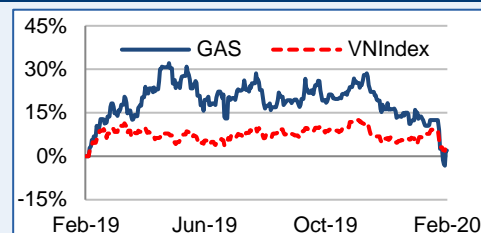




PetroVietnam Gas (GAS) [OUTPERFORM +11.5%]

Update Report

Industry:	Utilities		2019A	2020F	2021F	2022F
Report Date:	February 10, 2020	Rev Growth	-0.3%	-2.8%	8.5%	7.5%
Current Price:	VND86,800	EPS growth**	4.2%	-20.4%	24.0%	0.2%
Current Target price:	VND91,500	EPS growth***	1.6%	-20.4%	24.0%	0.2%
Previous Target price:	VND109,500	NPM	15.8%	13.0%	14.8%	13.9%
Upside to TP:	+5.4%	EV/EBITDA	10.2x	12.4x	10.2x	10.0x
Dividend Yield:	6.1%	P/Op CF	12.9x	13.5x	12.0x	11.2x
TSR:	+11.5%	P/E	14.2x	17.8x	14.4x	14.4x



Market Cap:	USD7.2bn	GAS	*Peers	VNI
Foreign Room:	USD138.3mn	P/E (ttm)	14.2x	19.3x
ADTV30D:	USD1.1mn	P/B (curr)	3.4x	3.3x
State Ownership:	96%	Net D/E	-56.8%	2.6%
Outstanding Shares:	1.91 bn	ROE	25.5%	15.1%
Fully Diluted Shares:	1.91 bn	ROA	19.4%	9.0%
3-Year PEG (2019-2022)	NM			2.2%

* includes foreign peers (six-year average for P/E)
 ** Reported, *** Recurring

Company Overview

GAS is the monopoly operator of gas transporting & trading in Vietnam. It provides input feedstock for 100% of gas thermal power plants, 70% of urea production and 100% of industrial parks in the country. GAS also has 70% market share in the LPG wholesale business.

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Lower oil prices and no increased profit for under ToP segment

- We cut our target price by 16.4% while revising down 2020-2030F NPAT-MI by 13.6% on average, mainly due to a lower fuel oil (FO) price assumption and no increased profit from the increased gas prices for the under take-or-pay (ToP) segment. Still, we maintain an OUTPERFORM rating as the company's share price has dropped ~20% since November 2019.
- We forecast 2020F NPAT-MI to drop by 20.4% YoY due to FO price and gas volume declines of 8.7% and 1.4% YoY, respectively, as well as lower profit from the under ToP segment.
- We thus cut our 2020F cash dividend forecast by 18.5% to VND5,300/share (yield 6.1%).
- We estimate an EPS CAGR of 7.6% over 2019-2030F, driven by more profit coming from the transportation segment that will outweigh declining profits from the gas trading segment in the long term when cheap gas fields run out of reserves. We project profit from the transportation segment to double and contribute ~70% to GAS's net profit by 2025F vs ~40% in 2019.
- GAS is trading at our projected 2020 P/E of 17.8x, a 7.6% discount vs its peer P/E average.
- Upside opportunity: changes of reference oil price in gas price formula.

Our lower FO price assumption has a negative impact on GAS. In our recent [Energy Thought Piece](#), we cut our 2020F Brent oil price base case by 7.7% due to coronavirus weighing on oil prices in Q1 and potentially slower global growth. These factors, and 2019 average FO price trailing our expectation by 6%, lead us to revise down our 2020F and 2021-2030F FO price by 8.4% and 2.8%, respectively. As FO price is the current benchmark for calculating gas output price, the new FO price results in 14.3% lower 2020F NPAT-MI and ~5% lower 2021-2030F NPAT-MI (see page 3).

Higher possibility of no incremental profit from gas price increase for under ToP segment. We previously expected more profit from the jump in gas price for the under ToP segment (which we estimate at ~12% of GAS's total net profit in 2020F and ~5% p.a. in 2021-2025F) would go to GAS's P&L. However, GAS shared there might be new regulations regarding the treatment of this profit. Moreover, GAS did not book the increased profit for its build-operate-transfer (BOT) power plants in the Q4 2019 results, signaling a higher possibility of no increased profit for the under ToP segment. Therefore, we remove these profits from our valuation (see pages 3 & 11).

Long-term potential upside from change of reference oil price in gas price formula. As fuel oil demand has been lower since late 2019 with new International Maritime Organization (IMO) regulations becoming effective at the beginning of the year, it is expected that high sulfur fuel oil prices (HSFO) should decline. As a result, this expected decline leads to a lower gas price assumption for 2020 (see page 10). GAS is proposing a plan to Government to change the benchmark for gas prices from FO to another type of oil in order to support profit. If this change is approved, it might have a positive impact on GAS's outlook; we will factor this into our forecast when we have more details.

2019 recap: Low FO price outweighs strong volume; no increased profit for under ToP sales to BOT power plants

Figure 1: 2019 recap

VND bn (Unless stated)	2018A*	2019A	Growth YoY %	2019A % of VCSC's 2019F	Explanation (a) YoY change (b) Vs forecast
Volume					
Gas output (million cubic meters)	9,696	9,948	2.6%	100.8%	(a) Despite lower volume from the Cuu Long basin, gas volume was strong thanks to the gas supply contribution from the Lan Tay – Lan Do and Wild Orchid gas fields (Block 06.1). (b) Slightly higher than expectation thanks to the gas supply from Block 06.1.
LPG sales volume (thousand tons)	1,510	1,759	16.5%	106.2%	(a & b) LPG trading volume was robust and higher than our expectation; meanwhile, LPG in-house volume trailed forecast (from both the Ca Mau and Dinh Co gas processing plants) due to GAS prioritizing the gas supply for power plants.
Gas price (USD/MMBTU)					
Brent oil price (USD/bbl)	71	64	-10.7%	98.0%	(b) Q4 2019 fuel oil (FO) price fell 27.4%YoY, causing 2019 average FO price trail our forecast.
Fuel oil price (USD/ton)	399	361	-9.4%	93.9%	(a) Prior to March 20, 2019, the under ToP price was fixed and subject to a 2% increase p.a. Since March 20, 2019, the under ToP price is 46% of medium FO price for the EVNGenco 3 power plant (see page 11). Whichever is greater between well head input gas price and 46% MFO price.
Output price – Power plants under take-or-pay (ToP)	3.08	3.50	13.6%	80.2%	(a) Prior to March 20, 2019, the under ToP price was fixed and subject to a 2% increase p.a. Since March 20, 2019, the under ToP price is 46% of medium FO price for the EVNGenco 3 power plant (see page 11). Whichever is greater between well head input gas price and 46% MFO price.
Output price – Power plants above take-or-pay (ToP)	4.52	4.09	-9.4%	93.9%	
Output price – Fertilizer producers	4.52	4.09	-9.4%	93.9%	
Output price – Industrial parks	9.82	8.90	-9.4%	93.9%	Full market mechanism; approximately in line with the increase in FO prices.
LPG price (USD/ton)	540	438	-18.9%	95.3%	(b) Q4 2019 LPG price fell 20.5%YoY, causing 2019 average LPG price to trail our forecast.
VND bn					
Revenue	75,611	75,348	-0.3%	96.6%	(a) Higher gas and LPG sales volume offset lower FO and LPG prices.
COGS	-58,120	-58,357	0.4%	99.8%	(a) GAS booked a provision expense of VND800bn (USD34mn) for the Cuu Long and PM3 gas pipeline decommissioning.
In which: Depreciation	-2,828	-2,674	-5.4%	95.8%	(a) Lower depreciation expense thanks to the Cuu Long gas pipeline being fully provisioned, which outweighed higher depreciation expenses from the Ca Mau gas processing plant.
Gross profit	17,491	16,991	-2.9%	87.0%	
SG&A	-3,765	-3,270	-13.2%	89.2%	
Operating profit	13,726	13,721	0.0%	86.5%	
Financial income	1,477	1,666	12.8%	106.9%	
Financial expense	-616	-243	-60.6%	85.5%	
Profit before tax	14,539	15,141	4.1%	88.3%	(a) Net profit growth was mainly driven by a profit increase from the ToP segment for EVNGENCO3's power plants, which we estimate at VND1tn (USD43mn). Without this profit increase, profit should have declined due to the negative impact of lower FO prices outweighing sales volume growth of 2.6%.
NPAT-MI, reported	11,454	11,941	4.2%	88.7%	(b) As there was no profit booking for the under ToP sales to the Phu My 3 and Phu My 2.2 BOT power plants (~VND1tn/USD43mn). Moreover, 2019 average FO price also was lower than our expectation.
NPAT-MI, recurring	11,750	11,944	1.7%	88.8%	

Source: VCSC. Note: (*) GAS's 2018 audited NPAT-MI of VND11.4tn (USD491.6mn) is 5.4% lower than the unaudited number. This difference is due to a further payment of ~VND800bn (USD34.3mn), implying a VND280bn/USD12.2mn payment p.a. that GAS had to make to PetroVietnam for the period of January 1, 2016 to December 31, 2018, as GAS temporarily used a conversion ratio of 40,000BTU/m3 to the calculate gas cost from the Cuu Long basin (~10% of GAS's total volume) in its unaudited results. In the newly signed contract, dated March 6, 2019, the conversion ratio is 46,000 BTU/m3.

New developments regarding the company's outlook

In this update report, there are two major changes from our previous report, as described below:

- In [February 5, 2020 Energy Thought Piece](#), we cut our 2020F Brent crude oil price base case by 7.7% due to weakened Q1 demand as a result of the coronavirus outbreak and slower global growth. These factors, along with 2019 average FO price trailing our expectation, causes us to revise down 2020F and 2021-2025F fuel oil price assumptions by 8.4% and 2.8%, respectively. These lower oil prices result in ~14% lower 2020F NPAT-MI and ~5% lower 2021-2030F NPAT-MI.
- Meanwhile, GAS shared there might be new regulations regarding the increased profit from the under ToP segment. Moreover, GAS did not book the increased profit for its BOT power plants in the Q4 2019 results, signaling that it is likely that more profit from the jump in gas prices for the under ToP segment will not go to GAS's bottom line (see more details in **Figure 3** below and **Appendix 3** on page 11). Excluding these profits from our forecast leads to ~12% 2020F NPAT-MI and 5% lower 2021-2030F NPAT-MI.
- Finally, from examining 2019 sales volume as well as our communications with industry experts, we have learned the gas supply from the Cuu Long basin is likely to decline faster than we expected from 2021. Therefore, we reduce our gas sales volume assumption by ~4% on average in 2021-2030F, lowering 2021-2030 NPAT-MI by 3%-4% on average.

As a result, we cut 2020F NPAT-MI by 26.7% and 2021-2025F NPAT-MI by 14.0%, on average.

Figure 2: Long-term forecast changes

Year	2020F	2021F	2022F	2023F	2024F	2025F
Oil price (USD/bbl)						
Old Brent oil price (USD/bbl)	65	65	65	65	65	65
New Brent oil price (USD/bbl) *	60	65	65	65	65	65
Change (%)	-7.7%	0.0%	0.0%	0.0%	0.0%	0.0%
Output gas price for power plants above ToP (USD/MMBTU)						
Old forecast	4.08	4.08	4.08	4.08	4.08	4.08
New forecast	3.74	3.97	3.97	3.97	3.97	3.97
Change (%)	-8.4%	-2.8%	-2.8%	-2.8%	-2.8%	-2.8%
Gas supply assumption (bcm)						
Old forecast	9.7	11.0	11.4	11.4	11.3	13.1
New forecast	9.8	10.6	10.8	10.9	10.9	12.6
Change (%)	0.4%	-3.2%	-5.2%	-4.1%	-4.1%	-3.9%
NPAT-MI (VND bn)						
Old forecast	12,963	13,780	14,008	13,431	14,947	17,611
New forecast	9,508	11,786	11,813	11,391	13,032	15,543
Change (%)	-26.7%	-14.5%	-15.7%	-15.2%	-12.8%	-11.7%
Cash dividend (VND/share)						
Old forecast	6,500	5,500	5,500	5,500	5,500	5,500
New forecast	5,300	5,300	5,300	5,300	5,300	5,300
Change (%)	-18.5%	-3.6%	-3.6%	-3.6%	-3.6%	-3.6%

Source: GAS, VCSC (*Brent oil price forecast revision published on February 5, 2020)

Figure 3: Estimates of profit increase with gas price jump in under ToP segment (which we now believe will not go to GAS's P&L and instead go to the Government)

VND bn, unless otherwise stated	2020F	2021F	2022F	2023F	2024F	2025F
Volume under ToP (bcm)	3.00	1.50	1.50	1.50	1.00	1.00
Volume under ToP (MMBTU)	116	58	58	58	39	39
Old under TOP gas price (USD/MMBTU)	3.20	3.27	3.33	3.40	3.47	3.54
New under ToP gas price (USD/MMBTU)	3.74	3.97	3.97	3.97	3.97	3.97
Price difference (USD/MMBTU)	0.53	0.70	0.63	0.57	0.50	0.4
Revenue difference (USDmn)	62	40	37	33	19	17
Revenue difference	1,469	983	909	830	497	436
PBT	1,469	983	909	830	497	436
NPAT of under ToP segment	1,175	786	727	664	397	349
% of GAS's total NPAT-MI	12.4%	6.7%	6.2%	5.8%	3.0%	2.2%

Source: GAS and VCSC's estimates.

2020 outlook: Lower fuel oil prices and gas sales volume to lead to lower profits

Figure 4: 2020 forecast – Key assumptions

Year	2019A	2020F	YoY Growth %	New vs Old Forecast %	Explanation (a) For YoY growth (b) For New vs Old forecast
Volume					
Gas output (million cubic meters)	9,948	9,806	-1.4%	0.8%	(a) Lower gas supply from the Lan Tay-Lan Do gas field (Block 06.1). We expect gas supply from Sao Vang – Dai Nguyet to come online from the beginning 2021; as a result, there is no contribution in 2020. (b) We revise up our forecast thanks to higher-than-expected sales volume in 2019.
Power plants	7,998	7,724	-3.4%	2.1%	
Power plants under ToP	3,041	3,000	-1.3%	0.0%	(a) Lower committed volume per contract term.
Power plants above ToP	3,107	2,874	-7.5%	6.0%	(a) Gas supply from the Lan Tay-Lan Do gas field (Block 06.1) to decline YoY. (b) There is an upward revision in our forecast upward revision thanks to higher-than-expected sales volume in 2019.
Power plants (tariff only)	1,850	1,850	0.0%	0.0%	
Fertilizer producers	1,013	1,071	5.7%	3.5%	(a) DPM's production volume to recover following abnormally long maintenance in 2019.
Industrial parks	937	1,012	8.0%	-10.4%	(a) We expect strong volume to IPs.
LPG sales volume (thousand tons)	1,759	1,670	-5.1%	1.6%	(a) LPG trading volume to decline off a high base in 2019.
LPG in-house	357	405	13.3%	-9.6%	(a) Higher utilization rate of the Ca Mau gas processing plant. (b) In 2019, LPG sales volume trailed our expectation as GAS prioritized gas supply for power plants, which prompts us to revise down our 2020F forecast accordingly.
LPG trading	1,402	1,265	-9.7%	5.7%	
Gas price (USD/MMBTU)					
Brent crude oil price (USD/bbl)	64	60	-5.8%	-7.7%	(b) We cut our oil price forecast due to a weakened demand outlook – as stated in our February 5, 2020 Energy Sector Thought Piece .
Fuel oil price (USD/ton)	361	330	-8.7%	-8.4%	(a) We assume FO prices will fall due to the new IMO regulations that will weaken demand for FO with high sulfur content. (b) We also revise down our FO price assumption following our downward revision of Brent oil price.
Weighted average input price	3.63	3.64	0.3%	-0.9%	
Output price - power plants under ToP	3.50	3.20	-8.4%	-21.5%	(a & b) In 2019, gas prices for ToP volume of EVNGenco 3 (~1.5bcm) were based on market price while gas prices for BOT power plants (~1.5bcm) were based on a fixed price. As we now expect no increased gas prices for the total under ToP sales volume, we assume gas prices will go back to fixed price from 2020.
Output price - power plants above ToP	4.09	3.74	-8.7%	-8.4%	Whichever is higher between well head input gas price and 46% MFO price.
Output price - fertilizer producers	4.09	3.74	-8.7%	-8.4%	(a & b) Due to a lower FO prices.
Output price - industrial parks	8.90	8.12	-8.7%	-8.4%	Full market mechanism, in line with the increase in FO prices.
LPG price (USD/ton)	438	486	10.8%	-3.7%	(a) We still expect strong LPG prices thanks to a robust global LPG growth outlook (CAGR of ~3% over 2019-2025). (b) Due to lower-than-expected LPG prices in Q4 2019.

Source: GAS, VCSC

Figure 5: 2020 financial forecast

VND bn (Unless stated)	2019A	2020F	YoY Growth %	New vs Old Forecast %	Explanation (a) For YoY growth (b) For New vs Old forecast
Revenue	75,348	73,245	-2.8%	-7.0%	(a & b) Lower revenue that is mainly due to lower oil price, resulting in lower gas and LPG prices.
Natural gas trading segment	42,020	41,792	-0.5%	-5.9%	
1. Power plants under ToP	9,542	8,828	-6.6%	-22.2%	(a) Mainly due to lower FO prices. (b) We forecast the fixed gas price for under ToP sales volume vs the market price in our previous forecast.
2. Power plants above ToP	17,019	15,769	-6.4%	17.0%	(a) Mainly due to lower fuel oil prices. (b) Due our upward revision in gas supply volume.
3. Fertilizers	1,564	1,611	4.0%	-1.0%	(a) The gas consumption of the fertilizer segment will recover from 2019's low base.
4. Industrial parks	7,875	7,838	0.5%	-18.8%	
5. Others	6,020	7,746	21.5%	-6.9%	
LPG segment	19,910	19,784	-0.6%	-3.2%	(b) Due to a lower LPG price assumption.
Gas transportation segment	4,858	4,949	2.9%	-1.7%	(a) Slightly higher volume along with a 2% tariff increase.
Other segments	8,560	6,720	-21.9%	-24.1%	
COGS	-58,357	-58,418	0.1%	-1.6%	
<i>In which: Depreciation</i>	<i>-2,674</i>	<i>-1,851</i>	<i>-30.8%</i>	<i>-6.0%</i>	(a) The Cuu Long gas pipeline was fully provisioned beginning in Q4 2019.
Gross profit	16,991	14,828	-12.7%	-23.5%	
SG&A	-3,270	-3,296	0.8%	-4.9%	
Operating profit	13,721	11,532	-16.0%	-27.6%	
Financial income	1,666	940	-43.6%	-5.7%	
Financial expense	-243	-312	28.4%	-18.9%	
Profit before tax	15,141	12,159	-19.7%	-26.4%	
Reported NPAT-MI	11,941	9,508	-20.4%	-26.7%	
Recurring NPAT-MI, excluding abnormal profit	11,944	9,508	-20.4%	-26.7%	(a) Due to: 1) Lower profit from the natural gas trading segment as FO prices and gas volume declines by 8.7% and 1.4%, respectively. 2) Lower profit from the under ToP segment as we now expect no increased profit for this segment vs an additional profit of VND1tn (USD43mn, per out estimates) from the under ToP sales volume for the EVNGenco 3 power plants. (b) Mainly due to no increased profit for the under ToP segment and the lower oil price assumption.

Source: GAS, VCSC

Valuation

We use the discounted cash flow method/DCF **(70% weight)** and P/E method **(30% weight)** for valuing GAS. The company secures stable earnings from its natural gas transportation business; therefore, DCF is the best method in our view to evaluate GAS's intrinsic value. On the other hand, sales to power plants in the under and above take-or-pay segments, as well as the company's industrial parks and LPG business, are sensitive to the price of oil. In addition, we take account of the peer group's average P/E multiple in setting our target price as it is a simple way to compare GAS with similar companies in the industry that we do not give forecasts to.

We cut our target price by 16.4% vs our previous report as:

- We trim our DCF valuation by 11.8% as we revise down 2020-2030F NPAT-MI by 13.6% on average, which is due to our lower fuel oil price assumption and no increased profit from the increased gas prices for the under take-or-pay (ToP) segment.

- We also cut fair value of the P/E multiple method by 26.7% due to 2020F EPS declining by 26.7%. Meanwhile, we maintain the target P/E at 17.2x, which is based on the regional peer median P/E (see more details on pages 7-8).

Figure 6: Target price derivation

Method	Fair value (VND/share)	Weight (%)	Contribution
DCF	94,800	70%	66,360
P/E multiple @ 17.2x	83,682	30%	25,105
Target price (VND)			91,500
Upside (%)			5.4%
Dividend yield (%)			6.1%
TSR (%)			11.5%
TTM P/E at TP (x)			15.1
2020F P/E at TP (x)			18.8

Source: VCSC forecast

Discounted Cash Flow

Figure 7: DCF valuation, VND bn

Cost of capital	Previous report	Revised	FCFF (2020F-2030F)	VND bn
Beta	1.2	1.2	PV of Free Cash Flows	77,231
Market Risk Premium %	8.7%	8.7%	PV of Terminal Val (2% g)	84,706
Risk free rate %	4.5%	4.5%	PV of FCF and TV	161,936
Cost of equity %	14.9%	14.9%	Cash & ST investments	28,683
Cost of Debt %	5.9%	5.9%	Minus Debt	-7,892
Debt %	25.0%	25.0%	Minus Minority Interest	-1,361
Equity %	75.0%	75.0%	Equity value (VND bn)	181,367
Corporate Tax Rate %	20.0%	20.0%	Shares (millions)	1,914
WACC %	12.4%	12.4%	DCF value per share, VND	94,800

Source: VCSC

Figure 8: Free cash flow forecasts, VND bn

VND bn	2020F	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
EBIT	11,532	14,528	14,620	14,227	16,418	19,346	22,019	24,231	26,587	29,106	31,809
Plus Depreciation	1,851	2,188	2,763	3,310	3,310	3,378	3,378	3,378	3,378	3,378	3,378
Minus Tax	-2,306	-2,906	-2,924	-2,845	-3,284	-3,869	-4,404	-4,846	-5,317	-5,821	-6,362
Minus Capex	-7,950	-9,849	-8,549	-9,487	-8,160	-2,298	-2,200	-2,200	-2,200	-2,200	-2,200
Minus (Plus) Working Cap Increase (Decrease)	713	-419	-132	-80	341	1,896	1,168	1,182	1,130	1,084	1,045
Free Cash Flow	3,839	3,542	5,779	5,125	8,624	18,452	19,961	21,744	23,577	25,546	27,669
Present Value of FCF	3,839	3,152	4,576	3,612	5,408	10,297	9,912	9,609	9,271	8,939	8,616
Cumulative PV of FCF	3,839	6,991	11,567	15,179	20,587	30,884	40,796	50,404	59,675	68,615	77,231

Source: VCSC forecast

Multiple valuation

We have chosen gas transportation and trading companies in India, Indonesia and Malaysia that have similar sizes and market caps to be the peer group for GAS. GAS has outperformed its peers in all financial ratios – gearing, return on equity and dividend yield. We assume that Petronas Gas in Malaysia is the most relevant peer for GAS given its similar scale and margin.

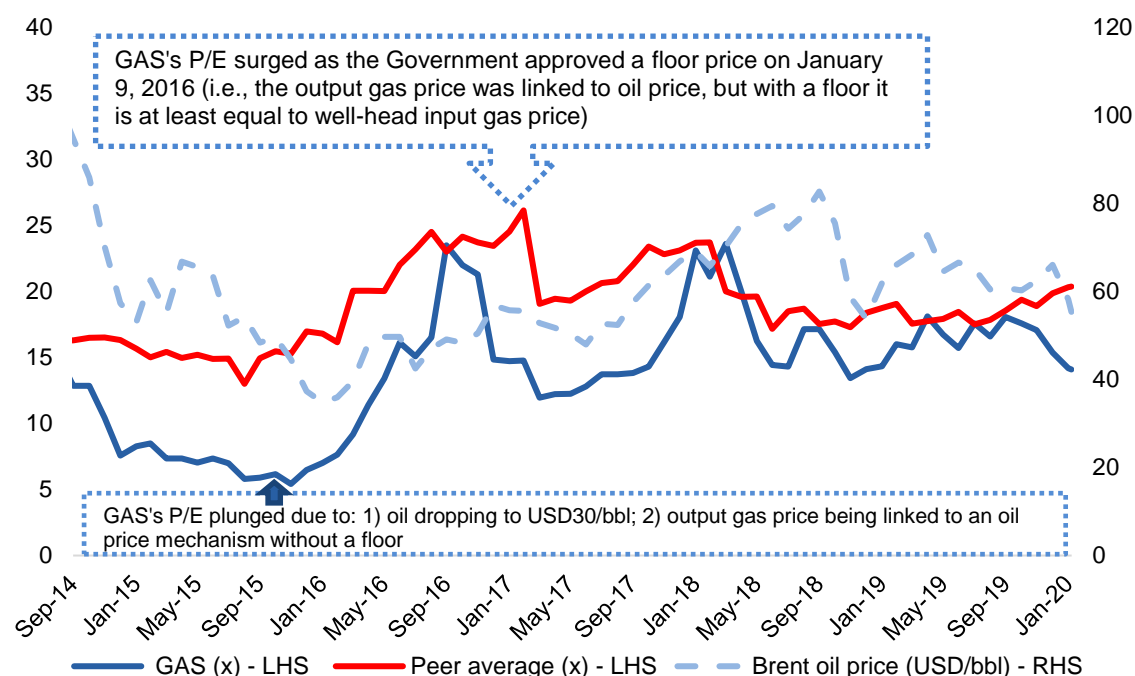
Typically, the share price performance of oil and gas stocks (especially GAS) strongly correlates with oil price movements in addition to other factors such as interest rates. By observing historical trends, we see the peer group P/E was stable at ~15x from 2014 to early 2016 when the Brent crude oil prices fell from USD98/bbl in 2014 to USD45/bbl in 2015 and 2016. Over 2016-2017, when Brent crude oil prices moved between USD45-USD55/bbl, the peer P/E ranged from 20x to 25x. The peer P/E decreased to ~20x over 2018 (when the average price of Brent crude oil was USD72/bbl). Given our oil price assumption of USD60-65/bbl for 2020-2030F, we expect the peer P/E will be ~20x over the coming years.

We continue to use the target P/E of 17.2x, which is 10% discount to the regional peer P/E average of 19.3x in 2014-2019.

Figure 9: Regional peers

USD mn (Unless stated)	Country	Mkt Cap	TTM Net Sales	Net sales growth %	TTM NPAT	NPAT growth %	D/E %	ROE %	Div yield %	TTM P/E (x)	Best PE (x)	LQ P/B (x)
GAIL India Ltd	India	7,834	10,854	39.6	936	36.4	4.5	14.9	3.2	8.5	9.2	1.2
Indraprastha Gas	India	5,134	825	25.5	120	16.7	-43.9	21.2	0.5	43.4	30.6	8.5
Perusahaan Gas Tbk	Indonesia	2,701	4,237	-1.4	216	-37.1	66.4	7.3	3.7	12.5	11.1	1.0
Petronas Gas Bhd	Malaysia	7,776	1,321	0.7	427	-10.7	-2.2	13.4	4.4	18.1	17.2	2.4
Gas Malaysia Bhd	Malaysia	857	1,676	16.7	44	-3.9	-12.1	18.7	5.0	19.3	19.6	3.6
Average		4,860	3,783	16.2	348.8	0.3	2.6	15.1	3.4	20.4	17.6	3.3
PetroVietnam Gas	Vietnam	7,172	3,234	-0.3	521	4.2	-56.8	25.5	6.2	14.2	17.8	3.4

Source: VCSC. Note: peer figures are as at February 7, 2020.

Figure 10: GAS's average P/E vs peer average P/E and oil price


Source: Bloomberg, VCSC

Sensitivity analysis

GAS's fair value positively correlates with oil prices as the performance of its gas trading (sales to industrial parks) and LPG businesses are driven by oil prices. The table below features 1) the sensitivity of our 2020F earnings projections to various oil price scenarios in 2020 and 2) the sensitivity of our fair value-based target price to various oil price scenarios for our forecast period (2020-2030F).

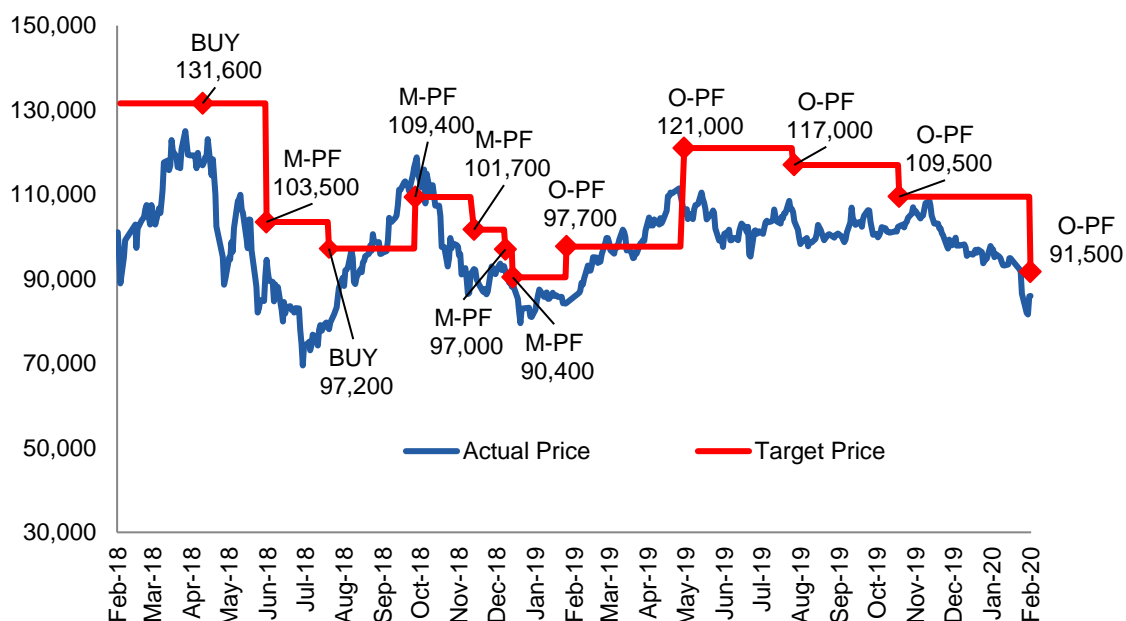
Figure 11: GAS's sensitivity to Brent crude prices

Assumptions for 2020 (*)	Low case		Base case	High case	
Brent oil price avg. (USD/bbl)	40	50	60	70	80
Fuel oil price assumption (USD/ton)	216	273	330	386	443
Selling price for ATOP (USD/MMBTU)	2.92	3.09	3.74	4.38	5.02
Selling price for IP (USD/MMBTU)	5.33	6.72	8.12	9.52	10.92
LPG price (USD/ton)	350	418	486	554	621
2020F Financial ratios					
NPAT-MI (VND bn)	5,538	7,410	9,508	11,605	13,703
EPS (VND/share)	2,836	3,794	4,868	5,942	7,016
EPS growth (%)	-53.6%	-37.9%	-20.4%	-2.8%	14.8%
ROE (%)	12.0%	15.7%	19.7%	23.6%	27.2%
Valuation					
2020F PER (x)	30.6	22.9	17.8	14.6	12.4
Fair value (VND/share)	60,500	75,600	91,500	107,300	123,100
Upside (%)	-30.3%	-12.9%	5.4%	23.6%	41.8%
Dividend yield (%)	6.1%	6.1%	6.1%	6.1%	6.1%
TSR (%)	-24.2%	-6.8%	11.5%	29.7%	47.9%

Source: VCSC (*) We assume an oil price of USD60/bbl for 2020F and then increase to USD65 in 2021-2030F. We use oil price +/-USD10/bbl and +/-USD20/bbl from the base case across the forecast period for high case and low case scenarios, respectively.

Recommendation History

Figure 12: History of recommendations (VND per share)



Source: Bloomberg

Appendix

1. Gross profit breakdown and gross margin by segments

Figure 13: Gross profit breakdown and gross margin by segment (VND bn)

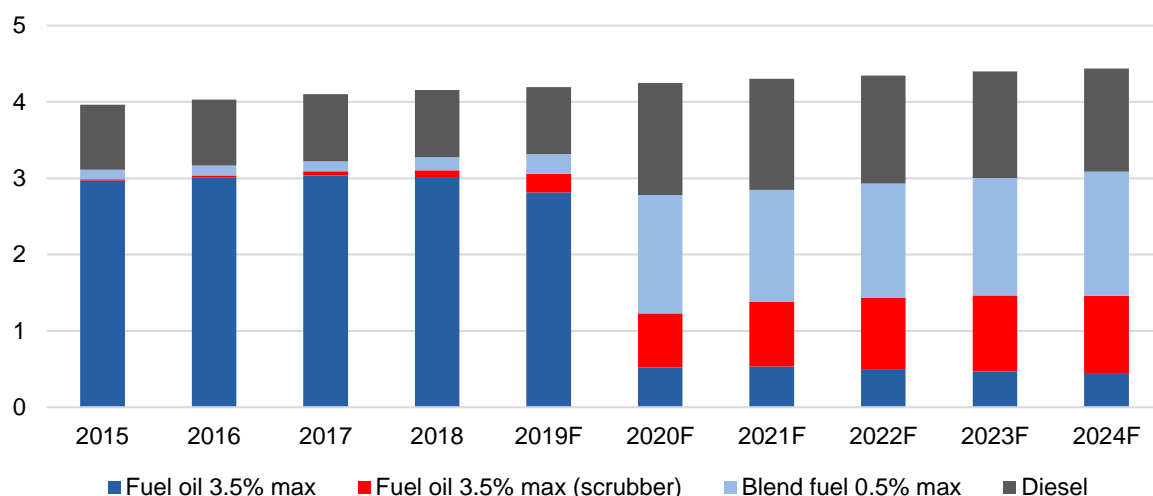
Year	2014	2015	2016	2017	2018
Oil price (USD/bbl)	98	54	45	55	71
Gross profit breakdown	20,149	13,396	11,555	15,163	17,491
Natural gas trading	12,664	6,685	5,658	7,065	7,760
LPG	2,449	1,527	751	1,860	2,638
Gas transportation	2,508	2,810	2,770	3,399	3,718
Condensate	394	89	(11)	233	663
Others	2,133	2,286	2,387	2,606	2,712
Gross profit margin					
Natural gas trading	32%	18%	17%	20%	19%
LPG	12%	10%	6%	11%	12%
Gas transportation	63%	65%	64%	79%	83%
Condensate	48%	27%	-3%	35%	38%
Others	23%	32%	31%	36%	33%

Source: GAS, VCSC

2. Regulation change in shipping sector weighs on fuel oil (FO) demand

International Marine Organization rules have been applied globally since January 1, 2020. These rules require the shipping industry to consume higher quality fuel that contains a lower sulfur level. As a result, this change could lead to lower demand for FO and thus weigh on FO prices. Therefore, while we assume Brent oil price to decline 5.8%YoY to USD60/bbl, we forecast FO prices to drop by 8.7%YoY in 2020.

Figure 14: Shipping vessel fuel demand by type (million barrels per day)



Source: OPEC's World Oil Outlook 2019

Pricing mechanism: GAS's output gas price is mainly based on FO price, in which the output gas price for industrial parks is 100% MFO (median fuel oil – the average of high sulfur FO and low sulfur FO); the output gas price for power plants in the above ToP is 46% MFO; the output gas price for power plants in the under ToP segment is a fixed number that is subject to a 2% increase p.a.

FO price is highly correlated with Brent crude oil price. We use a regression model ($\text{FO price} = 5.7 \times \text{Brent crude oil price} - 11.6$) to derive the FO price from our Brent crude oil price assumption. We note that FO price sometimes diverges from the Brent crude oil price due to its own supply and demand dynamics.

From 2023, when GAS will import LNG (which is also highly correlated with the Brent crude oil price), the movement of international gas prices could possibly lead to the same movement in GAS's output gas price. We expect the LNG pricing mechanism to be based on the pass-through method. As such, the low LNG price has no impact on GAS's earnings.

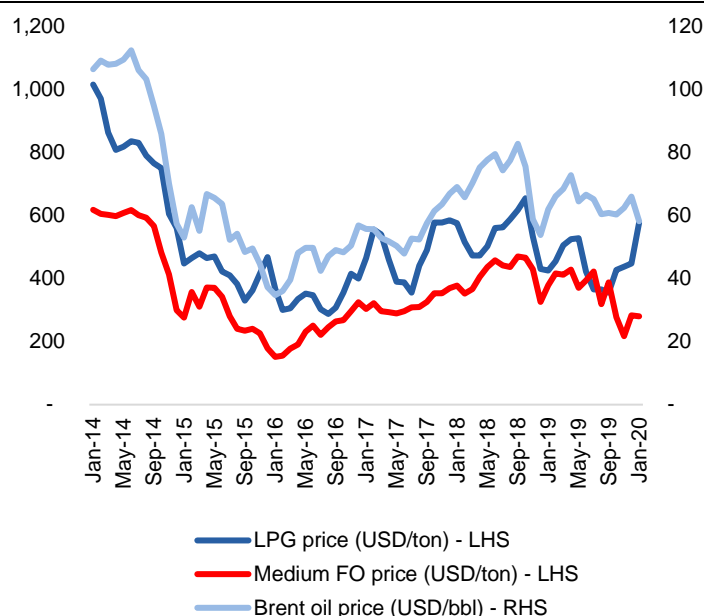
Figure 15: Relationship between Brent crude oil price, FO price and gas prices (USD/MMBTU)

Year	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F	2024F	2025F
Brent crude oil price (USD/bbl)	98	54	45	55	71	64	60	65	65	65	65	65
MFO price (USD/ton)	554	285	231	317	399	361	330	350	350	350	350	350
MFO price (USD/MMBTU) (*)	13.64	7.01	5.69	7.81	9.82	8.90	8.12	8.62	8.62	8.62	8.62	8.62
Output gas price for power plant under ToP	2.84	2.90	2.96	3.02	3.08	3.50	3.20	3.27	3.33	3.40	3.47	3.54
Output gas price for power plant's above ToP	5.36	4.47	2.96	3.59	4.52	4.09	3.74	3.97	3.97	3.97	3.97	3.97
Output gas price for Industrial parks	12.82	7.01	5.69	7.81	9.82	8.90	8.12	8.62	8.62	8.62	8.62	8.62

Source: GAS & VCSC (*) 1 ton = 40.6MMBTU

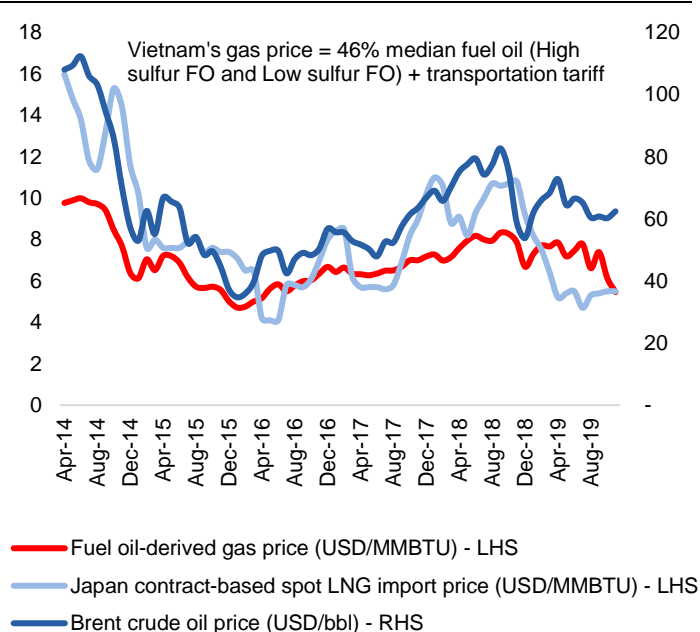
As shown in **Figure 16**, LPG price is highly correlated with Brent crude oil price for most of the period depicted. However, LPG price can occasionally diverge from Brent crude oil price movements due to its own supply and demand dynamics.

Figure 16: Brent oil price, LPG price and FO price - quarterly from 2014 to January 2020



Source: Bloomberg

Figure 17: Historical Brent oil prices, Vietnam's domestic gas prices and LNG prices



Source: Bloomberg, VCSC's estimates. Note: we assume a transportation tariff of USD3/MMBTU to derive the fuel oil-derived gas price

3. Changes in gas price treatment for under ToP segment

Under take-or-pay gas price was officially removed from March 20, 2019. Previously, there were two gas prices for power plants in Vietnam: under take-or-pay (a much cheaper price that we estimate at USD3.14/MMBTU in 2019) and above take-or-pay price (linked to market oil price and equal to 46% of MFO – the median of high sulfur and low sulfur FO prices – which we estimate at USD4.09/MMBTU). On March 20, 2019, the Ministry of Industry & Trade (MoIT) removed the under take-or-pay price (fixed price; 2% increase p.a.) and established one price (46% of MFO) for all power plants to prepare for the incoming of imported liquefied natural gas from 2023.

Uncertainty of gas price treatment for the under ToP segment. Originally, GAS guided for the difference between under and above ToP price to flow directly into the Government's budget from March 1, 2019. In particular, the total volume of the under ToP segment is 3.55 billion cubic meters (bcm), in which the under ToP volume for the Phu My power plant complex of No. 3 Power Generation Company (GENCO3) is 1.85bcm and the under ToP volume for the Phu My 3 and Phu My 2.2 build-operate-transfer (BOT) power plants is 1.7bcm.

However, in 2019, GAS already signed an appendix with GENCO3 and has booked a net profit of ~VND1tn (USD43mn) in 2019, per our estimate. GAS previously expected to sign an appendix with the Phu My 3 and Phu My 2.2 BOT plants and book another VND1tn (USD43mn) retrospective profit in Q4 2019. Thus, GAS expected the increased profit from the under ToP segment will come to its P&L as the gas sales and purchase contract was signed between GAS and power plants.

However, GAS did not book the increased profit for the BOT power plants in Q4 2019 results, signaling that it is likely that the profit from the jump in gas price for the under ToP segment will not go to GAS's bottom line. Therefore, we remove these profit out of our valuation.

4. Long-term project summary

Figure 18: GAS's capex outlook

Project	Capex (USD mn)	Capacity	Government's schedule	Operation (VCSC's estimates)	Economic interest (%)
Projects incorporated into our forecast					
Ca Mau gas processing plant (GPP)	500	207,500 tons of LPG and 11,000 tons of condensate	2014-2018	Q1-2018	100%
Nam Con Son 2 gas pipeline phase 2	300	7 bcm p.a.	2017-2021	2021	100%
Thi Vai LNG terminal	286	1-3 MMTPA	2015-2022	2023	100%
GPP Dinh Co 2	511	300,000 tons of LPG 150,000 tons of condensate	2018-2021	2022	100%
Block B - O Mon gas pipeline (*)	570	7 bcm p.a.	2017-2021	2025	51%
Projects not currently incorporated into our forecast					
LNG Son My, Binh Thuan	1,350	3-5 MMTPA	2020-2023	2023	100%
Poly Propylene	700	400,000 TPA	N/A	N/A	N/A
Blue Whale	N/A	N/A	N/A	N/A	N/A
Total	4,217				

Source: GAS, VCSC. (*) Block B's total investment in pipeline capacity is estimated at USD1.12bn, in which GAS will hold a 51% interest (capital contribution of USD570mn)

Figure 19: Revenue and profit contribution of Nam Con Son 2 pipeline with phase 2 coming into operation from 2021

Year	2021F	2022F	2023F	2024F	2025F
Revenue (VND bn)	4,706	6,570	8,512	8,947	8,951
% of GAS's revenue	5.9%	7.7%	9.0%	8.5%	7.3%
Net profit (VND bn)	2,217	3,858	5,567	5,990	5,374
% of GAS's net profit	18.8%	32.7%	48.9%	46.0%	34.6%

Source: VCSC estimates

Figure 20: Revenue and profit contribution from Thi Vai LNG terminal

Year	2023F	2024F	2025F
Revenue (VND bn)	1,336	2,316	3,855
% of GAS's revenue	1.4%	2.2%	3.2%
Net profit (VND bn)	400	969	2,473
% of GAS's net profit	3.5%	7.4%	15.9%

Source: VCSC estimates

Financial Statements

P&L (VND bn)	2019	2020F	2021F	2022F	B/S (VND bn)	2019	2020F	2021F	2022F
Revenue	75,348	73,245	79,461	85,390	Cash & equivalents	4,476	10,768	5,924	3,093
COGS	-58,357	-58,418	-61,357	-67,098	ST investment	24,915	17,915	15,915	13,915
Gross Profit	16,991	14,828	18,104	18,292	Accounts receivables	4,673	4,542	4,928	5,295
Sales & Marketing exp	-875	-1,099	-1,192	-1,281	Inventories	1,592	1,594	1,765	2,137
General & Admin exp	-2,394	-2,197	-2,384	-2,391	Other current assets	6,379	6,185	6,694	7,181
Operating Profit	13,721	11,532	14,528	14,620	Total Current assets	42,034	41,004	35,226	31,621
Financial income	1,666	940	946	823	Fixed assets, gross	51,963	59,913	69,762	78,311
Financial expenses	-243	-312	-464	-396	- Depreciation	-33,207	-35,058	-37,246	-40,009
- o/w interest expense	-198	-275	-343	-284	Fix assets, net	18,756	24,855	32,516	38,302
Associates	-1	-1	-1	-1	LT investment	405	405	405	405
Net other income/(loss)	(3)	-	-	-	LT assets other	1,060	1,060	1,060	1,060
Profit before Tax	15,141	12,159	15,010	15,047	Total LT assets	20,220	26,320	33,981	39,766
Income Tax	-2,983	-2,432	-3,002	-3,009	Total Assets	62,254	67,323	69,206	71,387
NPAT before MI	12,159	9,728	12,008	12,037	Accounts payable	1,927	2,315	2,675	3,218
Minority Interest	-218	-220	-222	-224	Short-term debt	1,341	1,249	1,419	1,331
NPAT less MI, reported	11,941	9,508	11,786	11,813	Other ST liabilities	6,692	6,694	6,982	7,533
NPAT less MI, adjusted	11,944	9,508	11,786	11,813	Total current liabilities	9,960	10,259	11,075	12,082
EBITDA	16,395	13,383	16,717	17,384	Long term debt	1,456	6,642	5,845	5,125
EPS reported, VND	6,114	4,868	6,035	6,048	Other LT liabilities	1,154	1,154	1,154	1,154
EPS adjusted ⁽¹⁾ , VND	6,116	4,868	6,035	6,048	Total Liabilities	12,570	18,055	18,074	18,361
EPS fully diluted, VND	6,116	4,868	6,035	6,048	Preferred Equity	-	-	-	-
DPS, VND	5,300	5,300	5,300	5,300	Paid in capital	19,140	19,140	19,140	19,140
DPS/EPS (%)	86.7%	108.9%	87.8%	87.6%	Share premium	37	37	532	532
(1) Excluding one-off profit					Retained earnings	10,146	9,510	11,152	12,821
RATIOS	2019	2020F	2021F	2022F	Other equity	19,047	19,047	19,047	19,047
Growth					Minority interest	1,141	1,361	1,583	1,807
Revenue growth	-0.3%	-2.8%	8.5%	7.5%	Total equity	49,684	49,268	51,132	53,026
Op profit (EBIT) growth	0.0%	-16.0%	26.0%	0.6%	Liabilities & equity	62,254	67,323	69,206	71,387
EPS growth, reported	4.2%	-20.4%	24.0%	0.2%					
EPS growth, adjusted	1.6%	-20.4%	24.0%	0.2%	Y/E shares out, mn	1,914	1,914	1,914	1,914
Profitability					CASH FLOW (VND bn)	2019	2020F	2021F	2022F
Gross Profit Margin	22.5%	20.2%	22.8%	21.4%	Beginning Cash Balance	6,706	4,476	10,768	5,924
Op Profit, (EBIT) Margin	18.2%	15.7%	18.3%	17.1%	Net Income	11,941	9,508	11,786	11,813
EBITDA Margin	21.8%	18.3%	21.0%	20.4%	Dep, & amortization	2,674	1,851	2,188	2,763
NPAT-MI Margin, adj,	15.9%	13.0%	14.8%	13.8%	Chge in Working Cap	-1,095	713	-419	-132
ROE	25.5%	19.7%	24.2%	23.4%	Other adjustments	-687	257	344	337
ROA	19.1%	14.7%	17.3%	16.8%	Cash from Operations	12,833	12,328	13,899	14,781
Efficiency					Capital Expenditures, net	-2,662	-7,950	-9,849	-8,549
Days Inventory On Hand	10.0	10.0	10.5	11.6	Investments, net	-1,869	6,999	1,999	1,999
Days Accts, Receivable	22.6	22.7	22.6	22.6	Cash from Investments	-4,531	-951	-7,850	-6,549
Days Accts, Payable	12.1	14.5	15.9	17.5	Dividends Paid	-8,389	-10,144	-10,144	-10,144
Cash Conversion Days	20.5	18.2	17.2	16.8	Δ in Share Capital	0	0	0	0
Liquidity					Δ in ST debt	2,344	-841	0	0
Current Ratio x	4.2	4.0	3.2	2.6	Δ in LT debt	-4,302	5,936	-628	-807
Quick Ratio x	4.1	3.8	3.0	2.4	Other financing C/F	0	-36	-121	-112
Cash Ratio x	0.4	1.0	0.5	0.1	Cash from Financing	-10,348	-5,085	-10,893	-11,063
Debt / Assets	4.5%	11.7%	10.5%	9.0%	Net Change in Cash	-2,229	6,292	-4,844	-2,831
Debt / Capital	5.3%	13.8%	12.4%	10.9%	Ending Cash Balance	4,476	10,768	5,924	3,093
Net Debt / Equity	-54.8%	-43.4%	-29.4%	-20.6%					
Interest Coverage x	69.2	41.9	42.4	51.5					

Source: Company data, VCSC

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