Shinhan Securities

Power

“Green” investment, sustainable growth



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Glossary of abbreviations

COD	Commercial operation date
CAN	Capacity Add-on Price
CfD	Contract for Difference
EPTC	Electricity Power Trading Company
ERAV	Electricity Regulatory Authority of Vietnam
EVN	Vietnam Electricity Corporation
FDP	Field Development Plan
FID	Final Investment Decision
FMP	Full Market Price
GSA	Gas Sales Agreement
IEA	International Energy Agency
LNG	Liquefied Natural Gas
MOIT	Ministry of Industry and Trade
NCHMF	National Center For Hydro-Meteorological Forecasting
Pc	Contractual Price
Pmax	Maximum Capacity
PPA	Power Purchase Agreement (signed between EVN/EPTC)
PSC	Production Sharing Contract
PVN	Vietnam Oil and Gas Group
Qc	Contract Quantity
Qm	Metered Quantity
SMP	System Marginal Price
TKV	Vietnam National Coal and Mineral Industries Group
VCGM	Vietnam Competitive Generation Market

Content

Power sector – "Green" investment, sustainable growth

I. Power Industry Update 2025

_ Electricity production growth slowed in 1H2025 but is expected to accelerate in 2H2025 - 2026. There remains a risk of power shortage in the northern region, though this risk has eased compared to 2024.

_ Business results improved significantly in 1H2025, with strong recoveries in hydropower and gas-fired power.

_ EVN reported its first profit turnaround in 2024, with expectations of positive net profit in 2025.

II. Power industry outlook 2025-2030

1. Electricity production growth expected to remain high from 2025 to 2030.
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3. Volume of work in the electrical construction segment.
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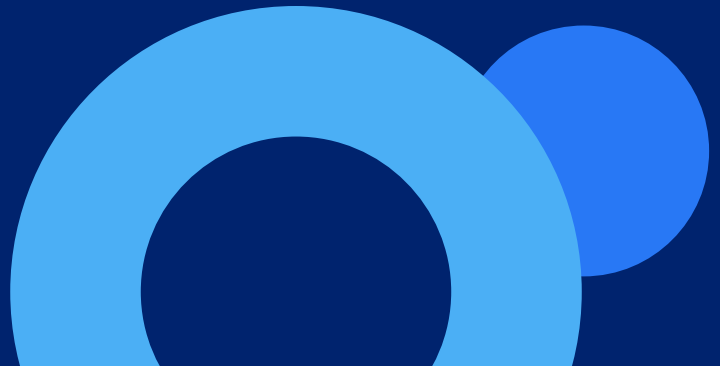
III. Investment opportunities – TV2 & NT2.

A defensive business with continued growth momentum, supported by its own unique growth stories.

Power Industry Update 2025

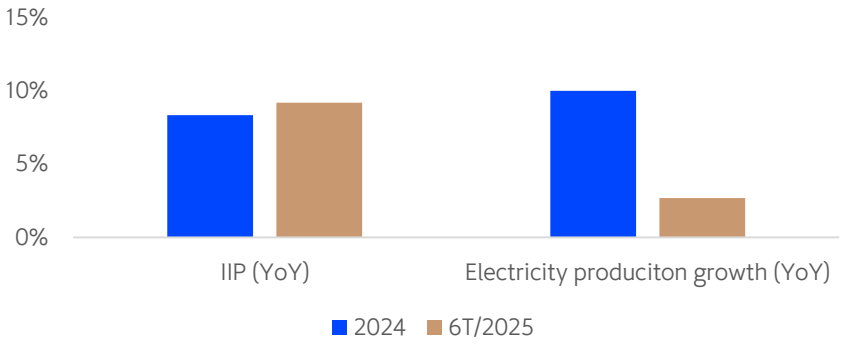
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In 1H2025, the Industrial Production Index (IIP) grew by 9.2%, while electricity generation reached only 155.79 billion kWh (up 3% YoY), equivalent to 45% of the Ministry of Industry and Trade's full-year target of 347.5 billion kWh. Additionally, EVN recently raised electricity prices by 4.8% and is expected to start recording positive profits in 2025.



Electricity output growth slowed down in 1H2025

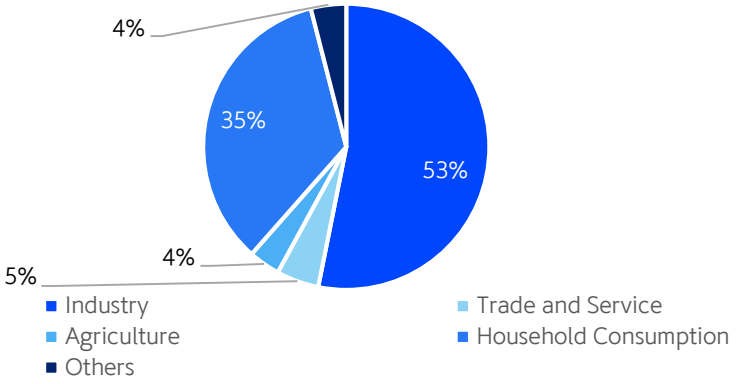
Growth in electricity production and industrial production index (IIP)



Source: EVN, Fiinpro, Shinhan Securities Vietnam

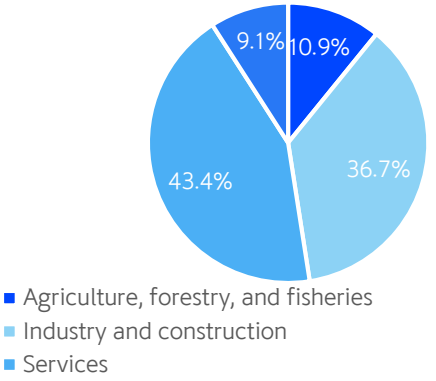
- In 1H2025, the IIP rose 9.2%, while electricity production growth reached only 155.79 billion kWh (+3% YoY), equivalent to 45% of the Ministry of Industry and Trade's 2025 target of 347.5 billion kWh. The main reason was that nationwide temperatures were lower than the same period and the entire previous year, so power demand did not increase as much as initially forecast. On average during 2020–2024, growth in commercial electricity output came mainly from the industrial sector (accounting for 53%).

Average structure of commercial electricity output, 2020–2024



Source: EVN, Shinhan Securities Vietnam estimates

GDP components 2024

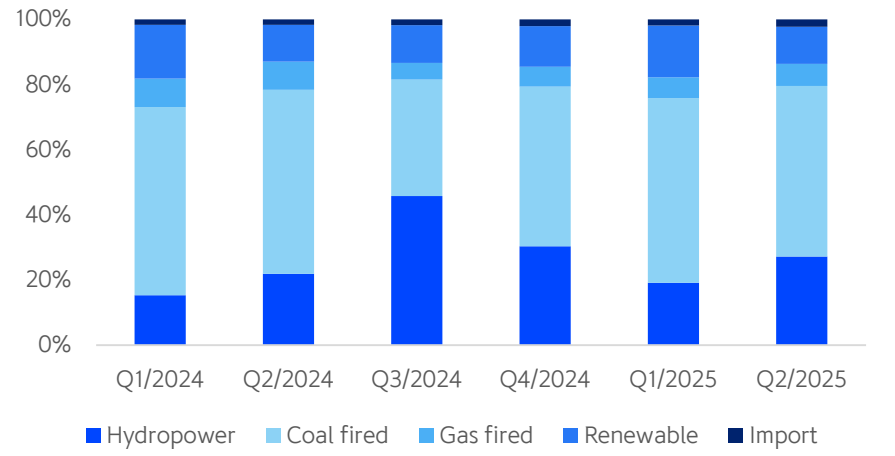


Source: Fiinpro, Shinhan Securities Vietnam estimates

1. Power Industry Update 2025

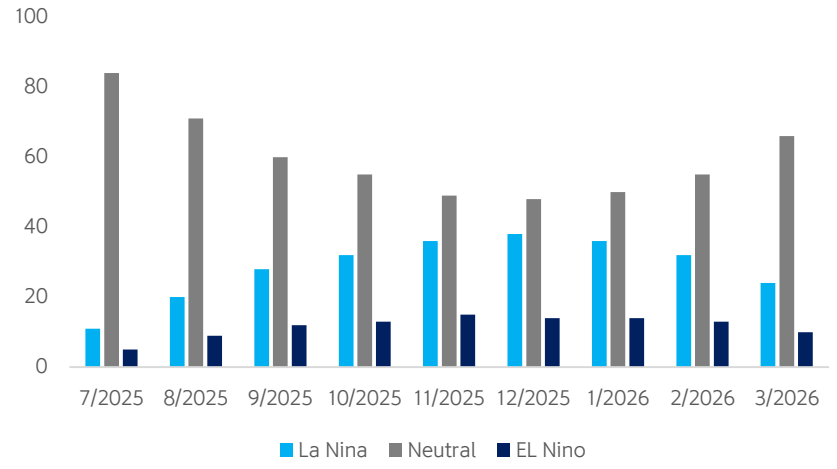
Coal-fired power remains the primary source of power generation, while hydropower shows signs of gradual improvement

The proportion of coal-fired power generation accounted for the majority in Q22025



Source: EVN, Shinhan Securities Vietnam

Official NOAA CPC ENSO probabilities (%)

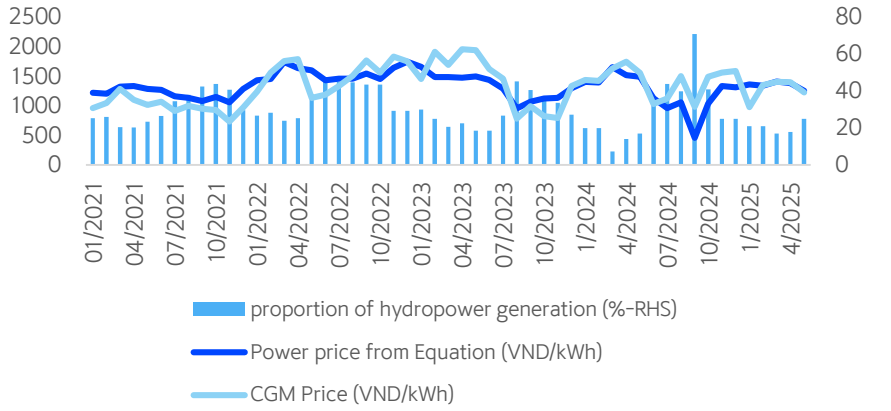


Source: IRI, Shinhan Securities Vietnam

- **Thermal power generation has been increasingly mobilized since late 2024 until now.** In 1H2025, hydropower output reached 36.5 billion kWh (+27% YoY), accounting for 23%, while coal-fired power output reached 84.6 billion kWh (-2% YoY), accounting for 54%.
- According to IRI, the neutral ENSO phase is expected to dominate with the highest probability of 50–60% in 2025, and the likelihood of La Niña gradually increases toward the end of 2025.According to the National Center for Hydro-Meteorological Forecasting, water inflows and rainfall to hydropower reservoirs in northern Vietnam are expected to be close to the multi-year average. We expect hydropower output to remain stable in the second half of 2025.

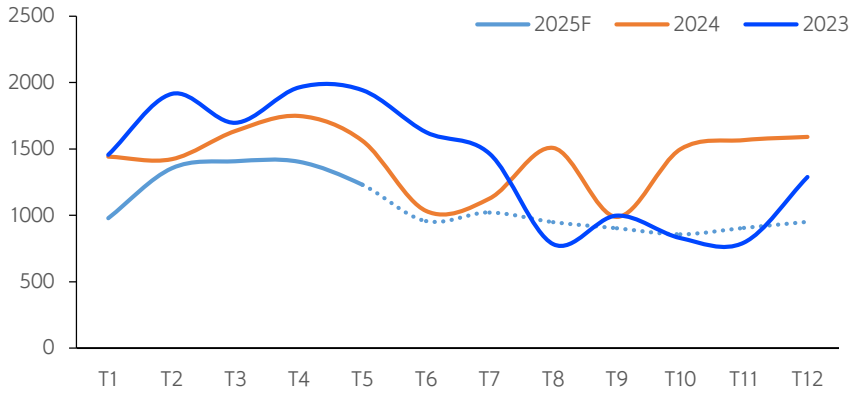
The CGM electricity selling price in 2025 is expected to remain low

Regression model for forecasting CGM electricity prices*



Source: Genco3, EVN, Shinhan Securities Vietnam
*Regression equation: Analyzing CGM electricity prices based on Newcastle coal prices and the Proportion of hydropower mobilization.

The CGM electricity selling price in 2025 is expected to remain low (VND/kWh)



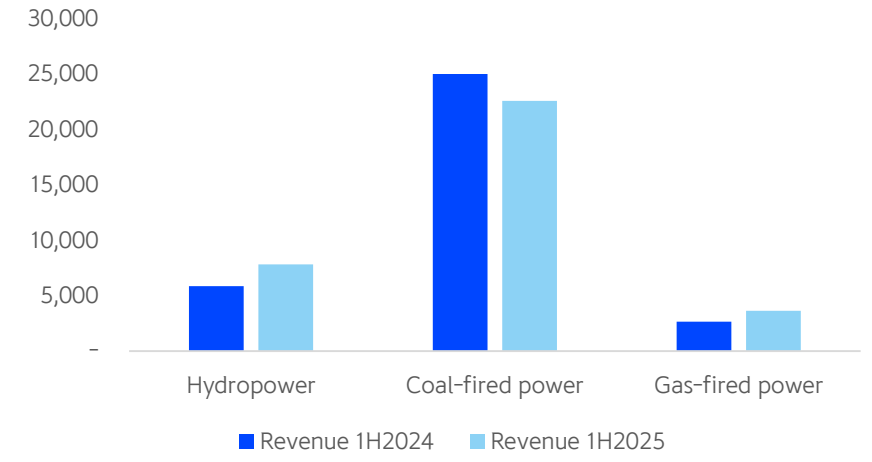
Source: Shinhan Securities Vietnam

- The electricity selling price on the CGM depends on multiple factors, such as: electricity consumption demand, the share of hydropower, coal-fired and gas-fired power generation, the offer price of each type (which is affected by input fuel prices), etc. In the first 5 months of 2025, CGM electricity prices averaged around 1,275 VND/kWh (-18% YoY), mainly due to the high share of hydropower mobilization early in 2025 (20% vs. 15% YoY) and lower coal prices at 103.8 USD/MT (-21% YoY).
- We conducted a regression-based forecast of CGM electricity prices using two independent variables: the share of hydropower mobilization and Newcastle coal prices. We assume an inverse relationship between hydropower share and CGM price, and a direct relationship between Newcastle coal price and CGM price. Assuming hydropower mobilization share in 2025 reaches around 28%, and Newcastle coal prices trend upward to an average of 107 USD/MT in 2025, we expect CGM electricity prices to average around 1,186 VND/kWh (-17% YoY) for the full year 2025. Please note that many other factors can influence CGM prices — for example, the upcoming operation of NT3 and NT4 power plants with high offer prices may cause actual CGM prices to exceed our estimates.

1. Power Industry Update 2025

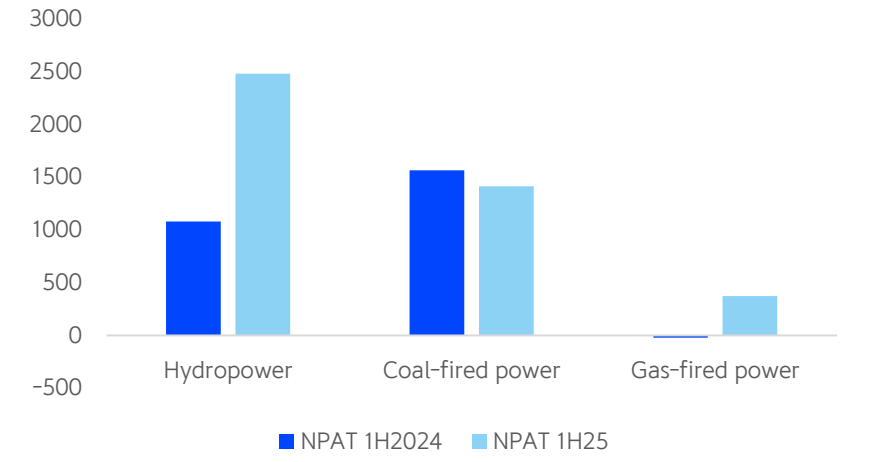
1H2025 business results reflect a recovery in hydropower and gas-fired power generation

Revenue from hydropower and gas-fired power generation rebounded strongly in 1H2025



Source: Fiinpro Shinhan Securities Vietnam
*Statistical data collected from 43 publicly listed power companies

Net profit of the gas-fired power group rebounded strongly

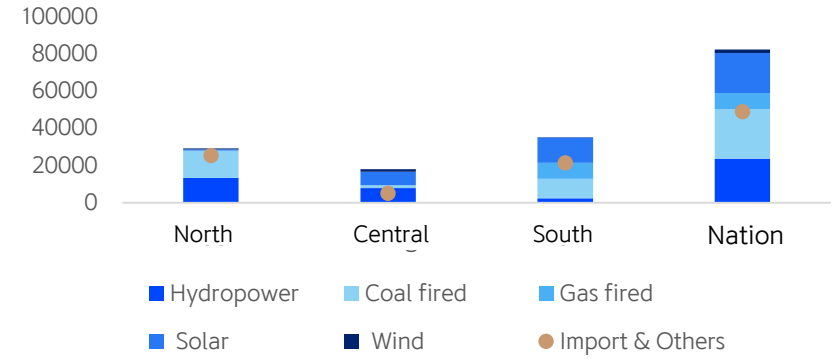


Source: Fiinpro, Shinhan Securities Vietnam

- **Hydropower**: Revenue and profit of the hydropower group recovered strongly, driven by high hydropower mobilization in 1H2025.
- **Gas-fired power:** Revenue and profit of the gas power group also saw strong recovery, mainly thanks to NT2's outperformance relative to the industry average. While total output of the group declined -22% YoY, NT2's output grew by +16% YoY, supported by a high Qc ratio.
- **Coal-fired power:** Revenue and net profit declined by 10% YoY, mainly due to a -2% YoY drop in coal power output and a -18% YoY drop in CGM electricity prices during the first 5 months of 2025.
- **Renewable energy group** remained stable, as most players are multi-sector companies and/or own a diversified mix of power sources. Renewable electricity output grew +1% YoY, and business results vary depending on each company's specific characteristics.

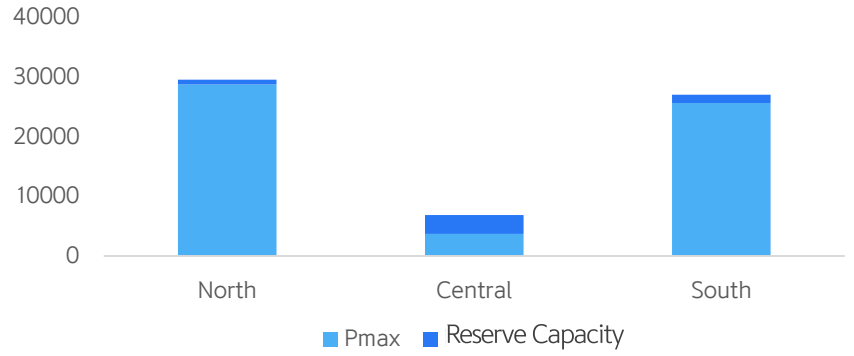
Power shortage risk in the northern region eases compared to 2024

Installed capacity and Pmax by region in 2024 (MW)



Source: ERAV, Shinhan Securities Vietnam estimates

Northern region has the lowest reserve capacity among the three regions in 2025F (MW)

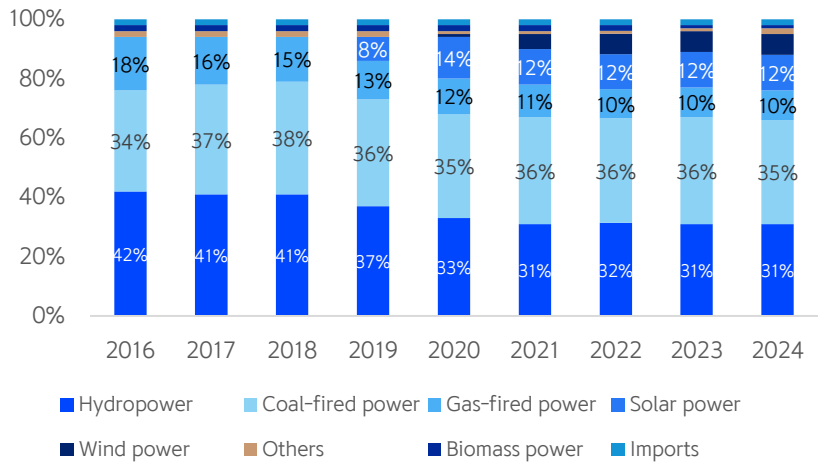


Source: Draft of Revised PDP VIII, Shinhan Securities Vietnam estimates
Reserve = Available capacity – Pmax

- **In recent years, the Northern region has faced electricity shortages during certain periods of the dry season, with 2023 being the peak year.** Due to the uneven distribution of power sources across regions, particularly with hydropower concentrated mainly in the North, the region faces a higher risk of power shortages during dry seasons when electricity demand surges, as seen in 2023. Specifically, in 2023, only about 30% of the designed hydropower capacity was available, resulting in a shortfall of approximately 3,000 MW in the North. This was exacerbated by frequent failures in coal-fired power plants operating at 100% capacity and gas shortages. However, the situation improved significantly in 2024 due to two key measures implemented by EVN: (1) Storing water in hydropower reservoirs for the dry season, (2) operating the third 500kV transmission line, which increased transmission capacity from the Central to the North by 2,500 MW, reaching a total of 5,000 MW. In addition, according to the NCHF, this year's peak hot period is expected to be milder compared to 2024.
- In 2025, the Northern region is projected to face the highest power deficit of approximately 776 MW in June under a high-risk scenario. Therefore, it is estimated that the North will need about 12 billion kWh (accounting for around 8% of the electricity produced in the region) from transmitted sources in 2025, increasing to 29 billion kWh by 2030.

Công suất điện các năm và tiến độ thực hiện PDP VIII

Capacity structure by source, 2016–2024 (MW)



Source: ERAV, Shinhan Securities Vietnam

Progress of power source implementation up to 2025

Source	Implement	PDP VIII Implementation Plan	% Completion
Coal-fired power	1,432	1,432	100%
Onshore wind power	883	4,663	19%
Medium and Large Hydropower	906	2,133	42%
Small Hydropower	569	1,585	36%
LNG-fired Power	1,624	2,824	58%

Source: PDP VIII Implementation Plan, Shinhan Securities Vietnam

- **During the period from 2016 to 2024, the total installed capacity of power sources in the system nearly doubled, increasing from approximately 42 GW to about 75 GW (excluding rooftop solar).** The share of hydropower sources has gradually declined due to the near exhaustion of hydropower potential. By 2024, hydropower accounted for only about 31% of the national power capacity mix. Meanwhile, since 2016, coal-fired thermal power has maintained a share above 35%, driven by the commissioning of many new plants during this period. The shares of solar and wind power have risen from nearly 0% in 2018 to 12% and 7%, respectively, in 2024. Gas turbine power capacity has not been expanded in recent years, resulting in its share dropping from 18% in 2016 to 10% in 2024.
- Compared to the PDP VIII Implementation Plan, except for coal-fired thermal power which achieved 100% of the planned additional capacity (due to the completion of Van Phong 1 Thermal Power Plant in 2024), other power types have relatively lower implementation rates than expected. LNG projects scheduled for operation by 2025 include only Nhon Trạch 3 and 4 Thermal Power Plants (1,624 MW), while the first phase of Hiep Phuoc LNG (1,200 MW) is still under construction.

1. Power Industry Update 2025

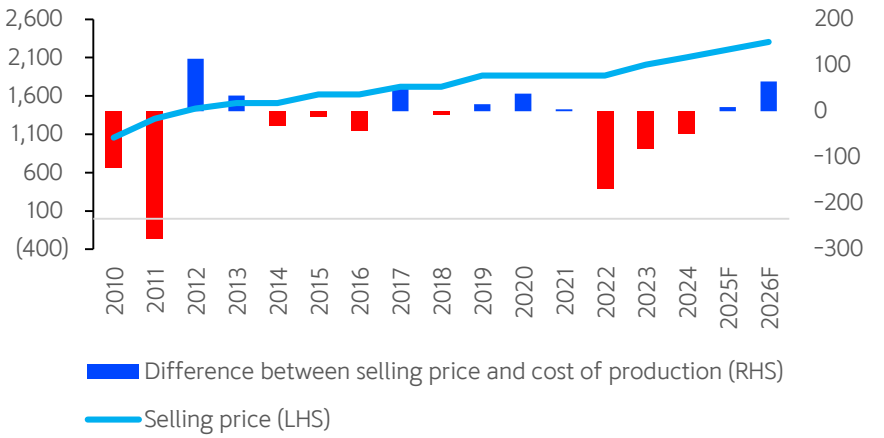
EVN returned to profitability for the first time in 2024, with expectations of positive earnings in 2025

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



Source: EVN, Shinhan Securities Vietnam

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



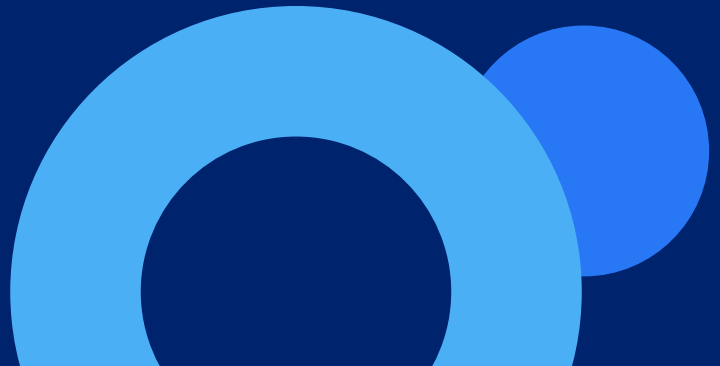
Source: EVN, Shinhan Securities Vietnam

- On May 15, 2024, Regulation No. 05/2024/QĐ-TTg on the mechanism for adjusting the average retail electricity price came into effect. Notably, EVN is allowed to adjust retail electricity prices more frequently, reducing the average adjustment period from 6 months to 3 months. This enables EVN to promptly reflect changes in input costs in electricity prices, especially in the context where coal prices have cooled down but gas prices remain relatively high.
- Starting from May 10, 2025, EVN issued Decision No. 599/QĐ-EVN to adjust the average retail electricity price to 2,204.07 VND/kWh (+4.8%) (excluding VAT)—a price increase similar to that in October 2024. This marks the fourth electricity price increase since 2023. Thanks to this, EVN officially returned to profitability in 2024. The price increase will help EVN improve its business operations, promptly pay many electricity producers, and accelerate project investment progress, especially since EVN has to purchase power from high-cost LNG gas sources this year. Therefore, we expect electricity prices to continue rising by about 4-5% annually in the coming years. EVN also aims to remain profitable in 2025, consistent with our forecast, and we expect that EVN will not fully erase the accumulated loss of approximately 42 trillion VND until at least the end of 2026.

Power Sector Outlook 2025 and Strategic Orientation for 2030

2

1. Electricity output growth to maintain a high level from 2025 to 2030
2. Power generation capacity targets by 2030
3. Volume of work in the electrical construction segment
4. Gas-fired thermal power: Domestic gas supply gradually declining
5. LNG-fired thermal power: Demand for LNG imports expected to increase significantly
6. Renewable energy group: Further potential consolidation



2.1 – High growth in electricity demand

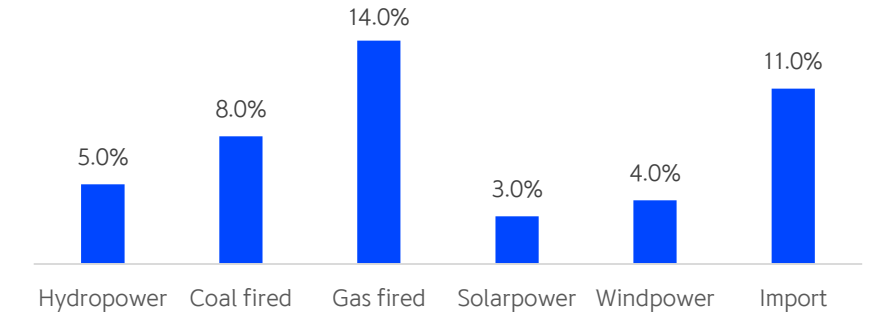
Electricity output growth to maintain a high level from 2025 to 2030

Electricity indicators in the Revised PDP VIII compared to the original PDP VIII

To 2030	PDP VIII	Revised PDP VIII
GDP growth 2026-2030	7.00%	10%
Electricity production output and imports (bn kWh)	566.9	560.4 - 624.6
Commercial electricity output (bn kWh)	505.2	500.4 - 557.8
CAGR of electricity production output	8.6%	10.4%
Pmax (MW)	90,512	89,655 - 99,934
Installed capacity (MW)	155,544	183,291 – 236,363

Source: Revised PDP VIII, Shinhan Securities Vietnam

Forecast of electricity output growth by source in 2025



Source: EVN, MOIT, Shinhan Securities Vietnam esimates

_ According to NSMO and MOIT, the national electricity production plan for 2025 is projected at 347.5 billion kWh (+12.2% YoY), with peak national capacity reaching 54,328 MW (+10.98%), where the Northern region is expected to maintain a very high growth rate. Based on the actual electricity output in 1H2025 and the planned supply for the remaining months of the year, **NSMO estimates total 2025 electricity production will reach 331.4 billion kWh (+7.39% YoY), equivalent to 95.4% of the 2025 target.**

_ The revised PDP VIII was officially issued on April 15, 2025, and the implementation of revised PDP VIII was also approved shortly afterward. Most indicators were revised upward compared to the original PDP VIII, signaling very high electricity demand, in line with the national economic growth target of 10% per year until 2030.

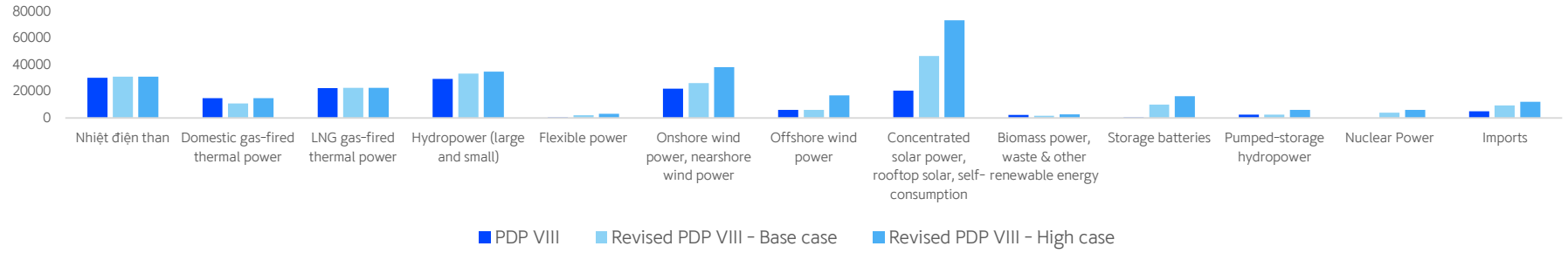
_ **For 2025, based on NSMO's plan of 331.4 billion kWh in electricity production (+7.39% YoY), we forecast the production breakdown by source as follows:**

- Coal-fired power: approximately 165.7 billion kWh (+8.0% YoY).
- Hydropower: about 96.1 billion kWh (+8.0% YoY), with respective mobilization shares of 29% and 50%.
- Gas and oil-fired power: approximately 24.9 billion kWh (+14.0% YoY), mainly due to a sharp planned increase in oil-fired generation—very low in the same period last year—and trial operations of the NT3 & NT4 plants. While oil generation will raise power procurement costs, it is a necessary measure amid a surge in demand and potential localized shortages in coal and gas supply.

2.2 – Power source capacity targets by 2030

The Revised PDP VIII is determined to promote renewable energy

Power capacity sources 2023–2030 (MW)



Source: MoiT, Shinhan Securities Vietnam

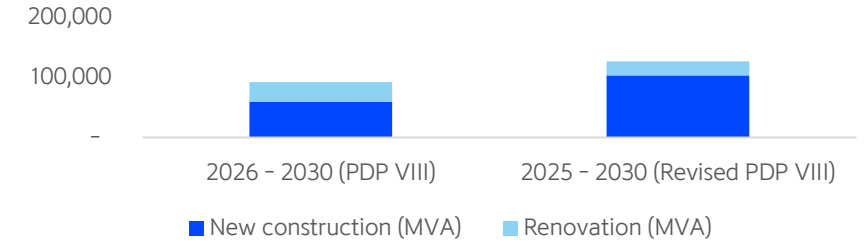
According to the Revised PDP VIII, the total power capacity serving domestic demand (excluding exports, cogeneration sources, and risk thermal power) is projected at 183,291–236,363 MW, an increase of approximately 27,747–80,819 MW compared to the original PDP VIII. The main changes are as follows:

- **Solar power**: by 2030, total centralized solar power capacity is expected to reach about 46,459–73,416 MW, increasing by approximately 25,867–52,825 MW compared to the original PDP VIII. With rising electricity demand, solar power is once again prioritized for development due to its rapid deployment advantage.
- **Offshore wind power**: The Revised PDP VIII maintains the development capacity target of about 6,000–17,032 MW but shifts this to the 2030–2035 period. However, we believe that achieving the 6,000 MW target by 2030 is unlikely due to high investment costs and long implementation timelines for this technology.
- **LNG-fired thermal power**: Nearly unchanged from PDP VIII, with total capacity reaching 22,524 MW by 2030.
- **Onshore wind power**: development is accelerated with capacity ranging from 26,066 to 38,029 MW, compared to 21,880 MW in PDP VIII
- **Storage and flexible sources**: PDP VIII approves two pumped storage projects, Bac Ai and Phuoc Hoa, scheduled for operation between 2026–2030. Battery energy storage systems (BESS) have fast installation times (about 3 months), so their expected commissioning is in 2026–2027.Nuclear power: the nuclear power program has been approved by the 15th national assembly. Two nuclear power projects, ninh thuan 1 & 2 (4,400 MW), are planned to be completed after 2030.
- **Electricity imports**: Electricity imports from Laos and China are expected to increase significantly to about 9,360–12,100 MW (accounting for 4–5.1% of total capacity), compared to 5,000 MW in PDP VIII.

2.3 – Volume of work in the electrical construction segment

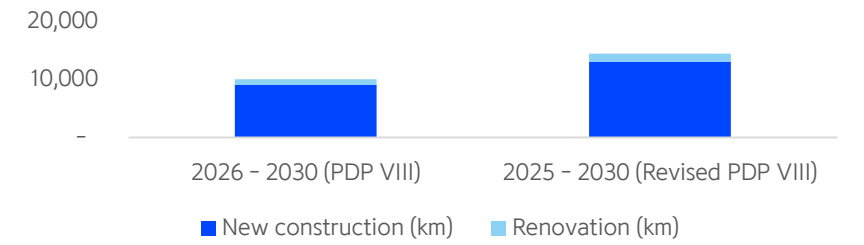
Volume of work in the construction and installation segment has increased significantly compared to the previous PDP VIII

500 kV Substation



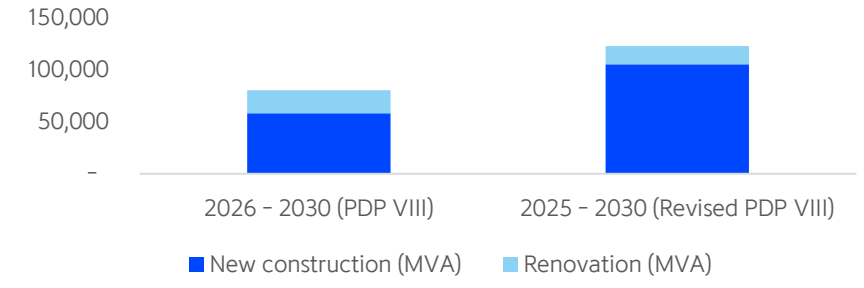
Source: Revised PDP VIII, PDP VIII, Shinhan Securities Vietnam

500 kV Transmission line



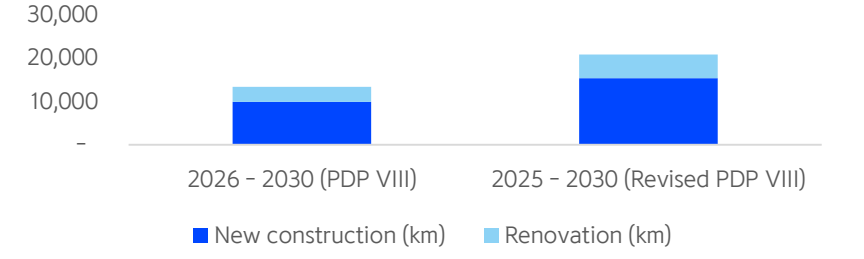
Source: Revised PDP VIII, PDP VIII, Shinhan Securities Vietnam

200 kV Substation



Source: Revised PDP VIII, PDP VIII, Shinhan Securities Vietnam

220 kV Transmission line



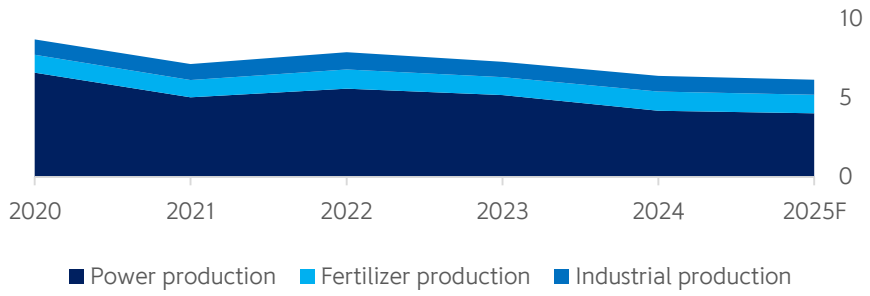
Source: Revised PDP VIII, PDP VIII, Shinhan Securities Vietnam

The push to expand power generation capacity by 2030 creates a very large workload in the development of the power transmission system. Some notable transmission projects in 2025 include the 500 kV Lao Cai – Vinh Yen line (229 km, total investment of 7,410 billion VND) and the 500 kV Monsoon – Thanh My line (44.71 km within Vietnam, total investment over 1,100 billion VND), among others. We expect **PC1** and **TV2** to continue benefiting from this trend.

2.4 – Gas-fired power: Domestic gas supply declines

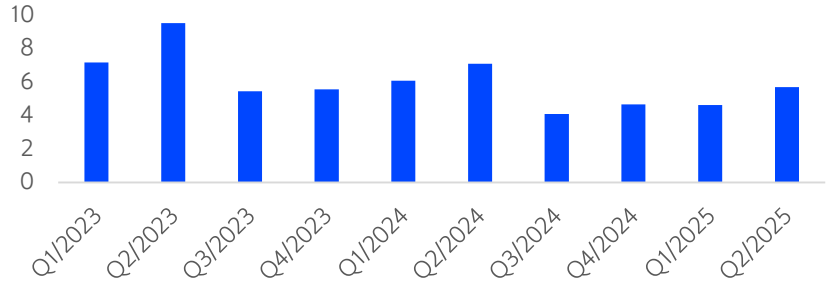
Domestic natural gas resources are continuously declining, leading to a decrease in gas-fired electricity production

Gas consumption volume has sharply declined over the years (billion m³/year)



Source: GAS, Shinhan Securities Vietnam

Gas-fired electricity production has continuously decreased (billion kWh)



Source: EVN, Shinhan Securities Vietnam

- Gas consumption for power generation accounted for approximately 66%, reaching 4.2 billion m³ (including 400 million m³ of LNG) in 2024 (-19% YoY) due to the depletion of remaining reserves in domestic gas fields. According to the MOIT, the gas supply plan for power generation in 2025 is 3.04–4.21 billion m³ (a decrease of about 11.6% compared to the 2024 plan), with the Southeast region accounting for 1.79–2.86 billion m³ (including 800 million m³ of LNG) and the Southwest region 1.25–1.35 bn m³
- Domestic gas supply capacity for power generation during 2026–2030 is estimated at around 7 billion m³/year. According to the MOIT's assessment, only the O Mon gas power plants are likely to operate before 2030, posing a risk of delays for projects using Blue Whale gas after 2030.
- For the period 2031–2045, gas supply capacity is expected to increase to approximately 13 billion m³/year after the Blue Whale field becomes operational.

Project	Expected capacity (MW)	Operation stage	Note
O Mon Thermal Power I	660	2025-2030	Using gas from Block B
O Mon Thermal Power II	1050	2025-2030	
O Mon Thermal Power III	1050	2025-2030	
O Mon Thermal Power IV	1050	2025-2030	
Dung Quat CCPP& I	750	2025-2030	Using gas from Ca Voi Xanh, synchronized with upstream Ca Voi Xanh source development
Dung Quat CCPP II	750	2025-2030	
Dung Quat CCPP III	750	2025-2030	
Central Region CCPP I	750	2025-2030	
Central Region CCPP II	750	2025-2030	
Quang Tri CCPP	340	2025-2030	Using gas from Bao Vang field, synchronized with upstream source development

Source: Revised PDP VIII, Shinhan Securities Vietnam
*CCCP: Combined Cycle Power Plant

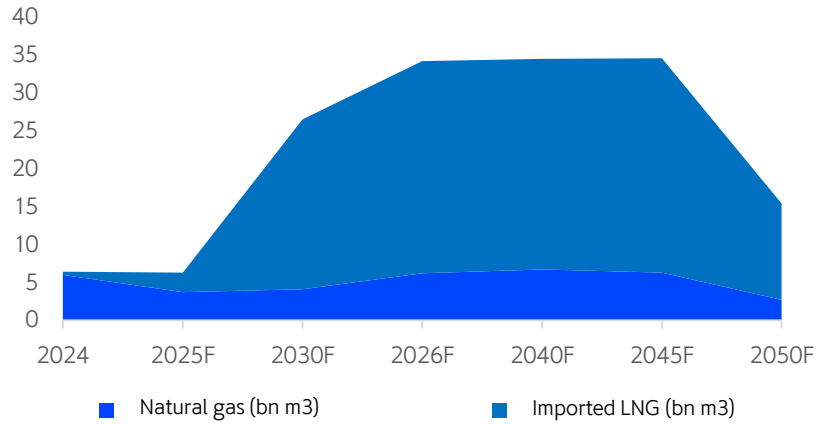
2.5 – LNG-fired thermal power: Import demand will increase significantly

LNG-fired thermal power projects under the revised PDP VIII development plan up to 2030

Project	Capacity (MW)	Note	
LNG Quang Ninh	1,500	Feasibility study in progress	Consortium: POW, Golavi, Tokyo Gas, Marubeni
LNG Thai Binh	1,500	Approved for investment policy, expected operation 2028–2029	Consortium: Tokyo Gas, Kyuden, Trường Thành Construction JSC
LNG Quang Trach II	1,500	Feasibility study in progress	EVN
LNG Hai Lang Phase 1	1,500	Feasibility study in progress	T&T Group, HANWHA, KOSPO, KOGAS
Nhon Trach 3&4	1,624	Expected completion Q3–Q4/2025	PV Power
LNG Hiep Phuoc Phase I	1,200		Hai Linh
LNG Long An 1	1,500	F/S completed, PPA negotiation underway	VinaCapital, GS Energy
BOT Son My I	2,250		EDF, Kyushu, Sojitz, Pacific Vietnam
BOT Son My II	2,250		AES Group
LNG Bac Lieu	3,200	These projects require solutions to ensure timely operation in accordance with the approved planning	DeltaOE
LNG Nghi Son	1,500		N/A
LNG Ca Na	1,500		N/A
LNG Quynh Lap	1,500		N/A
LNG Hai Phong Phase I	1,600	Commitment of Hai Phong People's Committee	Consortium: Vingroup and VinEnergy
LNG Hiep Phuoc Phase II	1,500	Commitment of HCMC People's Committee	N/A

Source: Revised PDP VIII, Shinhan Securities Vietnam

Significant increase in LNG demand for power generation (billion kWh)



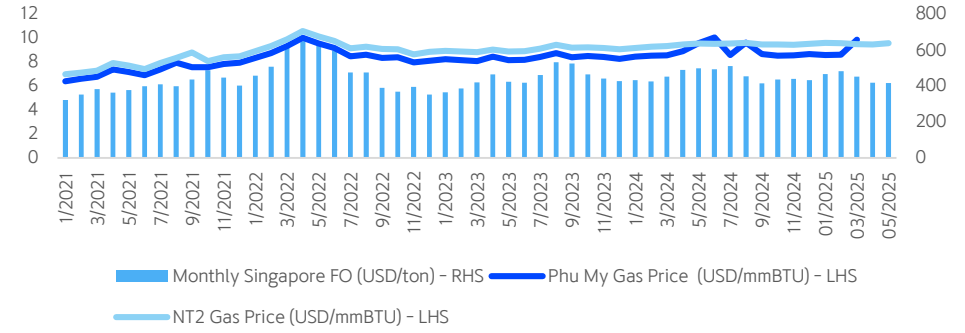
Source: MOIT, Shinhan Securities Vietnam

- **LNG-fired thermal power:** According to the Revised PDP VIII, LNG thermal power capacity is expected to reach 25,624 MW by 2030. Excluding the NT3 and NT4 plants that will operate this year, the capacity needing development is very large, reaching 24,000 MW.
- To serve the gas demand of LNG power plants, in 2024, GAS imported 400 million m³ of LNG at the Thi Vai LNG terminal through a spot contract. For 2025, the Ministry of Industry and Trade plans to import about 800 million cubic meters of LNG to supply existing gas power plants and the NT3 and NT4 LNG power plants; the volume of LNG imports is expected to increase as more LNG power plants come online. Vietnam's LNG demand is forecasted to reach approximately 22.4 billion cubic meters by 2030, **representing a significant business opportunity for GAS.**
- However, aside from LNG NT3&4 and LNG Hiep Phuoc currently under construction, other projects are delayed. If PPA and GSA contracts are not signed in 2026, it will be very difficult to complete them before 2030.
- Additionally, based on our calculations assuming NT3&4 efficiency and an LNG price of around 14 USD/mmBTU, to support about 24 GW of LNG power plants by 2030, Vietnam will need to spend approximately 12 billion USD annually on LNG imports, equivalent to nearly 10% of the current trade deficit between Vietnam and the United States.

2.5 – LNG-fired thermal power: Import demand will increase significantly

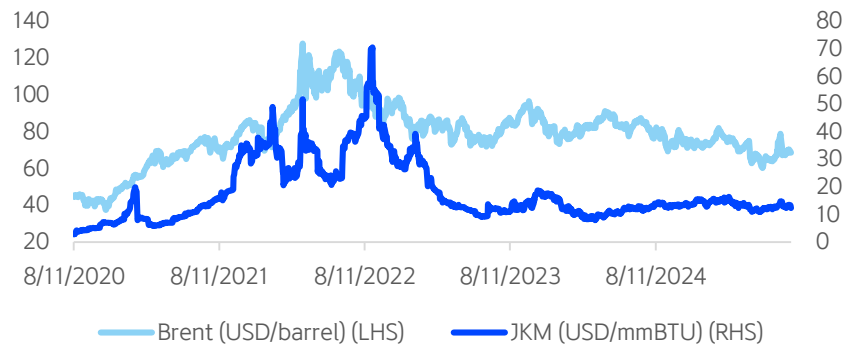
Despite currently high LNG prices, projections suggest a downward trend in the 2028–2030 period

Natural gas prices remain elevated, anchored to Singapore FO prices.



Source: Bloomberg, Shinhan Securities Vietnam

JKM LNG prices and Brent Crude oil prices



Source: Bloomberg, Shinhan Securities Vietnam

_ **According to Decision No. 1313/QD-BCT, the maximum electricity price for LNG-fired power is 3,327.42 VND/kWh, based on an imported LNG price of 14.05 USD/mmBTU.** The cost of LNG-fired power generation is higher than that of domestic natural gas due to significantly higher input gas prices. Based on our research, Vietnam imports LNG from Asia, meaning LNG prices are closely tied to the JKM index (Japan/Korea Marker) and thus fluctuate in line with Brent crude oil prices. In the short term, geopolitical events that impact Brent prices may also affect LNG procurement costs for Vietnamese LNG power plants. In the long term, according to Fitch, global LNG supply capacity is expected to grow by over 40% between 2024 and 2030, with JKM prices forecasted at around 7 USD/mmBTU for the 2028–2030 period. This is expected to support Vietnam's increasing LNG import demand during that time.

_ **Natural gas prices in the Southeast region are currently around 9.3 USD/mmBTU, primarily due to elevated FO price.** Additionally, the Phu My 2 plant has started importing LNG.

2025 power generation price framework for natural gas and LNG

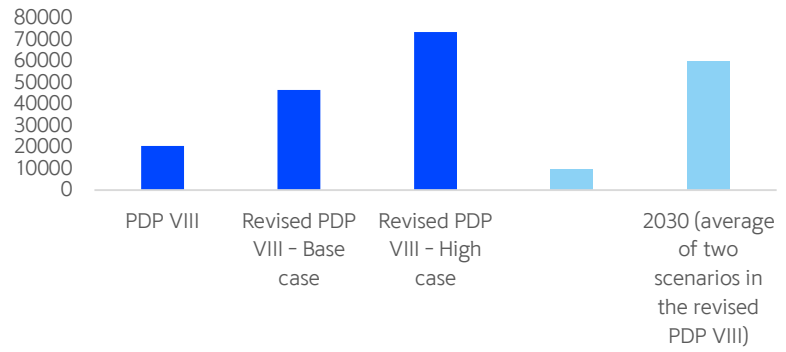
Exchange rate: 25,670 VND/USD	Ceiling selling prices (VND/kWh)	Gas prices (USD/mmBTU)	Transportation cost (USD/mmBTU)*
LNG-fired power plant	3,327.42	14.05	2.589
Natural gas power plant	3.069,38	11.69	1.83

Source: MOIT, Shinhan Securities Vietnam; *For LNG, the transportation cost includes shipping, storage, regasification, and post-regasification distribution.

2.6 – Renewable energy: Further potential consolidation

Promote renewable power capacity development, especially solar power

Solar power capacity accelerated (MW)



Source: Revised PDP VIII và PDP VIII, Shinhan Securities Vietnam

Renewable power capacity development by region up to 2030

Areas	Onshore wind power (MW)	Offshore Wind power (MW)	Solar farm (MW)	Rooftop solar power (MW)	Waste-to-energy power
North	2,194	N/A	10,306	17,950	523
Central	9,740	N/A	13,922	1,791	323
South	4,212	N/A	3,654	6,635	425
Total	16,146	6,000	27,882	26,376	1,271

- **Increase in solar power capacity up to 2030:** To ensure efficient power supply for the 2026–2028 period, given that gas, LNG gas, and offshore wind power sources are expected to come online at the end of 2029–2030 and with potential delays beyond 2030, fast-deployable sources such as flexible power, storage, and solar power will be developed before 2028. **We believe renewable power developers like REE, HDG, and GEG will benefit significantly, with many projects expected to be implemented.**

- **Update on DPPA mechanism**: According to the revised PDP VIII, the development potential for Direct Power Purchase Agreements (DPPA) is very large. Currently, large customers consuming 1 million kWh or more annually account for about 25% of the total electricity output in the system (with over 1,500 customers). By 2030, about 41% of electricity production is expected to come from renewable sources, with approximately 30% of that allocated for DPPA. Additionally, on December 31, 2024, NSMO issued document No. 1543/NSMO-TTĐ regarding registration for participation in the DPPA mechanism. We believe **TV2** and **REE** are the two companies set to benefit the most, due to their proactive efforts in promoting and signing DPPA contracts with foreign customers.

- **Official electricity sale price for wind power**: Notably, recently **GEG** reached an agreement with EVN on the official electricity sale price for the Tan Phu Dong 1 (TPD1) plant at 1,813 VND/kWh—nearly double the transitional price currently applied at the plant. It is worth noting that TPD1 is among the 85 solar and wind projects in transition that did not meet the FIT price requirements in time. GEG's agreement represents a major breakthrough for the remaining projects to quickly achieve suitable pricing, facilitating favorable conditions for new projects to be deployed promptly under the revised PDP VIII.

Appendix: Updated electricity price framework for renewable energy and LNG power

Selling prices by type and region (VND)

Type	Northern Region	Central Region	Southern Region	Average
Ground-mounted solar power (without storage batteries)	1,382.7	1,107.10	1,012.00	1,059.6
Floating solar power (without storage batteries)	1,685.80	1,336.10	1,228.20	1,416.7
Ground-mounted solar power (with storage batteries)	1,571.98	1,257.08	1,149.86	1,326.3
Floating solar power (with storage batteries)	1,876.57	1,487.18	1,367.13	1,577.0
Offshore wind power*	3,975,1	3,078,9	3,868,5	3,473.7

	Selling Price (VND/kWh)	Source
Onshore wind power	1,643.89	EVN proposed approval based on EPTC's calculation results
Nearshore wind power	1,913.67	
Biomass power	2.091,74 (chưa bao gồm thuế GTGT)	QD1008/QD-BCT
LNG gas power	3,327,42	EVN uses parameters from NT3&4
Solid waste power	2,575.18 (excluding VAT)	
Pumped storage hydropower	3,457.02 (excluding VAT)	Circular 09/2025/TT-BCT

Source: 988/QD – BCT, MOIT, Shinhan Securities Vietnam
* EVN's preliminary calculations

Appendix: regulatory framework update for the power sector

Notable policies with positive impact on the renewable energy sector

Policy/Document	Date	Summary	Impact
Direct Power Purchase Agreement (DPPA)	7/3/2024	Regulation on the mechanism for direct power purchase between renewable energy generators and large electricity consumers. The DPPA includes two options: via the national grid or through private bilateral contracts.	Creates opportunities for renewable energy developers to seek large customers and negotiate suitable pricing, enhancing market competitiveness and laying the groundwork for a future competitive retail electricity market in Vietnam.
Circular 07/2024/TT-BCT	4/12/2024	Regulation on the methodology for determining power generation prices and power purchase agreements.	Provides guidance on determining official power prices for both traditional and renewable energy generation groups.
Decision 988/QD-BCT	10/4/2025	Issuance of the official power price framework for solar power.	Creates clear price signals for investors to develop appropriate investment plans, thereby promoting stronger investment in solar energy.
Decision 599/QD-EVN	10/5/2025	EVN raised the average retail electricity price to **2,204.07 VND/kWh (+4.8% vs. current level),** aligned with the level applied in October 2024.	Improves EVN's financial performance, supporting further investment in power sources and transmission, and enabling mechanisms such as renewable energy procurement.
Decision 1508/QD-BCT	30/05/2025	Official issuance of the **wind power** price framework. For onshore wind, the maximum price (excluding VAT) in 2025 for each region is: **North: 1,959.4 VND/kWh, Central: 1,807.4 VND/kWh, South: 1,840.3 VND/kWh.**	Provides clear pricing guidance for investors to plan feasible wind power projects, promoting strong investment in wind energy.
Decision 768/QD-TTg	16/04/2025	Approval of the **Revised PDP VIII** Approval of the **Revised PDP VIII Implementation plan**	Focuses on expansion and capacity targets with diversified energy sources. The plan was promptly approved after land use obstacles were resolved, demonstrating the government's strong commitment to achieving the stated energy development goals.

III

Investment Opportunities

NT2&TV2

UPDATED BUSINESS RESULTS OF SOME LISTED POWER COMPANIES

General Information					Stock Price			Key financials				Growth 1H/2025		Valuation 26F	
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	11,151	47,200	45,200	-4.2	53.95	0.71	9.47	16.93	47.8	531.0	1.7	19.3
2	REE	Diversified	1,091	35,749	68,000	67,000	-1.5	39.19	0.58	6.56	12.55	14.0	48.0	1.8	11.5
3	HDG	Renewable	444	9,675	28,000	32,200	15.0	61.73	0.85	1.38	3.12	-15.4	-54.4	1.7	14.4
4	POW	Gas-fired Power	4,208	34,191	15,150	15,300	1.0	9.02	1.42	1.79	4.53	12.4	52.3	1.0	34.8
5	NT2	Gas-fired Power	750	6,304	21,650	24,000	10.9	7.98	1.03	5.48	11.62	43.3	NA**	1.6	11.3
6	QTP	Coal-fired Power	1,200	5,895	13,100	15,100	15.3	7.55	0.33	8.3	11.38	-13.0	-6.5	1.3	10.9
7	PPC	Coal-fired Power	1,040	3,543	11,150	12,200*	9.4	1.87	0.22	4.21	5.14	-22.1	-76.8	0.8	9.1
8	PC1	Power construction	313	9,728	26,400	28,600	8.3	21.43	1.83	1.96	7.59	-9.6	-19.2	1.3	11.5
9	GEG	Renewable	503	6,432	17,000	18,300	7.6	54.38	1.34	3.53	11.79	41.6	389.6	1.4	32.4
10	PGV	Diversified	170	2,745	40,300	44,000	9.2	15.55	0.56	2.86	4.56	-14.2	-21.8	1.7	16.2

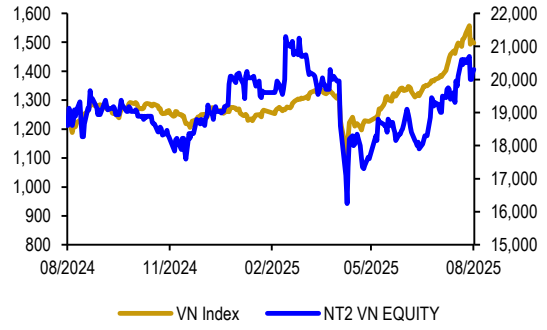
Target Price (fair value) for the next 12 months; * Consensus prices from Bloomberg; ** Net loss in the same period
Source: Bloomberg, Fiinpro, Shinhan Securities Vietnam
Data as of 08/08/2025

PetroVietnam Power Nhon Trach 2 JSC (HOSE:NT2)

Target price (12 months)	**24,000 VND**
Current price (08/08/2025)	21,650 VND
Return (%)	10.1%

VNINDEX	1,584.9
Market P/E (x)	12.9
Market cap (billion VND)	6,233
Outstanding shares (mil shares)	288
Free-float (mil shares)	93
52 week high (VND)	22,800
52 week low (VND)	16,000
90-day avg. trading volume (mil shares)	1.11
90-day avg. turnover (bn VND)	25
Beta	0.9

Performance	3T	6T	12M
Absolute (%)	15.8	9.9	9.1
Rel.to VN-Index (%)	-9.8	-15.5	-21.0



Strong production recovery

PetroVietnam Nhon Trach 2 Power JSC (HoSE: NT2) is one of the largest listed gas-fired power generators in Vietnam, with an installed capacity of 750 MW. The company maintains a healthy asset structure and has a consistent history of high dividend payouts, averaging around 17% over the past 4 years.1H2025 business results update.

1H2025 business results update.

Revenue reached VND 3,508 billion (+43% YoY) and net profit after tax (NPAT) was VND 363 billion (vs. a loss in the same period last year). The strong performance was mainly driven by a significant recovery in electricity output, reaching 1,369 million kWh (+16% YoY); contracted output (Qc) reached 1,584 million kWh (+100% YoY); and the average selling price rose to VND 2,562/kWh (+24% YoY). As a result, NT2 has fulfilled 42.7% and 130% of its 2025 revenue and profit targets, respectively.

Long-term outlook

_ **NT2's 2025 electricity output is forecast to reach 3.4 billion kWh (+25.0% YoY),** with 2H2025 contracted output at 1.9 billion kWh (+33% YoY), according to company guidance. For the 2026–2030 period, we expect NT2 to maintain annual output of around 3.2–3.6 billion kWh and a contracted ratio of approximately 80%, supported by the following drivers:

(1) Rising electricity demand, projected at around 5–10% annually during 2025–2030,

(2) The expiration of the BOT contract for Phu My 2.2 will elevate NT2 to the second-highest gas priority among gas-fired power plants in the Southeast region (after Phu My 1, which consumes ~1 billion m³/year),

(3) NT2 has signed a gas offtake agreement with GAS for 784 million m³/year until 2036. The company is also proposing to sign additional LNG purchase contracts as domestic gas supplies in the Southeast are gradually depleting.

_ Additionally, NT2 is expected to fully depreciate its plant in 2025, reducing annual depreciation from approximately VND 730 billion to around VND 70 billion/year after 2025. The company plans to pay dividends of 7% and 10% for 2024 and 2025, respectively. We expect that with a strong profit recovery in 2025 and 2026, NT2 will raise its dividend payout to around 15–17%.

Risks: (1) Gas supply shortage; (2) Delayed payments from EVN; (3) High gas prices; (4) Cost risks from DO-fired generation; (5) Weather-related risks

Year	2022	2023	2024	2025F	2026F
Revenue (bil VND)	8,788	6,386	5,944	7,813	7,879
OP (bil VND)	950	441	-30	367	660
NP (bil VND)	883	473	83	404	614
EPS (VND)	2,992	1,546	276	1,402	2,131
BPS (VND)	16,027	15,062	14,552	14,454	14,995
OPM	10.8	6.9	-0.5	4.7	8.4
NPM	10.1	7.4	1.4	5.2	7.8
ROE (%)	19.1	10.9	2.0	9.7	14.2
P/E (x)	9.6	15.8	87.3	17.1	11.3
P/B (x)	1.8	1.6	1.4	1.7	1.6
EV/EBITDA (x)	4.6	5.5	7.3	6.5	6.9

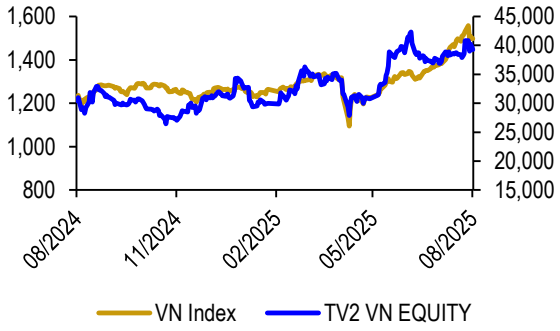
Source: Company data, Bloomberg, Shinhan Securities Vietnam

Power Engineering Consulting JSC 2 (HOSE: TV2)

Target price (12 months)	**43,700 VND**
Current price (08/08/2025)	40,500 VND
Return (%)	9.2%

VNINDEX	1,584.9
Market P/E (x)	12.9
Market cap (billion VND)	2,721
Outstanding shares (mil shares)	68
Free-float (mil shares)	31
52 week high (VND)	43,700
52 week low (VND)	27,000
90-day avg. trading volume (mil shares)	0.72
90-day avg. turnover (bn VND)	33
Beta	1.1

Performance	3T	6T	12M
Absolute (%)	21.4	30.0	33.4
Rel.to VN-Index (%)	-4.2	4.6	3.4



Solid potential from power consulting segment

Power Engineering Consulting JSC 2 (TV2) is one of Vietnam's leading power consulting firms, operating across three main segments: (1) power plant consulting and operation, (2) mechanical fabrication, and (3) power generation investment. In addition, EVN is a major shareholder in TV2, giving the company a strategic advantage in participating in key project phases—ranging from planning and site surveys to project consulting—for EVN-related developments.

1H2025 Business Performance Update

_ TV2 recorded 1H2025 revenue and net profit of VND 515 billion (-14.1% YoY) and VND 20 billion (-20% YoY), respectively. The decline was mainly due to weaker performance in the EPC and O&M segments (down 14% YoY) and a 68% YoY increase in SG&A expenses.

Long-term outlook and 2025 plan:

_ TV2 has set a conservative target for 2025, with revenue of VND 1,360 billion (+2% YoY) and net profit of VND 55 billion (-15% YoY). The O Mon IV thermal power plant project is estimated to contribute about 20% of TV2's potential backlog, equivalent to VND 4,400 billion in revenue, expected to be recognized mainly during 2026–2027. In 2025, TV2 signed a Pre-FS (Pre-Feasibility Study) contract for the Hai Phong LNG cluster. For wind and solar projects, TV2 is confident in acting as EPC general contractor without requiring joint ventures. Ca Mau Phase 3 (25 MW): Project has been added to the power development plan, currently awaiting power price negotiation.

_ **Consulting and EPC segment:** Benefiting from the revised Power Development Plan VIII (PDP8), with substantial workload from rising capacity in renewables and LNG-fired power projects. Forecasted revenue: VND 858 billion in 2025F (+5% YoY) and VND 2,018 billion in 2026F (+135% YoY).

_ **O&M segment:** Currently managing over 6,000 MW of power generation capacity, with stable annual revenue of approx. VND 400 billion. This is a cash flow-stable business, helping TV2 maintain sustainable profitability. Post-2026 revenue target: VND 1,000 billion/year from O&M services.

_ **Power investment:** Two new projects expected to commence operations in 2025: Thac Ba 2 hydropower project: 18.9 MW, VND 709 billion investment, TV2 holds 45%, Hau Giang biomass power plant: 20 MW, VND 875 billion investment, TV2 holds 10%, Tra Vinh biomass power project: 25 MW, VND 1,066 billion investment, TV2 holds 10%, currently undergoing investment policy adjustment procedures.

Risks: (1) Policy risks related to renewable energy projects; (2) Project delay risks

Year	2022	2023	2024	2025F	2026F
Revenue (bil VND)	1,322	1,061	1,336	1,374	2,668
OP (bil VND)	47	64	79	132	215
NP (bil VND)	53	53	65	113	183
EPS (VND)	662	463	958	1,665	2,696
BPS (VND)	20,086	19,751	19,385	22,400	25,111
OPM	3.6	6.0	5.9	9.6	8.1
NPM	4.0	5.0	4.8	8.2	6.9
ROE (%)	3.3	2.3	4.9	7.5	10.8
P/E (x)	33.7	81.6	34.9	26.3	16.2
P/B (x)	1.1	1.9	1.7	2.0	1.7
EV/EBITDA (x)	12.7	21.0	17.1	12.8	10.3

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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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