Power

Manufacturing recovery driving growth

Hoang Nam
☎ (84-28) 6299-7603
nam.h@shinhan.com

Content

Manufacturing recovery driving growth

1. Update power industry 2023 and outlook in 2024

   Thermal power mobilization increased significantly at the beginning of 2023 but gradually cooled down towards the end of the year. The outlook for the power industry in 2024 is expected to recover strongly thanks to positive economic growth.

2. Renewable energy development orientation

   Gas power will be prioritized for strong development until 2030. While wind power and solar power will be focused on developing more strongly in the long term when investment costs are expected to decrease.

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   POW, PC1, GEG - Orientation for renewable electricity development

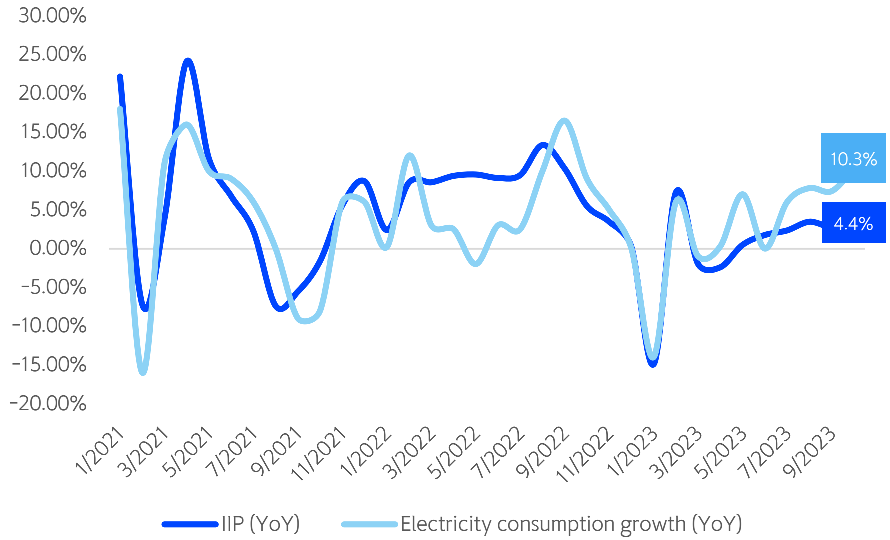
01

Power Sector Update 2023 and Outlook 2024

Thermal power mobilization increased significantly at the beginning of 2023 but gradually cooled down towards the end of the year. The outlook for the power industry in 2024 is expected to recover strongly thanks to positive economic growth.

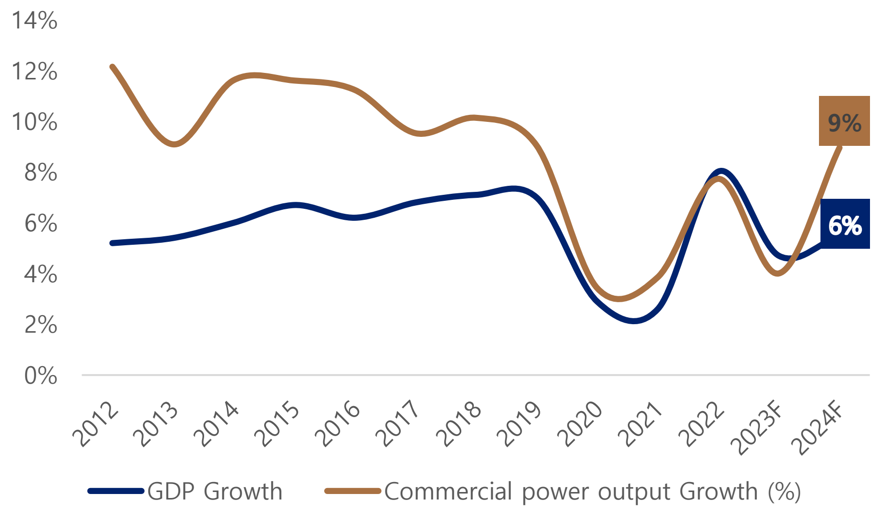
Electricity consumption growth recovers stronger in 2024

Electricity consumption growth and index of industrial production (IIP)



Source: Fiinpro, Shinhan Securities Vietnam

Growth in electricity output and GDP

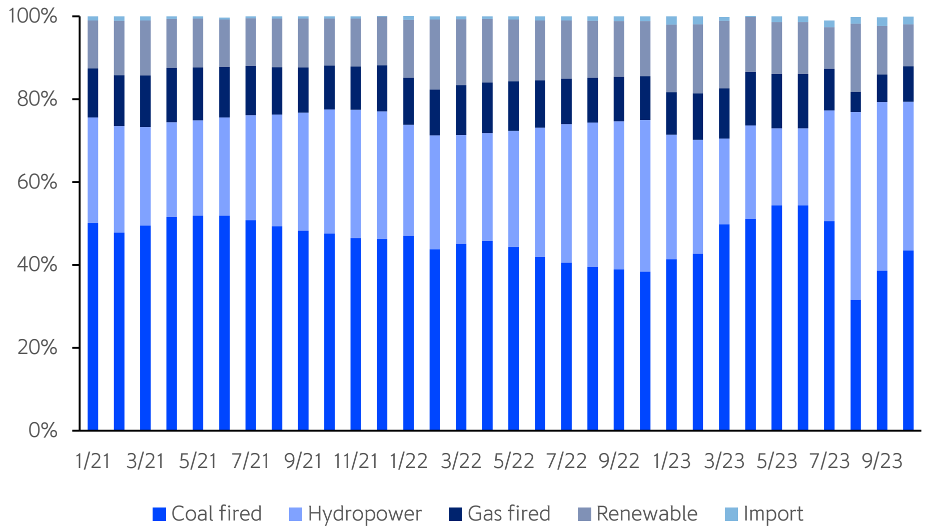


Source: Worldbank, EVN, Shinhan Securities Vietnam

- Accumulated in 10M/2023, commercial electricity output reached 234.1 billion kWh, growing 3.9% YoY in the context of weak industrial production and construction activities. Specifically, the IIP index of September and October increased by 2.89% YoY and 4.4% YoY respectively, quite low compared to the growth rate in 2022.
- We expect that electricity output growth will be low in 2023 but will improve in 2024. Specifically, according to EVN, commercial electricity output growth in 2023 and 2024 is expected to be 4% and 8.9%, respectively, as the economy strengthens. In addition, according to Power Plan VIII, the government's commercial electricity output target for 2025 and 2030 is 335 billion kWh and 505.2 billion kWh, corresponding to CAGR growth of 11%/year in the period 2022-2025, and 9%/year in the period 2025-2030.

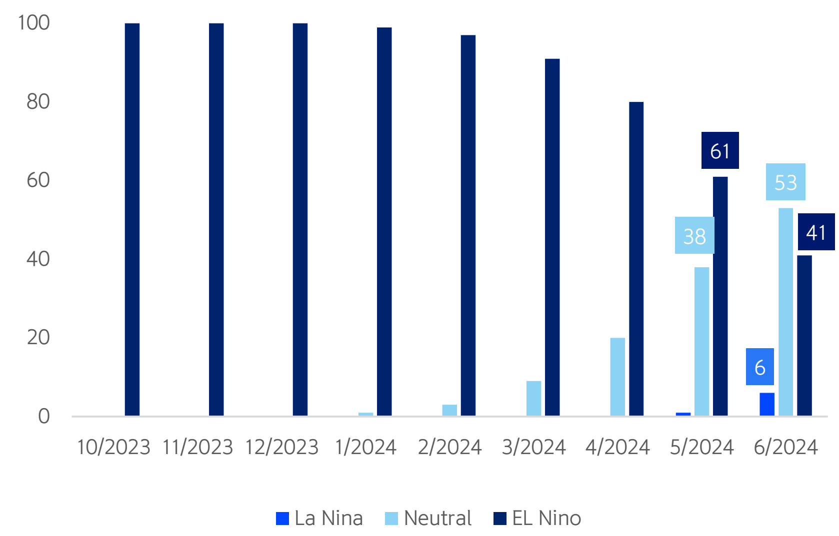
Thermal power is expected to peak in September 2023 and gradually shift to a neutral phase

The proportion of hydropower mobilization has shown signs of improvement since July



Source: EVN, Shinhan Securities Vietnam

NOAA's EL Nino probability forecast (%)

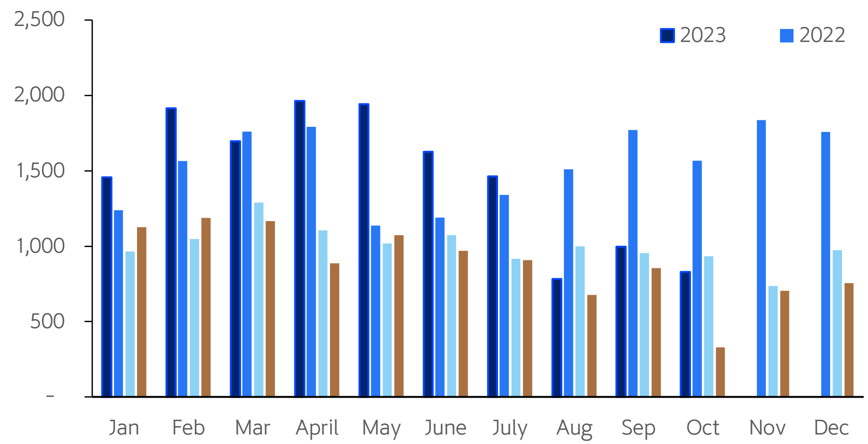


Source: IRI, Shinhan Securities Vietnam

- Hydropower output in 10M/2023 decreased by 19% YoY, due to El Nino appearing from the beginning of 2023; thereby creating opportunities for other power groups, especially coal thermal power to be mobilized more strongly. However, the hydrological conditions have improved significantly thanks to the flood conditions at the end of the year. Specifically, the proportion of hydropower mobilization reached 20%-25% in February-July 2023, suddenly skyrocketing to 41% in September.
- According to IRI, the El Nino phenomenon is forecasted to last and peak in September 2023, then gradually weaken and is likely to enter a neutral phase from the second half of 2024. We expect hydropower to improve in 2024, with a projected mobilization rate of 31%, a slight increase compared to the 30% rate in 2023.

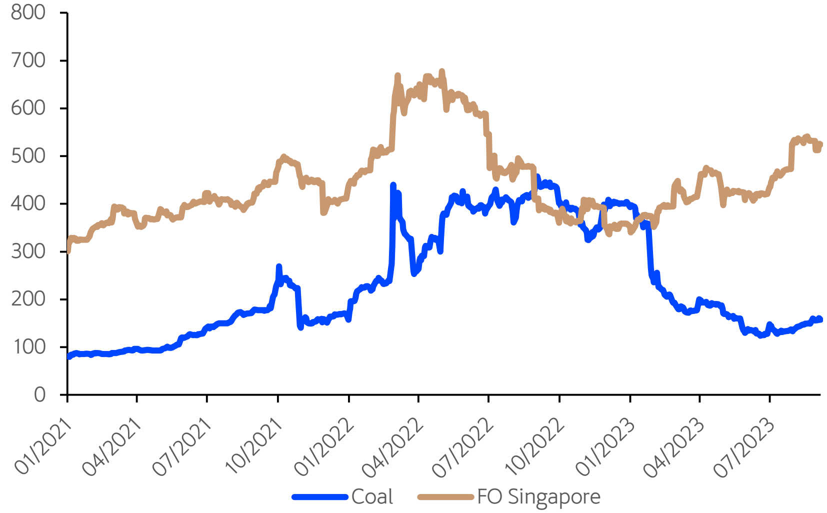
FMP's total electricity selling price is anchored at a high level but is showing signs of cooling off

FMP total electricity selling price on the CGM market (VND/kWh)



Source: EVN, Shinhan Securities Vietnam

Gas and coal input prices have cooled down from their peak (USD/ton)



Source: Bloomberg, Shinhan Securities Vietnam

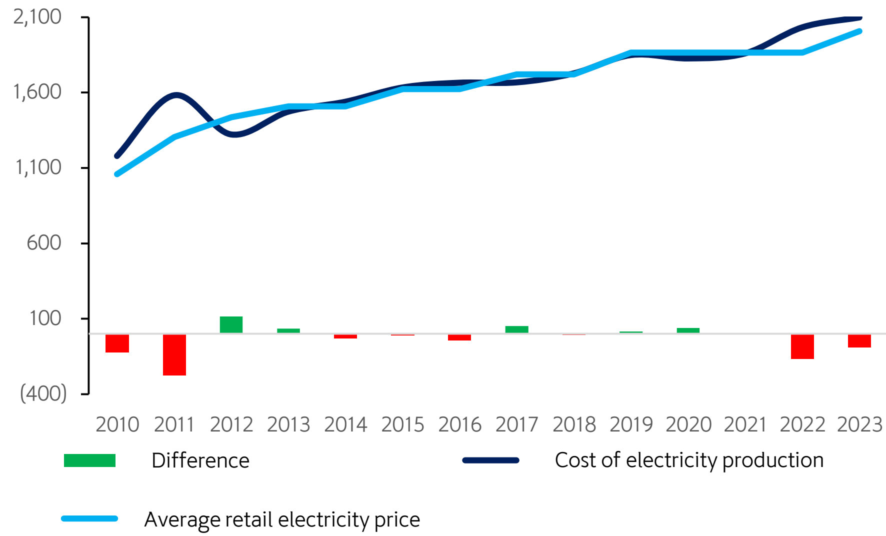
- The average FMP price in 1H/2023 remained high at around 1,767 VND/kWh (+22% YoY) due to increased thermal power mobilization on the competitive electricity market as hydropower passed its favorable phase and input costs remained high. Specifically, coal prices are showing signs of rising again, while FO oil in Singapore (used as a reference for gas prices) has increased by 49% YTD and 33% YoY. However, with hydropower output increased significantly in August (+67% MoM) thanks to the flood situation at the end of the year, the selling price on CGM fell significantly to 783 VND/kWh (-46.5% MoM). As a result, the average FMP price for 10M/2023 was 1,467 VND/kWh (+2% YoY).
- With the opposing impacts of the weakening of thermal power mobilization from September 2023 and the high input fuel prices, we predict that the average FMP price in 2024 will reach around 1,460 VND/kWh, unchanged from the same period last year.

EVN continues to raise retail electricity prices for the second time in 2023

Average retail electricity price from 2010-2023 (VND/kWh)

Source: EVN, Shinhan Securities Vietnam

Cost of production and retail electricity selling prices (VND/kWh)



Source: EVN, Shinhan Securities Vietnam

- On November 9, 2023, EVN officially increased the retail electricity price to 2,006.79 VND/kWh, an increase of 4.5% from the current retail selling price. In May 2023, EVN also increased the electricity selling price by 3%. As a result, the electricity selling price has increased by 7.6% from the end of 2022. We believe that the increase in electricity prices is necessary in the context of high electricity production costs. Specifically, EVN's average electricity production costs are around 2,098 VND/kWh, which is still VND91.3 higher than the selling price even after the price has been increased twice this year.
- Given that EVN still has accumulated losses of 43 trillion VND in its balance sheet as of June 30, 2023, we expect that electricity prices will continue to increase in the coming years at a rate of 5-7% per year. The increase in electricity prices will help EVN improve its business performance, pay quickly to many electricity generating enterprises, and accelerate the pace of project investment.

02

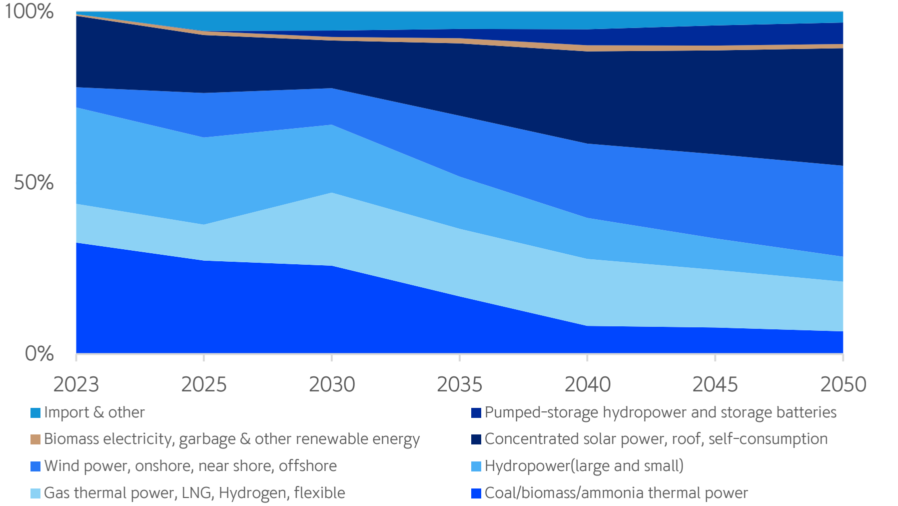
Renewable electricity development orientation

Gas power will be prioritized for strong development until 2030. While wind power and solar power will be focused on developing more strongly in the long term when investment costs are expected to decrease.

Part 2– RENEWABLE ELECTRICITY DEVELOPMENT ORIENTATION

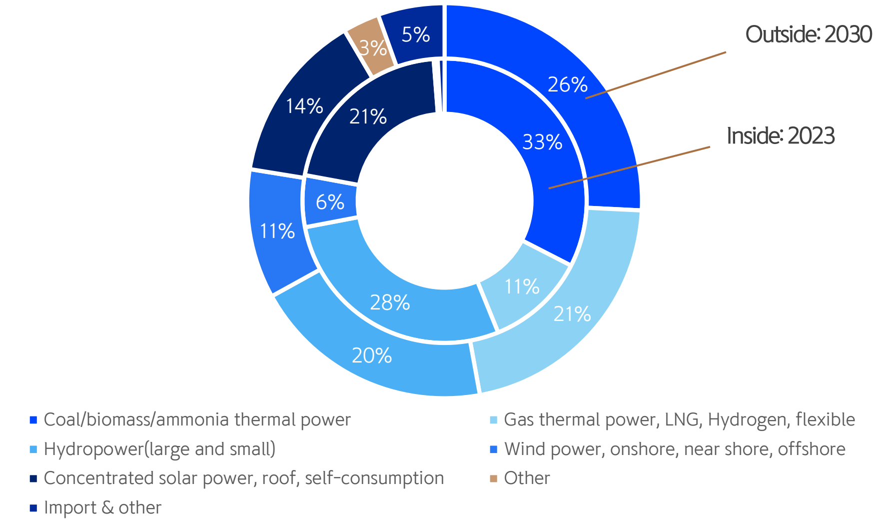
Power Development Plan VIII focuses on the development of wind and gas-fired power.

Proportion of power source capacity structure according to Power Plan VIII (base scenario)



Source: PDP VIII, Shinhan Securities Vietnam

Estimated installed capacity of power sources in 2023 and 2030

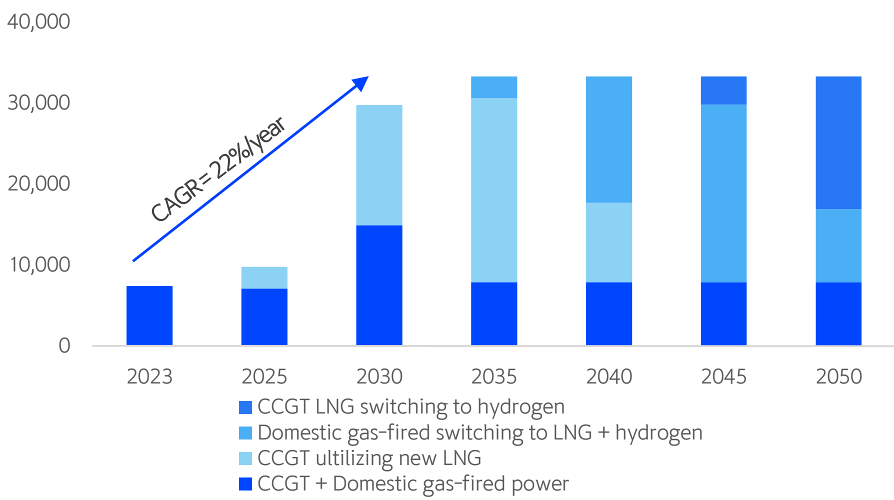


Source: PDP VIII, Shinhan Securities Vietnam

- Power Development Plan VIII focuses on developing wind power and gas power for the period of 2023-2030. The proportion of power source structure of wind power and gas power in 2030 is 11% and 21% (compared to the power source structure proportion of 6% and 11% in 2023).
- Coal-thermal power: Only implement projects included in the revised PDP VII under construction until 2030. From 2035, coal thermal power will gradually decrease and switch to burning with biomass/ammonia. By 2050, the capacity of this coal-fired power source will completely switch to biomass/ammonia.
- Solar power: Development will slow down from now until 2030 and priority will be given to develop in the period 2030-2050
- Hydropower: Low growth due to running out of exploitation potential.
- In conclusion, in the medium and long term, the renewable energy group (except hydropower) has a very positive outlook, with an expected growth in electricity consumption of 7-9%/year.

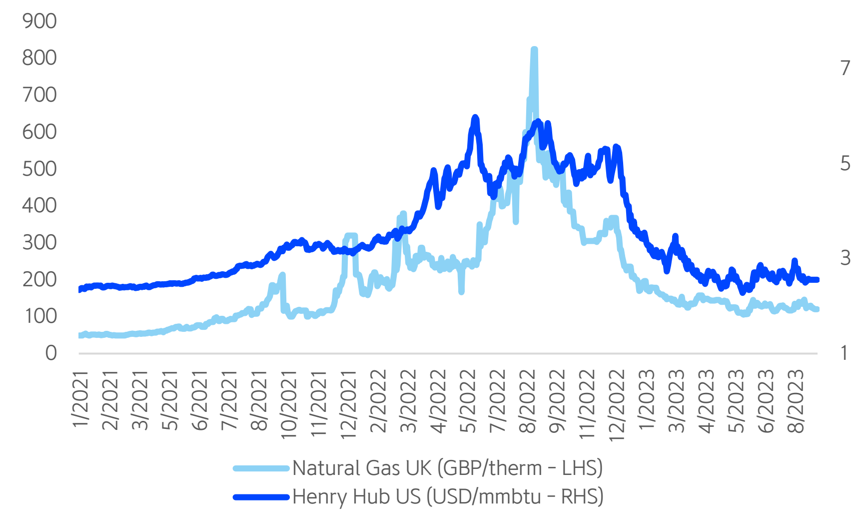
Focus on strongly developing gas-fired power until 2030

Gas power using LNG will increase sharply from 2025-2030 (MW)



Source: PDP VIII, Shinhan Securities Vietnam
*CCGT: Combined Cycle Gas Turbine

Gas prices on the international market tend to decrease



Source: Bloomberg, Shinhan Securities Vietnam

- In the period 2023-2030, gas-fired power is focused on developing with a compound growth rate of 22%/year in the base scenario, accounting for 21% of the total power generation capacity in 2030 (an increase from 11% of 2023). This is the second highest proportion in the electricity source structure in 2030, only behind coal power at 26%. From 2030 onwards, gas-fired power development is maintained but there is a gradual shift from LNG to Hydrogen fuel. In 2050, the proportion of gas-fired power will decrease to 15% in the electricity source structure.
- Falling gas prices in the international market support the unification of LNG gas trading for upcoming LNG power plants in Vietnam.
- Some listed company invest in power sources benefiting from gas power projects include POW - investor of LNG Nhon Trach 3&4 Gas-fired Power, TV2 - investor of Long Son LNG Gas-fired Power.

Enterprises that own renewable energy projects have operated at transition prices

Update renewable project COD with price for transitional projects

	Type of renewable energy	Capacity (MW)	Company
Phu My 1	Solar	64.8	BCG
Phu My 3	Solar	23.8	BCG
VPL Ben Tre	Wind power	4.2	GEG
Tan Phu Dong 1	Wind power	100	GEG
Others		978.9	
Total		1,171.7	

Source: EVN, Shinhan Securities Vietnam
Data as of 08/09/2023

FIT Price and Price for transitional projects (VND/kWh)

	Price for transitional projects	FIT * price	Change (%)
Ground Solar power	1,184.9	1,704.9	-30%
Floating Solar power	1,508.3	1,849.1	-18%
Wind power on-shore	1,587.1	2,043.9	-22%
Wind power off-shore	1,816.0	2,356.5	-23%

Source: Ministry of Industry and Trade

FIT*: The Feed-in Tariff (FiT) electricity pricing is calculated based on the central exchange rate of the State Bank of Vietnam as of September 18, 2023.

- As of September 8, 2023, EVN and investors of transitional power projects have completed price negotiations and initialed power purchase agreements (PPA) with 62/67 projects. The Ministry of Industry and Trade has approved temporary prices for 58 projects with a total capacity of 3,181.41 MW.
- The number of transitional projects that have completed COD procedures and officially generated commercial electricity to the grid is 20 wind and solar power projects/parts with a total capacity of 1,171.7 MW.
- These projects will apply a temporary price equal to 50% of the ceiling price of the transitional price frame. The transitional electricity price is 20% - 30% lower than the FIT price. In addition, this price frame is regulated in VND instead of USD, so there will be some disadvantages for businesses such as exchange rate risks and other factors VND depreciation.

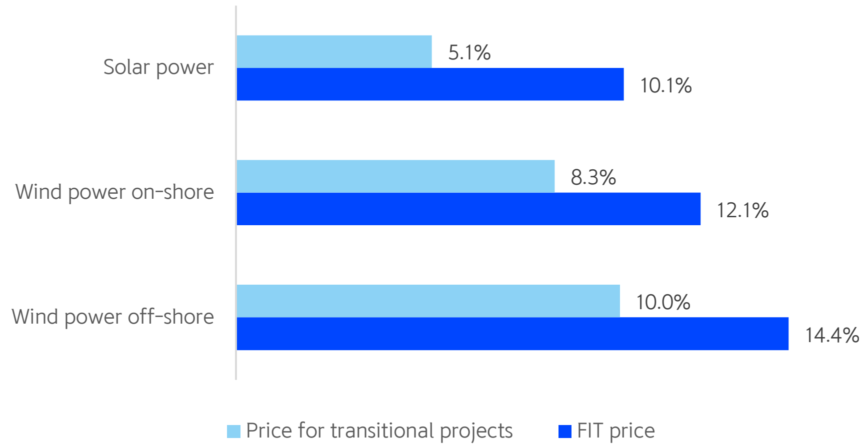
Price for transitional projects make new investments in renewable energy less attractive at the current time.

The estimated IRR figures are assumed by SSV.

	Solar power	Wind power off-shore	Wind power on-shore
Life cycle (years)	20	20	20
Investment rate (billions/MW)	19	45	41
Working hours (hours/year)	1800	3500	3000
Interest rate	10%	10%	10%
Loan ratio	60%	60%	60%
Corporate Tax	8.30%	8.30%	8.30%

Source: PDP VIII, Shinhan Securities Vietnam

The IRR for renewable energy projects with FIT (Feed-in Tariff) and transition prices.

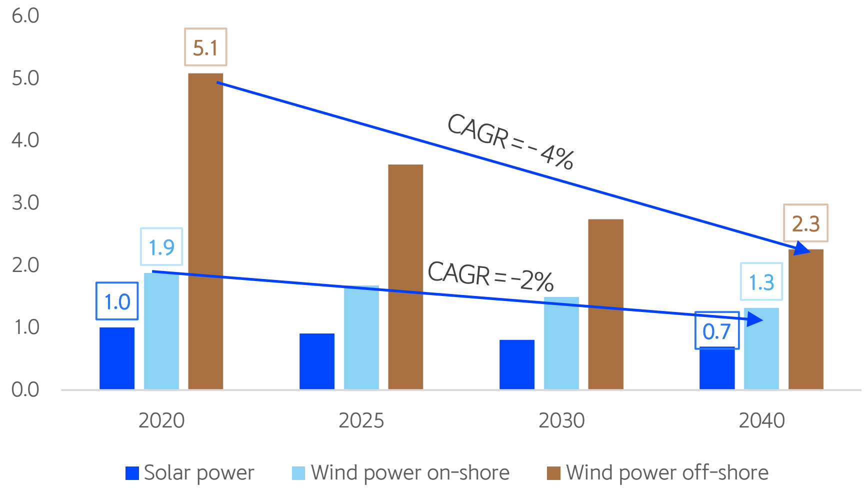


Source: Shinhan Securities Vietnam estimated, Company report

- Renewable energy projects applying transitional electricity prices have caused the internal rate of return (IRR) seriously decline. With this transition price, new investment in renewable energy projects at the present time will be very difficult. Specifically, with the FIT price mechanism, the IRR of onshore and offshore wind power projects are 12.1% and 14.4% respectively; With the transition price mechanism, IRR decreased to 8.3% and 10%, respectively.
- Therefore, we believe that renewable electricity development is not for all business but only for some that are truly capable of investing in renewable energy as shown by factors such as: ability to mobilize cheap capital sources, ability to deploy projects with reasonable investment rates, project operational efficiency, reasonable operating costs.

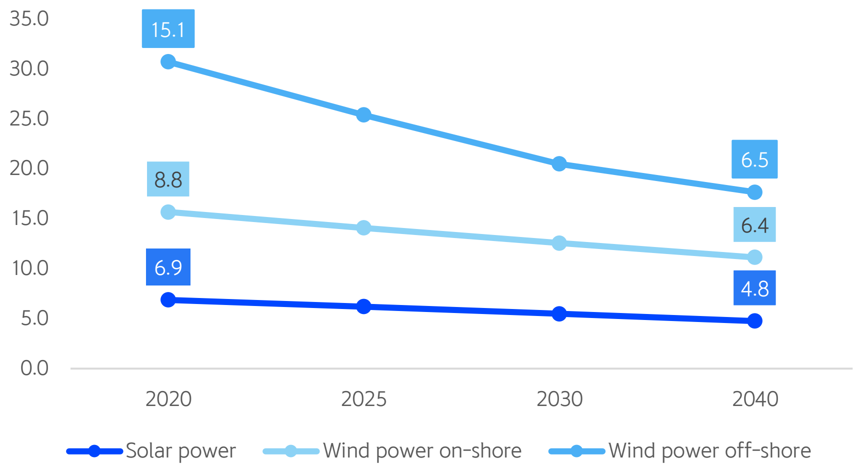
The investment costs for renewable energy are decreasing gradually in the future

The installation costs for renewable energy projects (mill USD/MW)



Source: PDP VIII, Shinhan Securities Vietnam

The levelized cost of electricity (LCOE) for wind power still has significant room for reduction (US cents/kWh)



Source: PDP VIII, Shinhan Securities Vietnam

- According to the estimates in the PDP VIII, offshore wind project investment costs are expected to decrease at a CAGR of -4%, while solar and onshore wind projects will see a decrease at a CAGR of -2%. Lower investment costs will enhance the profit potential of new projects even when the current feed-in tariff (FIT) mechanism is applied. However, for sustainable renewable energy development, there is also a need for synchronized investment in the transmission network, which depends on EVN's investment process.
- In conclusion, we believe that the Price for transitional projects in general, remains an opportunity for projects that have not yet started operating to have the chance to timely capture revenue, calculate capital recovery plans quickly. Furthermore, this serves as a foundation for the Ministry of Industry and Trade to calculate and implement official pricing policies aimed at promoting the development of clean energy sources and reducing emissions, as Vietnam has committed to in the COP 26 meeting and the scenarios outlined in the PDP VIII.

03

Power Stock Pick

POW, PC1, GEG – Orientation for renewable electricity development

Part 3– UPDATED BUSINESS RESULTS OF SOME LISTED COMPANIES

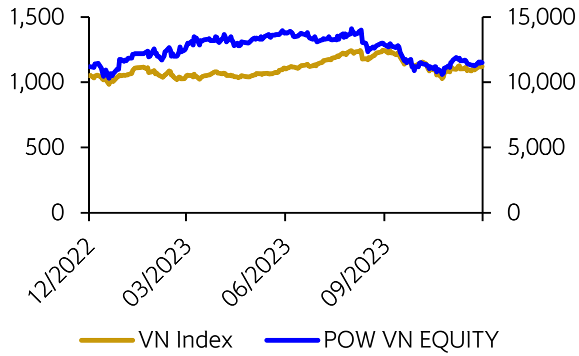
General Information					Stock Price			Key financials 3				Growth 1H/2023		Valuation 24F	
No.	Ticker	Industry	Capacity (MW)	Market Cap (billionVND)	CP (VND)	TP * (VND)	Upside (%)	GPM (%)	D/E (x)	ROA (%)	ROE (%)	Revenue (% YoY)	EPS (% YoY)	P/B (x)	P/E (x)
1	VSH	Hyropower	356	10,584	44,800	47,650	6.4	64.11	0.88	11.69	22.21	5.4	11.7	1.7	9.5
2	REE	Diversified	1005	23,705	58,000	72,100	24.3	43.24	0.69	7.01	14.89	11.7	(4.3)	1.2	8.4
3	HDG	Renewable	462	8,867	29,000	31,000	6.9	55.00	1.07	4.55	11.92	(5.7)	(45.6)	1.1	9.5
4	POW	Gas-fired Power	4,208	26,932	11,500	16,250	41.3	8.78	0.89	2.38	4.62	9.2	(42.3)	0.7	10.1
5	NT2	Gas-fired Power	750	7,139	24,800	27,800	12.1	4.88	0.90	5.04	9.22	(7.0)	(27.9)	1.7	11.0
6	QTP	Coal-fired Power	1200	6,750	15,000	N/A	N/A	5.48	0.37	5.44	7.44	12.9	(45.8)	1.0	7.0
7	PPC	Coal-fired Power	1040	4,697	14,650	16,600	13.3	2.09	0.13	6.25	6.90	14.2	(6.0)	0.9	9.6
8	PC1	Power construction	313	8,397	27,000	32,150	19.1	21.66	1.78	1.24	4.97	(0.4)	(98.9)	1.2	11.4
9	GEG	Renewable	503	4,624	13,550	17,000	25.5	52.09	1.88	0.64	2.44	(4.4)	(57.5)	1.1	16.4
10	PGV	Diversified	5983	26,739	23,800	29,400	23.5	10.96	2.47	2.95	10.62	2.9	(27.2)	1.3	10.9

* Target Price (fair value) for the next 12 months
Source: Bloomberg, Fiinpro, Shinhan Securities Vietnam
Data as of 07/12/2023

PETROVIETNAM POWER CORPORATION– (POW)

Target price (12 months)	16,250 VND
Current price (07/12/23)	11,500VND
Return (%)	41.3%
VNINDEX	1,121
Market P/E (x)	231
Market cap (billion VND)	26,932
Outstanding shares (mil shares)	2,342
Free-float (mil shares)	470
52-week high/low (VND)	14,200/10,300
90-day avg. trading volume (mil shares)	7.12
90-day avg. turnover (bn VND)	122
Major SHDs (%) PVN	24.9

Performance	3T	6T	12M
Absolute (%)	-10.9	-16.4	5.0
Rel.to VN-Index (%)	-1.1	-17.4	-2.7



Highly mobilized thermal power promotes growth

Investment points:

_ POW is a power generation company with a total designed capacity of 4,208 MW, the second largest in Vietnam after EVN. Notably, POW's most prominent power plants are the Cà Mau & Nhơn Trạch 1&2 gas-fired power plants, with a combined capacity of 2,700 MW. In the energy sector, POW is one of the enterprises best aligned with the Power development plan VIII during the period of 2022-2030, especially in the field of LNG gas-fired power.

_ Update business results of Q3/2023: POW recorded revenue of VND5,689 billion (-6% YoY) and net profit of VND52 billion (-74% YoY). Revenue in the third quarter decreased due to a decrease in both electricity production and average selling price. Specifically, (1) the production of the Hua Na and Dak Drinh hydropower plants decreased due to unfavorable weather conditions, and the production of the Nhon Trach 2 power plant decreased significantly due to a 100,000-hour overhaul. Although the production of the Vung Ang and Ca Mau power plants increased, it was still not enough to offset the decrease in the production of the other plants. (2) The average selling price on the competitive electricity market decreased significantly in August and September, by -48% and -43% YoY, respectively.

_ Natural gas-fired power: The production of electricity from NT2 is expected to recover by 7% in 2024 after the overhaul is completed. Currently, the gas supply in Southeast Vietnam is still declining gradually, but LNG in the long term will help to improve this situation. POW expects to start commercial operations of the Thi Vai LNG terminal - Phase 1 (1 million tons of LNG/year) in 2024.

_ Coal-fired power: Unit 1 of Vung Ang 1 (600MW) has returned to operation since August 12, 2023, after two years of repair. The projected production is expected to increase by 27% and 35% in 2023 and 2024. The electricity price for Vung Ang 1 is calculated based on the final cost of the plant. After the final cost is settled, the difference will be included in the electricity price. In addition, POW is re-estimating the repair costs for Vung Ang 1 and negotiating compensation. PVI has already compensated VND11.7 million USD.

_ In the future, the long-term growth driver for POW will come from the two NT3 and NT4 LNG-fired power plants with a capacity of 1,500 MW, which are scheduled to start commercial operations in 2024 and 2025. Progress update: About 51% of the progress has been completed (7.8% behind schedule). NT3 is expected to start operating in November 2024. The PPA contract with EVN is nearing completion (waiting for negotiations on *Qc and the price framework for LNG power plants). Regarding financial arrangements: POW has disbursed VND700/4,000 billion of the loan value from Vietcombank)

_ Risks: (1) Shortage of input gas supply and high prices of gas and coal; (2) Difficulties with EVN, affecting POW's ability to receive payment for electricity sales; (3) Slow progress in NT3&4 implementation due to pending negotiations for PPA and GSA agreements.

*Qc: Electricity production according to the contract signed with EVN

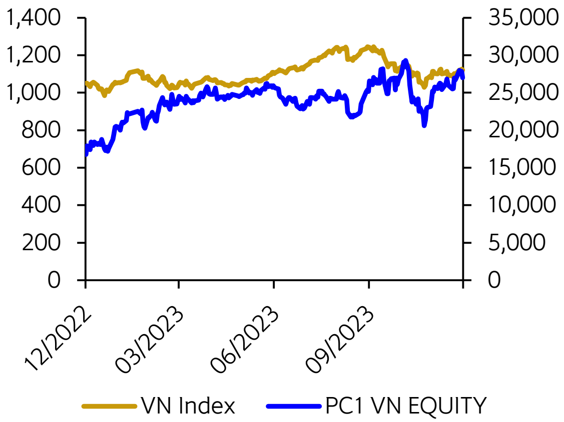
Year	2020	2021	2022	2023F	2024F
Revenue (bil VND)	29,732	24,561	28,224	31,633	36,571
OP (bil VND)	3,371	2,400	2,859	2,902	3,246
NP (bil VND)	2,365	1,799	2061	1793	2588
EPS (VND)	999	757	871	809	1095
BPS (VND)	12,185.7	12,228.6	13,099.6	13,908	15,003
OPM	11.3	9.8	10.1	9.2	8.9
NPM	8.0	7.3	7.3	5.7	7
ROE (%)	8.4	6.2	6.9	7	7.8
P/E (x)	13.6	23.1	12.2	14.2	10.5
P/B (x)	1.1	1.4	0.8	0.8	0.7
EV/EBITDA (x)	6.3	8.3	4.7	6.6	4.7

Source: Company data, Bloomberg, Shinhan Securities Vietnam
Data as of 07/12/2023

POWER CONSTRUCTION JSC GROUP (PC1)

Target price (12 months)		32,150 VND
Current price (07/12/23)		27,000VND
Return (%)		19.1%
VNINDEX		1,121
Market P/E (x)		231
Market cap (billion VND)		8,397
Outstanding shares (mil shares)		311
Free-float (mil shares)		172
52-week high/low (VND)		29,565/16,087
90-day avg. trading volume (mil shares)		3.8
90-day avg. turnover (bn VND)		107
Major SHDs (%)	Trịnh Van Tuan	21.4

Performance	3T	6T	12M
Absolute (%)	7.3	4.2	65.2
Rel.to VN-Index (%)	17.3	3..1	57.4



Power construction benefiting from PDP 8 in mid and long term

Investment points:

_PC1 is one of the well-established construction companies in the power sector in Vietnam. Currently, renewable energy is one of the three main pillars of the company, along with construction, real estate, and mining.

_Update business results of Q3/2023: PC1 recorded net revenue of VND2,220 billion (-26% YoY) and net profit for the parent company of VND64 billion (-3% YoY) in Q3/2023. Cumulatively in the 9M/2023, revenue reached VND5,198 billion (-13% YoY), and net profit reached VND159 billion (-75% YoY), completing 55% of the revenue plan and 31% of the profit plan, respectively.

_Construction segment: Benefits in the medium term thanks to the Power Plan 8, when the demand for the construction of transmission lines and the operation of renewable power plants is high. PC1 said that the backlog value is still high at VND3,786 billion. It is estimated that the revenue of the EPC segment in 2023/2024 will be around VND2,500/3,000 billion.

_ Power segment: Hydropower production will decline in 2023 when the El Niño phase occurs in 2023, and production is expected to increase again in 2025 when the El Niño phase ends, while the wind power segment is expected to remain stable.

_ Mining segment: PC1 plans to export another 10,000 tons in December 2023. Estimated revenue for 2023 is around VND1,000 billion, with net profit at VND160 billion.

_ Industrial real estate segment: The company expects the Yen Phong IIA Bac Ninh project to be fully occupied within 4 years and start renting from the second half of 2023. The company expects revenue in 2023/2024 to be around VND500/600 billion, respectively. With the Yen Lệnh Port cluster in Ha Nam, the project has just been approved for the 1/500 urban planning and is preparing for land clearance, and is expected to generate revenue in 2024. With Nomura Industrial Park, the company expects to generate revenue of around VND650 billion each year.

_ Residential real estate segment: PC1 currently has 4 projects that have not completed legal procedures, with estimated revenue of VND2,500 billion and net profit of VND400 billion, to be handed over according to the schedule from 2023 to 2027. PC1 continues to complete procedures related to the Gia Lam and Bac Tu Liem projects, and plans to start the Gia Lam project in Q4/2023.

_Risks: (1) Legal risks of projects; (2) Diversification risks; (3) Slowdown in the construction segment due to the stagnation of renewable energy projects; (4) Higher-than-expected financial costs; (5) Nickel mining risk subject to fluctuations in LME nickel prices.

Year	2020	2021	2022	2023F	2024F
Revenue (bil VND)	6,679	9,828	8,358	9,601	10,626
OP (bil VND)	823	859	1,318	1,403	1,623
NP (bil VND)	513	695	460	471	623
EPS (VND)	1,943	2,121	1,519	1,960	2,530
BPS (VND)	15,113.1	17,384.1	18,903.1	20,863	23,393.1
OPM	12.3	8.7	15.8	14.6	15.3
NPM	7.7	7.1	5.5	4.9	5.9
ROE (%)	13.8	14.9	8.4	8.4	11.4
P/E (x)	8.3	16.1	13.3	13.7	10.6
P/B (x)	1.1	2.0	1.1	1.3	1.2
EV/EBITDA (x)	6.6	14.3	8.2	10	8

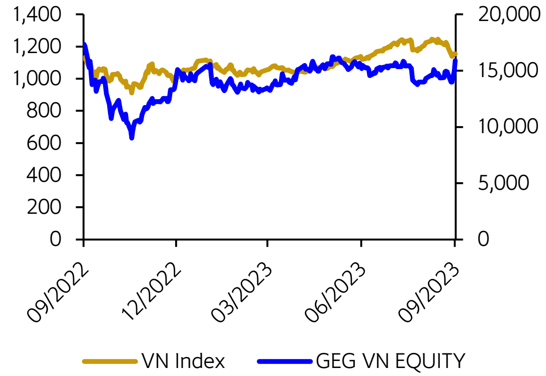
Source: Company data, Bloomberg, Shinhan Securities Vietnam
Data as of 07/12/2023

GIA LAI ELECTRICITY JOINT STOCK COMPANY (GEG)

GEC

Target price (12 months)	17,000 VND
Current price (07/12/23)	13,550VND
Return (%)	25.5%
VNINDEX	1,121
Market P/E (x)	231
Market cap (billion VND)	4,624
Outstanding shares (mil shares)	341
Free-float (mil shares)	23
52-week high/low (VND)	16,745/11,604
90-day avg. trading volume (mil shares)	1.0
90-day avg. turnover (bn VND)	12
Major SHDs (%) AVH Pte..Ltd	35.1

Performance	3T	6T	12M
Absolute (%)	-7.5	-16.0	10.5
Rel.to VN-Index (%)	2.3	-17.1	2.8



New projects driving growth

Investment points

_GEG began as a hydropower company and has gradually transformed into one of the largest companies in the electricity sector with the total capacity in renewable energy of 503 MW. This includes 81 MW from hydropower, 292 MW from solar farms and rooftop solar, and 130 MW from wind power. GEG's power plants are strategically located, well-suited for various types of renewable energy. The company benefits significantly from its focus on developing the renewable energy sector, particularly wind power, as outlined in Power Development Plan VIII.

_Update business results of Q3/2023: GEG recorded revenue of nearly VND566 billion (+9% YoY) and net profit of VND13 billion (-89% YoY) in Q3/2023. The decrease in net profit was primarily due to the sharp increase in financial costs, as interest rates remained high. The commissioning of the Tan Phu Dong 1 (TPD 1) wind farm also resulted in additional borrowing costs. In addition, operating income decreased by -93% due to the absence of revenue from the sale of shares in the same period last year. In 9M/2023, revenue reached VND1,595 billion (0% YoY) and net profit reached VND150 billion (-64% YoY). The commissioning of the TPD 1 wind farm (100MW) helped to increase electricity production, but the selling price was relatively low, at only 50% of the transitional selling price. We estimate that the TPD 1 plant is currently operating at a loss, which has had a significant impact on the company's overall net profit. As a result, GEG has achieved 55% of its revenue target and 72% of its profit target.

_The Tan Phu Dong 1 wind power plant (120 MW) and the Duc Hue 2 solar power project (50 MW) are expected to drive strong growth for GEG in late 2023 - 2024. The Tan Phu Dong 1 wind power plant is projected to have an average output of around 293 kWh/year. The Duc Hue 2 project (49 MW) is expected to start operating in early 2024 with an anticipated output of 73 kWh/year. GEG has almost completed important legal steps for this project.

_ In October 2023, GEG was granted a preliminary investment approval for the Tien Giang Hydrogen Production Plant (100MW) - Phase 1, which will use wind power to produce hydrogen. The plant is expected to produce 5,000 tons of hydrogen/year, 95,000 tons of oxygen/year, and 90,000 tons of ammonia/year. The total investment is over VND2,200 billion, and the plant is expected to be operational in 2028. In addition, GEG has completed a merger and acquisition (M&A) of a 8.6MW hydropower project in Dak Lak province. The project is currently in the process of completing legal procedures and is expected to start construction in early 2024.

_Risks: (1) El Nino-related risks leading to reduced hydropower production; (2) Legal risks for incomplete projects; (3) Interest rate fluctuations that could lead to higher-than-expected financial costs; (4) Pricing mechanisms for renewable energy projects can be difficult to predict.

Year	2020	2021	2022	2023F	2024F
Revenue (bil VND)	1,493	1,381	2,093	2,164	2,477
OP (bil VND)	645	653	851	780	830
NP (bil VND)	257	283	316	171	288
EPS (VND)	858	807	830	491	826
BPS (VND)	9,404.4	9,897.5	10,727.7	11,218.5	12,044.5
OPM	43.2	47.3	40.6	41.6	41.5
NPM	17.2	20.5	15.1	9.9	8.5
ROE (%)	9.6	8.2	5.6	3.6	5.2
P/E (x)	19.2	25.9	18.2	27.5	16.4
P/B (x)	1.8	2.1	1.4	1.2	1.1
EV/EBITDA (x)	9.5	13.4	10.8	11.9	10.3

Source: Company data, Bloomberg, Shinhan Securities Vietnam
Data as of 07/12/2023

Shinhan Investment Network

SEOUL
Shinhan Securities Co., Ltd
Shinhan Investment Tower
70, Youido-dong, Yongdungpo-gu,
Seoul, Korea 150-712
Tel : (82-2) 3772-2700, 2702
Fax : (82-2) 6671-7573

NEW YORK
Shinhan Investment America Inc.
1325 Avenue of the Americas Suite 702,
New York, NY 10019
Tel : (1-212) 397-4000
Fax : (1-212) 397-0032

HONG KONG
Shinhan Investment Asia Ltd.
Unit 7705 A, Level 77
International Commerce Centre
1 Austin Road West
Kowloon, Hong Kong
Tel : (852) 3713-5333
Fax : (852) 3713-5300

INDONESIA
PT Shinhan Sekuritas Indonesia
30th Floor, IFC 2, Jl. Jend. Sudirman Kav.
22-23, Jakarta, Indonesia
Tel : (62-21) 5140-1133
Fax : (62-21) 5140-1599

SHANGHAI
Shinhan Investment Corp.
Shanghai Representative Office
Room 104, Huaneng Union Mansion No.958,
Luijiazui Ring Road, PuDong, Shanghai, China
Tel : (86-21) 6888-9135/6
Fax : (86-21) 6888-9139

HO CHI MINH
Shinhan Securities Vietnam Co., Ltd.
22nd Floor, Centec Tower, 72-74 Nguyen Thi Minh Khai Street,
District 3, Ho Chi Minh City, Vietnam
Tel : (84-8) 6299-8000
Fax : (84-8) 6299-4232

HA NOI
Shinhan Securities Vietnam Co., Ltd.
Hanoi Branch
2nd Floor, Leadvisors Building, No. 41A Ly Thai To,
Ly Thai To Ward, Hoan Kiem District,
Hanoi, Vietnam.
Tel : (84-8) 6299-8000

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- **BUY:** Expected 12-month gain of 15% or more
- **HOLD:** Expected 12-month loss of 15% to gain of 15%
- **SELL:** Expected 12-month loss of 15% or more

Sector

- **OVERWEIGHT:** Based on market cap, largest share of sector stocks under coverage is rated BUY
- **NEUTRAL:** Based on market cap, largest share of sector stocks under coverage is rated HOLD
- **UNDERWEIGHT:** Based on market cap, largest share of sector stocks under coverage is rated SELL

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