company, POW depends on variety of inputs, largely gas and coal. Coal supply in particular has been under pressure as demand has outgrown domestic supply. Only two major suppliers are in the Vietnam market: Vinacomin and Dong Bac Corporation. This is a serious constraint for POW, which reported that only a portion of its Vung Ang 1 capacity was utilized during 1H19 due to insufficient coal input supply.
- Input gas supply for Ca Mau 1 & 2 is sourced from PM3 CAA, a jointly owned firm between Vietnam's PVN and Malaysia's Petronas. Since 2020, Vietnam only has had the right to use 50% of the gas field's production. Thus, PVN had to negotiate to purchase 50% volume

belong to Malaysia. The decision made that input gas price is increased from 46% MFO to 90% of MFO plus tariff since 2020.

- Hydropower is also sensitive to weather conditions. El Nino causes low rainfall and thus low water levels. In turn, this can impact hydropower production and financial performance, as occurred in 1H19.
- We view the potential hydropower investment in Luang Prabang (Laos) as a long-term risk. The pricing of the project is relatively high (USD 3.5mn/MW) as compared to smaller hydropower projects that the company already operates (nearly USD 2mn/MW). The total cost of the investment would be USD 4.96 bn, financed 70%/30% by debt/Equity. POW is to hold a 38% stake in this project, which translates to an investment of USD 1.88 bn. Obviously, this might result in increased leverage for POW. However, whether POW has to invest in this project remains uncertain, and the project's timing is also unknown (according to our understanding, the earliest it could be initiated is 2027).

Sector outlook

Electricity consumption CAGR of 7.9% in 2016-2035

Target GDP growth of 7% in 2016-2030

Vietnam's total energy demand is rising along with the nation's economic development. The key goal of the revised Power Development Plan VII (Rev PDP7) proposed by the Ministry of Industry and Trade (MOIT) is to ensure sufficient electricity supply to drive the targeted GDP growth of 7% in 2016–2030.

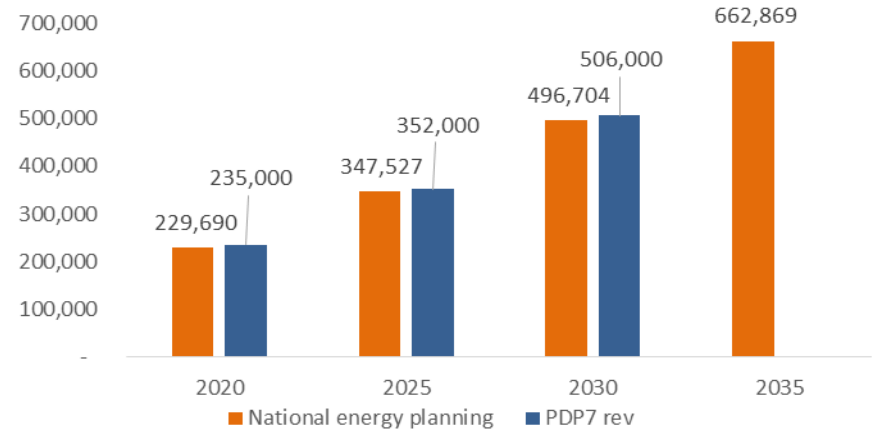
The Energy Institute, a division of the MOIT, forecasts final energy demand to rise from 54 million tons of oil equivalent (MTOE) in 2016 to reach 134.5 MTOE in 2035 for a CAGR of 4.7% as its base case. The MOIT also provides a range of forecasts that result in power demand reaching 112.0 MTOE (CAGR: 3.7%) in the low-growth scenario and 156.5 MTOE (CAGR: 5.5%) in the high-growth scenario.

Additionally, the Energy Institute projects demand for commercial electricity to reach 662.869 GWh in 2035, equivalent to CAGR of 7.9% in 2016-2035.

Electricity consumption is set to soar, with CAGR forecast at 8%–8.6% in 2020-2030.

As noted above, Rev PDP7 is aimed at ensuring sufficient electricity supply to drive economic growth of 7% annually in 2016–2030. Production targets include 235–245 bn kWh by 2020, 352–379 bn kWh by 2025, and 506–559 bn kWh by 2030. These forecasts are based on the assumption of electricity consumption CAGR of 8%–8.6% in 2020-2030.

Fig. 24: Electricity consumption forecasts (GWh)



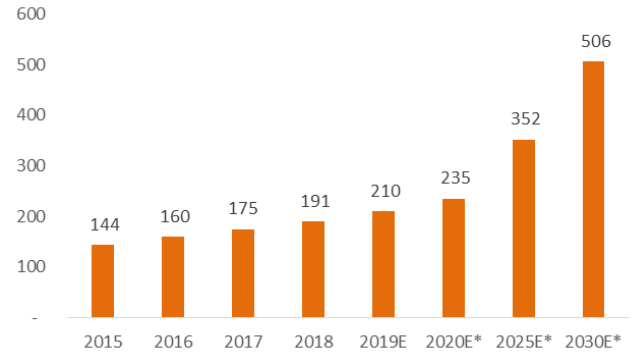
Source: Rev PDP7, Energy Institute, MOIT

Official view: Electricity supply is insufficient

Required installed capacity will reach 129,500 MW by 2030, 2.7x higher than current capacity of 48,000 MW.

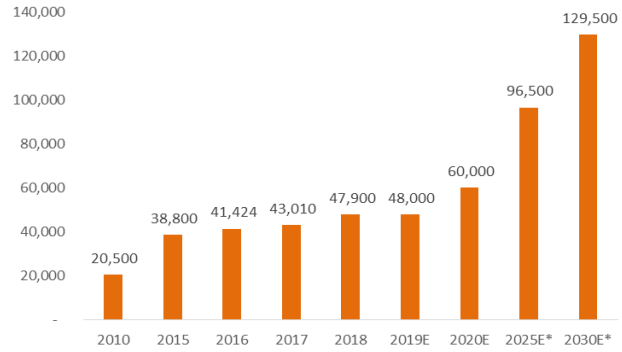
The power sector must increase its installed capacity and production to meet the rising demand for electricity consumption. Total installed capacity has reached 48,000 megawatts (MW) currently following 10% CAGR in 2010–2019. Going forward, Rev PDP7 states clearly that the installed capacity of the entire sector must increase from the current 48,000 megawatts (MW) to 60,000 MW by 2020 and to 129,500 MW by 2030.

Fig. 25: Electricity production (billion kWh)



Source: EVN reports,
(*) indicating demand forecasted by Rev PDP7

Fig. 26: Electricity installed capacity (MW)



Source: EVN reports,
(*) target set by Rev PDP7

MOIT expects the market to be undersupplied by 6.6 bn kWh in 2021.

In the short-term, Vietnam face a shortage of power. MOIT expects the market to be undersupplied by 6.6 bn kWh in 2021 and by 15 bn kWh in 2023. Likewise, EVN officials suggest that the electricity production may not meet demand in 2021-2030, with power shortages mainly to occur in the South.

The MOIT expects the electricity shortage in the Southern region to expand from 3.7 bn kWh in 2021 to 10 bn kWh in 2022 before narrowing to 3.5 bn kWh in 2025. The shortage of electricity is mainly attributable to lack of funding and low capacity among contractors, which has led to delays in some power plants including the coal-fired thermal plants Long Phu 1 (1,200 MW) and Song Hau 1 (1,200 MW).

But agree, but we think the story is more serious than it appears

In the past five year, our calculation suggested that electricity-GDP elasticity ratio has been 1.6x on average.

A simple and truthful axiom of economic development is that it leads to increased electricity demand, and this is backed up by the strong correlation between economic growth and electricity consumption in Vietnam. We calculate electricity growth/GDP growth (i.e., elasticity of electricity demand) has averaged 1.6x over the past five years. In other words, 1ppt of GDP growth has resulted in (and been driven by) 1.6ppt of electricity consumption growth.

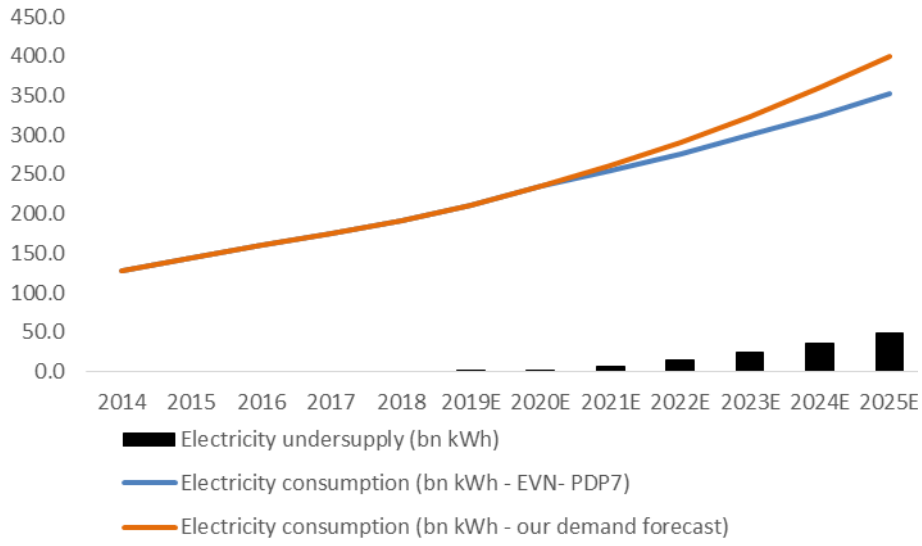
The electricity consumption will have to growth at 11% to support GDP growth of 7% in 2020-2025.

Assuming that Electricity – GDP elasticity remains at 1.6x, electricity consumption will have to growth at 11% annually (not 8.6% as indicated in Rev PDP7) to support annual GDP growth of 7% in 2020-2025. On this basis, we estimate that Vietnam must produce a total of 400 bn kWh by 2025, ahead of the government's forecast of 352 bn kWh in Rev PDP7. This is equivalent to undersupply of 48 bn kWh.

Of course, the Electricity – GDP elasticity in Vietnam has been on a downtrend in recent years. But given the power-hungry nature of capital-intensive manufacturing (and the surging FDI inflows that are targeting manufacturing)

our sense is that a sharp decline is not highly likely in the next several years. Thus, in our view, the Rev PDP7 forecasts appear to be outdated and power production and installed capacity forecasts could see substantial upward revisions in the upcoming Rev PDP8 (which we expect to be published by yearend). In any case, we expect the actual electricity demand to exceed the Rev PDP7 forecasts, leading to a more critical undersupply problem.

Fig. 27: Electricity undersupply is more serious than it might appear (bn kWh)



Source: Rev PDP7, Yuanta Vietnam

More investment is needed to meet increasing demand for power

Rev PDP7 forecasts total power supply investment of USD 148bn in 2016–2030. We think that this forecast might be subject to upside risk.

According to Rev PDP7, total investment in 2016–2030 will be USD 148bn. That represented a near-doubling of the previous official forecast from PDP7 (which projected total investment of USD 75bn in the same period). Additionally, Rev PDP7 forecasts investment to reach USD 40bn in 2016–2020, equivalent to USD 7.9bn annually. It also states that Vietnam's power system requires USD 108 bn in investment in 2021–2030. Given that Rev PDP7 had much lower forecasts for investment, we would not be surprised to see much higher investment projections again in Rev PDP8.

Coal dominates the power mix

Coal to remain the key source of power out to 2030.

The government expects coal to remain the key source of electricity, with its contribution to total power supply set to increase through 2030. Total installed capacity of coal-fired thermal power accounted for 33.5% of Vietnam's overall installed capacity and 34.4% of power production in 2015. According to Rev PDP7, coal is expected to account for 42.6% of the country's power capacity and 53.2% of production in 2030.

Hydropower is drying up given limited room for capacity growth.

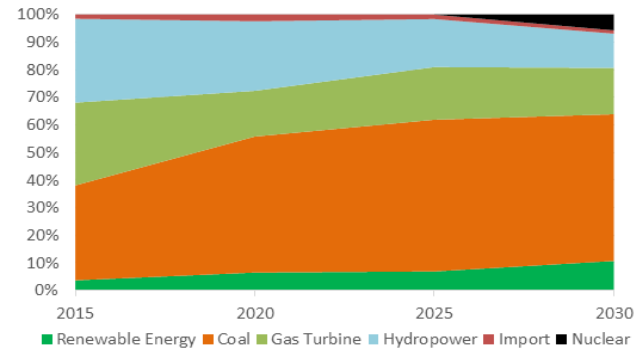
By contrast, hydropower is projected to lose ground in terms of its contribution to Vietnam electricity supply. Rev PDP7 projects hydropower's share of total installed capacity to fall from 37% to just 17% in 2030 and its share of total production to fall from 30% in 2015 to just 12% in 2030. The decline in hydropower's importance is due to its limited room for capacity growth.

However, solar power is growing surprisingly quickly.

Renewable energy should at least partially take up the slack from hydropower. According to Rev PDP7, renewable energy's share of Vietnam's total installed capacity will expand from 9.9% in 2020 to 21.0% in 2030, while its share of total production will rise from 6.5% in 2020 to 10.7% in 2030. In our view, renewable energy – and especially solar – is growing more quickly than these projections would indicate, which we attribute to accommodative policies such as Decision 02/2019/QĐ-TTg, which supplemented Decision 11/2017/QĐ-TTg.

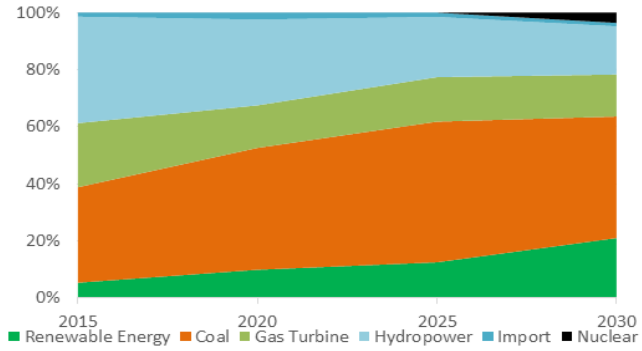
The ramp in solar energy capacity was particularly notable in 1H19, when 90 solar energy plants were put into operation across the country with total capacity of 4,500 MW. This brought total solar energy capacity to 7,000MW, almost 12.7% of Vietnam's total capacity and ahead of Rev PDP7's renewable energy forecast. However, solar energy's utilization rate appears to be constrained by the grid system (especially in the Central regions), which is insufficient to transmit the power that this capacity can generate.

Fig. 28: Electricity production mix



Source: Rev PDP7

Fig. 29: Electricity installed capacity mix



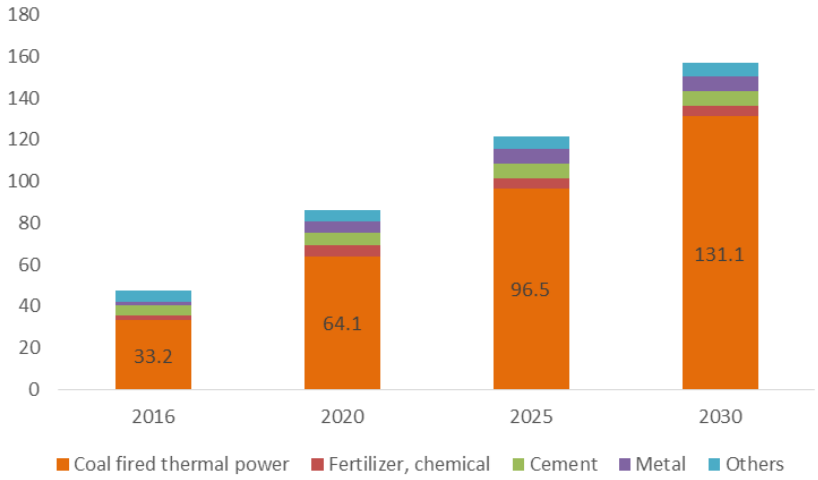
Source: Rev PDP7

Coal demand is surging…

Coal demand to grow at 8.9% CAGR in 2016-2030.

Given the critical role of coal fired thermal power in the country's electricity system, Vietnam's coal demand is likely to surge going forward. According to the Vietnam Coal Industry Development Plan (VCIDP), demand for coal could reach 156 mn tons by 2030, representing 8.9% CAGR in 2016-2030. The Plan indicates that coal-fired thermal power industry will account for some 84% of total coal supply by 2020.

Fig. 30: Coal demand by sector



Source: Decision 403/QĐ - TTg 2016, MOIT

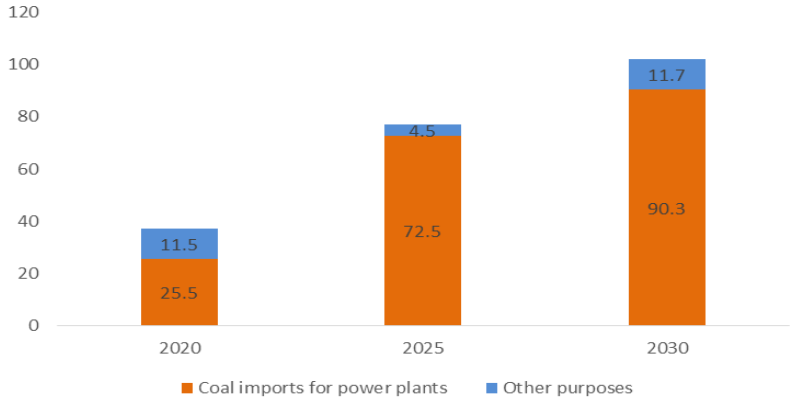
As demand surges while domestic coal exploitation slowly grow, Vietnam needs to import coal.

… leading to greater import demand and thus higher costs

Surging demand and sluggish domestic coal production suggests that Vietnam must import coal to ensure sufficient input volumes for its energy needs. According to VCIDP, coal exploitation is forecasted to remain at 57 mn tons by 2030. This is equivalent to 1.9% CAGR in 2016-2030, and is obviously much slower than 8.9% coal demand CAGR forecast for the same period. This is likely to pressure coal-fired thermal power production costs, because imported coal is typically more expensive than domestic coal.

EVN reports that coal-fired thermal power currently requires 54 mn tons of coal annually. EVN directly imports 10mn tons for its Vinh Tan 4 and Duyen Hai 3 power plants. The remaining 44mn tons are supplied by domestic suppliers TKV and Dong Bac, which also import 8 mn tons to meet demand. Coal-fired thermal power plants might have to use a mix coal, which is 11%-15% more expensive than domestic coal.

Fig. 31: Coal imports (mn tons)



Source: Decision 403/QĐ - TTg 2016, MOIT

The Vietnam Wholesale Electricity Market (VWEM)

Vietnam Wholesale Electricity Market: An attempt at enhancing the transparency of energy pricing.

The Vietnam Wholesale Electricity market was officially launched in Jan 2019, after a one-year pilot period. This market only allows generators with capacity of 30MW or higher to participate. The main difference between VWEM and the Competitive Generation Market is the energy buyer(s). The Generation Market has a sole buyer – EVN. By contrast, VWEM has five buyers: EVN North PTC, EVN Central PTC, EVN South PTC, EVN Ha Noi PTC, EVN Ho Chi Minh City PTC. All these buyers are EVN subsidiaries.

The VWEM market brings power producers and wholesales buyers to one place. In this market, producers submit their production volumes and bidding price (within upper and lower limits) one day before the trading session. Matching these bids then depends on the price and volume demand.

By the end of 2018, 90 power plants had participated in the pilot VWEM, with the total installed capacity of 23,000 MW – nearly 50% of Vietnam's total capacity. The government hopes that this mechanism will bring greater transparency to the electricity market, but we think that this objective will only be achieved after the buyers have been equitized. The next step will be to establish a competitive retail market, which might be initiated in 2023.

Fig. 32: Electricity market development

Source: Yuanta Vietnam

Undersupplied market to lead to higher electricity prices

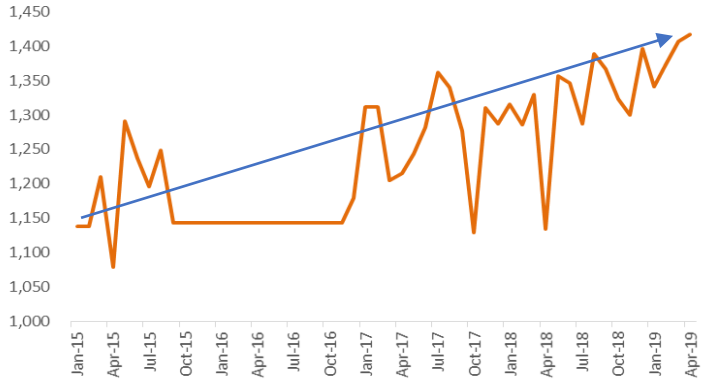
Vietnam Wholesale Electricity market was launch at the beginning of 2019.

While we appreciate the government's effort in establishing the VWEM, in our view EVN is still the sole effective buyer of electricity given that the five buyer participants on VWEM are 100%-owned subsidiaries of EVN. Nevertheless, average purchasing prices have risen over time reflecting increased production costs. In April 2019, EVN's average purchasing price reached VND 1,417/kWh, +16.7% YoY, +5.7% YTD, and +24.6% higher than that of Jan 2015.

Given the undersupplied electricity market and the input constraints confronting power plants, we expect the price momentum to continue going

forward. POW, as the largest independent power generator, is obviously amongst the winners of this trend, in our view.

Fig. 33: EVN's purchasing price (VND/kWh)



Source: EVN reports, MOIT

How's the weather? It depends who you ask.

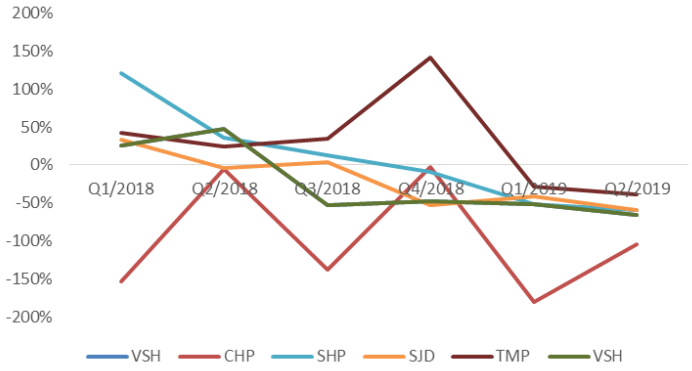
According to WMO, there is 60-65% chance that El Niño will be present during June-August 2019.

The World Meteorological Organization (May 2019) suggested a 50% chance for El Niño to be present September-November 2019. El Niño causes sea surface temperatures to rise, potentially resulting in drought or at least low water levels. Thus, El Niño can negatively affect hydropower producers while boosting the outlook for substitute sources of energy.

Indeed, listed hydropower companies reported negative impacts from unfavorable weather in 1H2019. Specifically, eight out of the nine listed hydropower companies in Vietnam reported lower YoY operating performance in 1H19, with management teams typically blaming the weather for the declines (i.e., lower-than-normal seasonal rainfall).

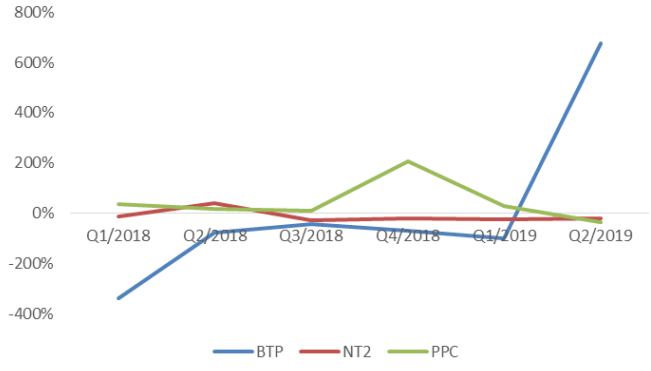
By contrast, thermal power producers have extended a warm welcome to the relatively dry weather given the resulting shortage of electricity supply. This is because demand for electricity typically shifts to thermal power when hydropower dries up.

Fig. 34: Hydropower PATMI YoY growth



Source: Fiinpro

Fig. 35: Thermal power PATMI growth



Source: Fiinpro

PROFIT AND LOSS (VND bn)

FY Dec 31 (VND'bn)	2017A	2018A	2019E	2020E	2021E
Revenue	**29,710**	**32,662**	**34,453**	**36,815**	**37,769**
Gas fired	*20,005*	*23,073*	*25,223*	*27,225*	*28,056*
Coal fired	*7,656*	*7,259*	*7,842*	*8,174*	*8,269*
Hydropower	*1,200*	*1,391*	*1,388*	*1,416*	*1,444*
Others					
Cost of goods sold	(24,787)	(28,186)	(29,534)	(31,263)	(31,858)
Gross profits	**4,923**	**4,477**	**4,918**	**5,551**	**5,911**
Operating expenses	(815)	(793)	(837)	(894)	(917)
Operating profits	**4,107**	**3,683**	**4,082**	**4,657**	**4,994**
Net financial income	(1,392)	(1,264)	(982)	(677)	(413)
Net income from JVs	22	50	23	24	24
Net other incomes	(4)	22	24	25	26
Pretax profits	**2,733**	**2,492**	**3,147**	**4,030**	**4,631**
Income taxes	(132)	(205)	(335)	(495)	(567)
Minority interests	368	366	291	320	352
Net profits	**2,233**	**1,921**	**2,521**	**3,214**	**3,712**
Core earnings	*2,233*	*1,921*	*2,521*	*3,214*	*3,712*
EBITDA	8,423	7,604	7,127	7,379	7,715
EPS (VND)	954	820	1,076	1,372	1,585

KEY RATIOS

	2017A	2018A	2019E	2020E	2021E
Growth (% YoY)					
Sales	5%	10%	5%	7%	3%
Gas fired	-7%	15%	9%	8%	3%
Coal fired	64%	-5%	8%	4%	1%
Hydropower	18%	16%	0%	2%	2%
Others					
Operating profit	36	(10)	11	14	7
EBITDA	14.7	(9.7)	(6.3)	3.5	4.6
Net profit	108	(14)	31	28	15
EPS (VND)	108	(14)	31	28	15
Profitability ratio (%)					
Gross margin	16.6	13.7	14.3	15.1	15.6
Operating margin	13.8	11.3	11.8	12.7	13.2
EBITDA margin	28.4	23.3	20.7	20.0	20.4
Net margin	7.5	5.9	7.3	8.7	9.8
ROA	3.4	3.2	4.5	5.9	6.5
ROE	8.2	7.0	9.1	10.7	11.3
Stability					
Net debt/equity (%)	77.8	61.5	35.7	27.9	35.3
Int. coverage (x)	3.0	2.8	3.6	4.9	7.1
Int. &ST debt coverage (x)	0.9	0.7	0.9	1.3	2.2
Cash conversion days	68.5	56.4	49.9	41.8	42.8
Current ratio (X)	1.0	0.9	0.9	0.9	0.9
Quick ratio (X)	0.7	0.6	0.7	0.6	0.6
Net cash/(debt) (VND mn)	(21,572)	(16,497)	(10,294)	(8,745)	(12,138)
Efficiency					
Days receivable outstanding	100	77	74	68	69
Days inventory outstanding	51	50	51	49	50
Days payable outstanding	83	71	75	75	76

Source: Company data, YSVN

BALANCE SHEET (VND bn)

FY Dec 31 (VND'bn)	2017A	2018A	2019E	2020E	2021E
Total assets	**60,583**	**58,111**	**54,968**	**54,699**	**60,000**
Cash & cash equivalents	2,266	3,185	4,048	2,333	1,064
ST Investment	1,039	176	-	-	-
Accounts receivable	6,744	7,531	6,818	7,271	7,454
Inventories	3,533	4,187	4,046	4,283	4,378
Other current assets	196	172	172	172	172
Net fixed assets	43,991	40,177	37,382	37,910	44,183
Others	2,814	2,683	2,503	2,555	2,572
Total liabilities	**32,859**	**31,296**	**26,143**	**23,363**	**25,654**
Current liabilities	13,868	17,571	16,424	15,681	14,261
Accounts payable	5,041	5,900	6,202	6,565	6,690
ST debts	6,099	6,554	5,044	3,817	2,230
Long-term liabilities	18,991	13,725	9,719	7,682	11,392
Long-term debts	18,779	13,304	9,298	7,261	10,972
Others	213	422	421	421	421
Shareholder's equity	**27,724**	**26,815**	**28,825**	**31,337**	**34,346**
Share capital	21,774	23,419	23,419	23,419	23,419
Treasury stocks	-	-	-	-	-
Others	1,846	229	420	420	420
Retained earnings	1,282	859	2,677	5,189	8,198
Minority interest	**2,822**	**2,309**	**2,309**	**2,309**	**2,309**

CASH FLOW (VND bn)

FY (VND'bn)	2017A	2018A	2019E	2020E	2021E
Operating cash flow	**5,975**	**4,701**	**6,101**	**8,033**	**17,880**
Net income	2,233	1,921	2,521	3,214	3,712
Dep, & amortisation	4,314	3,908	3,051	2,727	2,727
Change in working capita	(1,106)	1,830	1,217	(381)	(112)
Others	533	(2,959)	(688)	2,473	11,552
Investment cash flow	**(1,137)**	**1,555**	**101**	**(6,307)**	**(21,273)**
Net capex	(307)	(219)	(255)	(6,255)	(21,255)
Change in LT investment	(982)	1,015	180	(52)	(18)
Change in other assets	152	759	176	-	-
Cash flow after invt.	4,838	6,256	6,202	1,726	(3,393)
Financing cash flow	**(7,243)**	**(5,337)**	**(5,515)**	**(3,265)**	**2,124**
Change in share capital	(0)	31	0	-	-
Net change in debt	(5,680)	(5,019)	(5,515)	(3,265)	2,124
Change in other LT liab.	(1,563)	(349)	-	-	-
Net change in cash flow	**(2,405)**	**919**	**687**	**(1,539)**	**(1,270)**
Beginning cash flow	4,671	2,266	3,185	3,872	2,333
Ending Cash Balance	**2,266**	**3,185**	**3,872**	**2,333**	**1,064**

KEY METRICS

	2017A	2018A	2019E	2020E	2021E
PE (x)	14.1	16.3	12.4	9.8	8.5
Diluted PE (x)	14.1	16.3	12.4	9.8	8.5
PB (x)	1.1	1.2	1.1	1.0	0.9
EBITDA/share	3,869	3,247	3,043	3,151	3,294
DPS	0	0	300	300	300
Dividend yield (%)	-	-	2.2	2.2	2.2
EV/EBITDA (x)	6.0	6.3	5.8	5.4	5.6
EV/EBIT (x)	nm	12.4	13.0	10.2	8.6

APPENDIX I: TERMS FOR PROVISION OF REPORT, DISCLAIMERS AND DISCLOSURES

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Ratings	Total expected return within the next 12 months
BUY	Above 10%
HOLD	Between -10% to +10%
SELL	Below -10%

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