

Power Adapting to new policies



Glossary of abbreviations

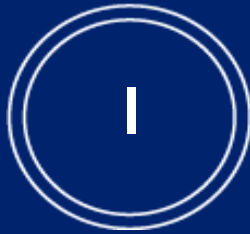
CAN	Capacity Add-on Price
CfD	Contract for Difference
EPTC	Electricity Power Trading Company
ERAV	Electricity Regulatory Authority of Vietnam
EVN	Vietnam Electricity Corporation
FDP	Field Development Plan
FID	Final Investment Decision
FMP	Full Market Price
GSA	Gas Sales Agreement
IEA	International Energy Agency
LNG	Liquefied Natural Gas
MOIT	Ministry of Industry and Trade
ODP	Outline Development Plan
Pc	Contractual Price
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

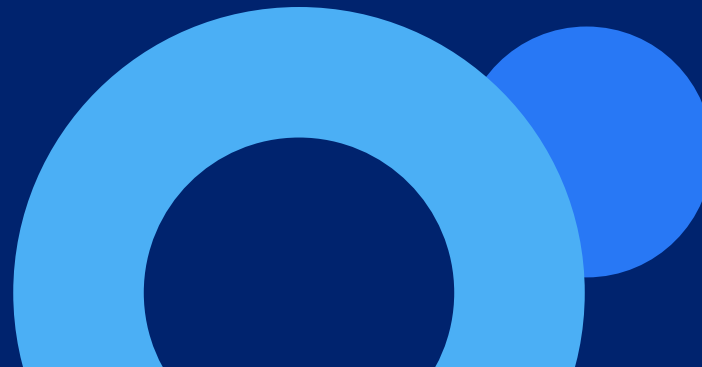
The Power Industry – Adapting to news policies

- I. Update power industry 2023 and outlook in 2024
 - _ Thermal power generation continues to rise strongly in 5M2024 thanks to the recovery of the manufacturing sector. However, hydropower shows signs of a strong recovery as the probability of a La Nina forecast is increasing.
 - _ The workload in the electrical installation segment is at a high level.
 - _ EVN has had its retail electricity price adjustment cycle shortened.
- II. Outlook for different power sources
 - I. Coal-fired power: Stable but will cease development in the long term.
 - II. Hydropower: El Niño has passed, La Niña is coming.
 - III. Renewable energy and gas power: The power sources of the future.
- III. Investment opportunities: POW, REE – New opportunities arise from many potential projects.



Power Sector Update 1H2024 and Outlook 2H2024

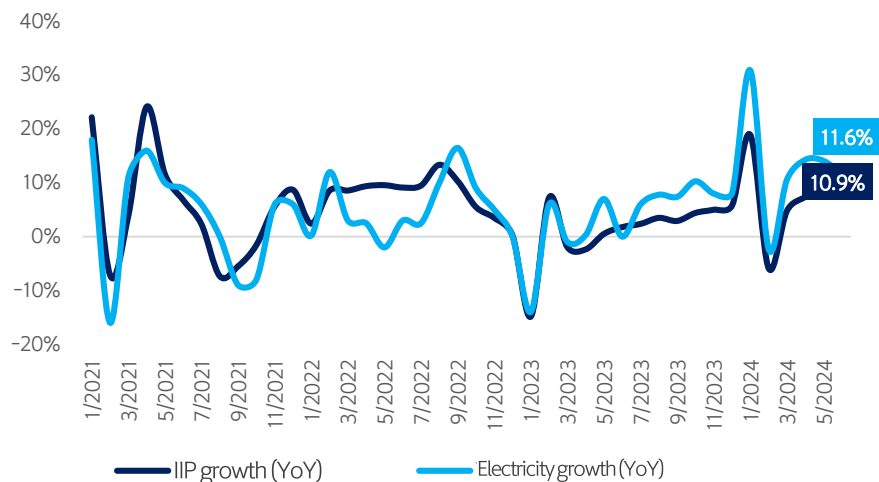
Coal-fired power generation increased significantly in 5M2024 but is expected to gradually decline and give way to increased hydropower generation in 2H2024



Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

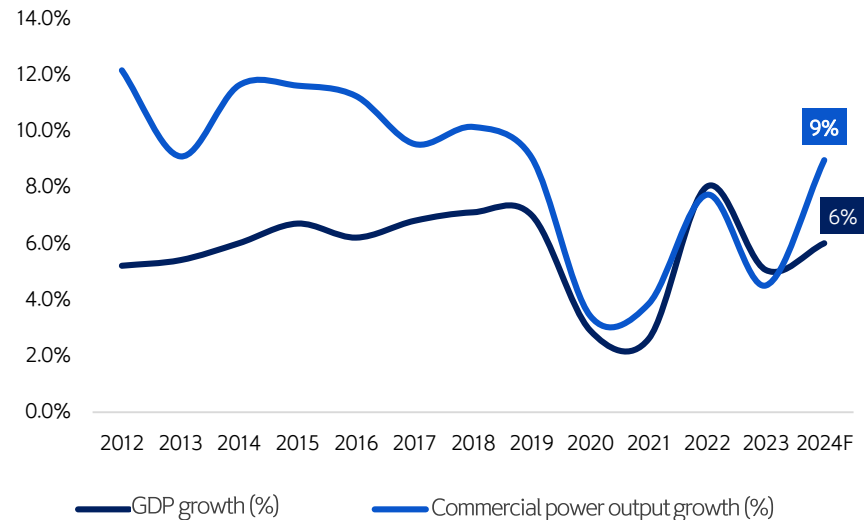
Electricity consumption growth reached double digits in 1H2024

Electricity consumption growth and index of industrial production (IIP)



Source: Fiinpro, Shinhan Securities Vietnam

Growth in electricity output and GDP



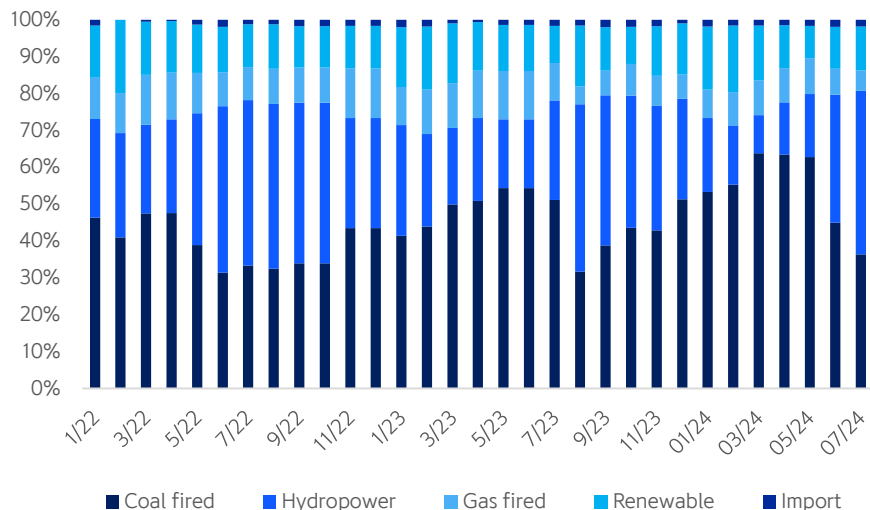
Source: Worldbank, EVN, Shinhan Securities Vietnam

- As of the end of July 2024, commercial electricity output reached 160.41 billion kWh, marking a 12.7% YoY increase. This growth is underpinned by the robust recovery of industrial production. Specifically, the Industrial Production Index (IIP) for May and June saw significant improvements with a YoY increase of over 10%.
- We anticipate that electricity production growth in 2024 will remain aligned with EVN's planned growth rate of 8.9%. Moreover, EVN has recently updated its baseline plan to a higher electricity output of 310.6 billion kWh (+10.4% YoY) in response to the record-breaking heatwave.

Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

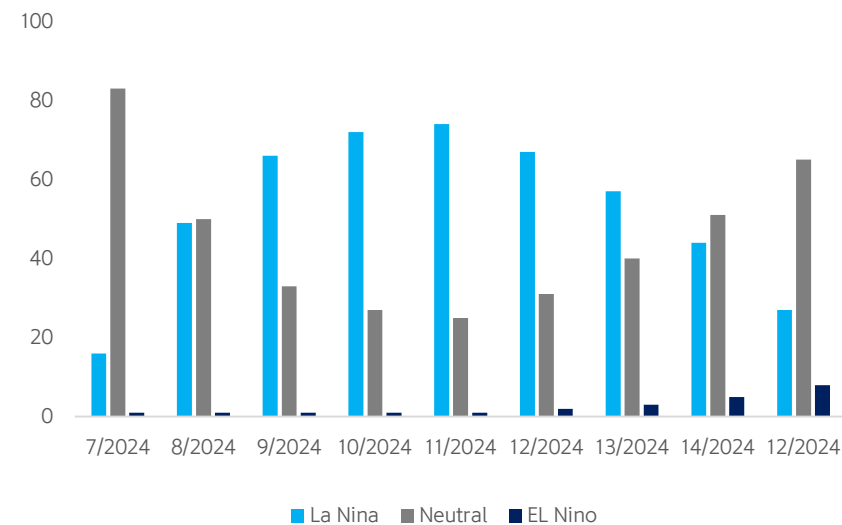
Thermal power maintained high mobilization rate in 5M2024 – Hydropower showed signs of recovery

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



Source: EVN, Shinhan Securities Vietnam

NOAA's EL Nino probability forecast (%)



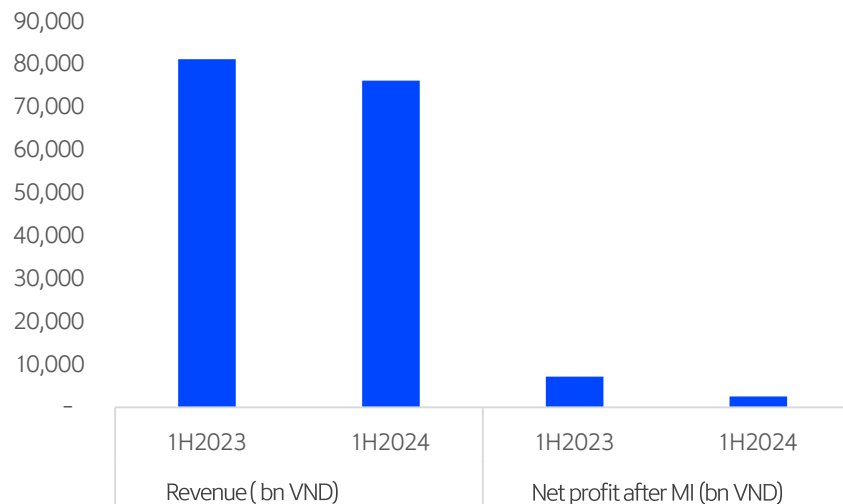
Source: IRI, Shinhan Securities Vietnam

- In 5M2024, the reliance on coal-fired power generation increased significantly thanks to the prolonged El Nino phenomenon. Specifically, the proportion of electricity generated from coal reached 74 bn kWh, contribute of 59% (+43% YoY). Additionally, -16% YoY decline in gas-fired power generation contributed to the high mobilization of coal-fired power. However, from June to July, the proportion of hydropower generation surged from 17% in May to 44% in July.
- According to the IRI, the El Nino gradually subsided and transitioned to a neutral phase in April and May 2024. Since then, the probability of a La Nina phenomenon has been steadily increasing since June, leading to expectations of improved hydropower generation in 2H2024.

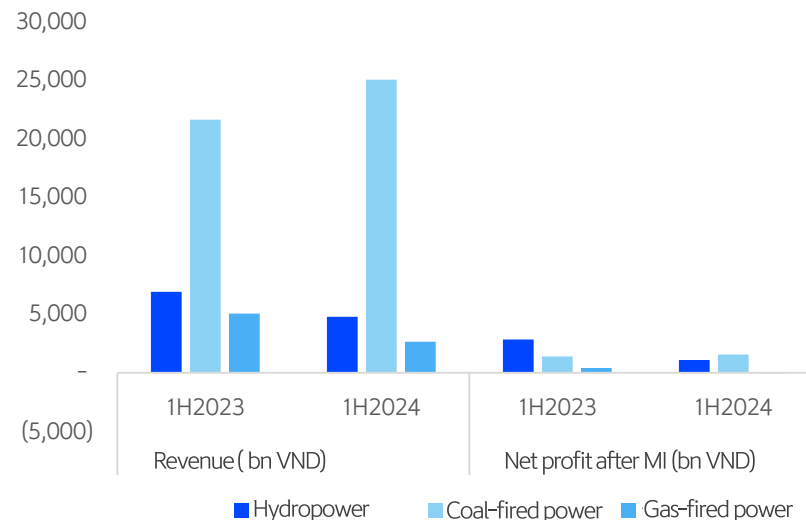
Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

The coal-fired power group's business results grew strongly in 1H2024

Business results of electricity enterprises in the first half of 2024



Business performance of electricity generation enterprises by power source in 1H2024



Source: Fiinpro, Shinhan Securities Vietnam
* Data of 47 listed electricity companies on 3 exchanges

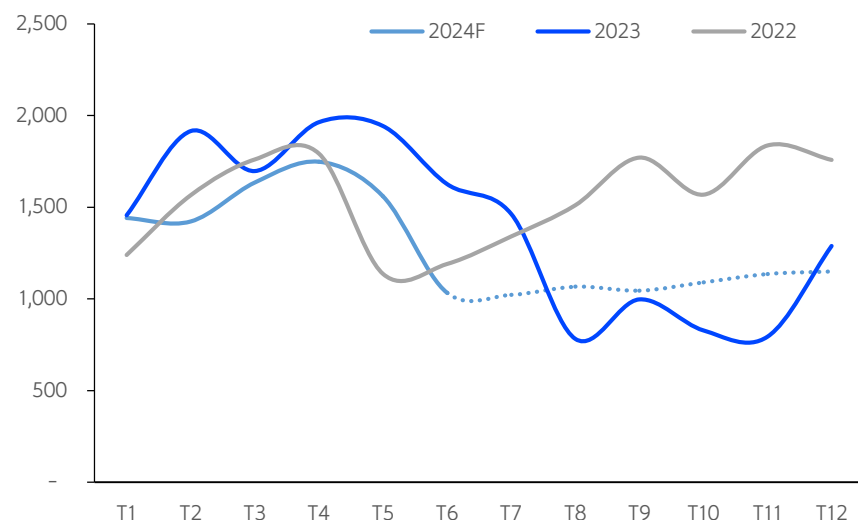
Source: Fiinpro, Shinhan Securities Vietnam

- Listed electricity companies reported a revenue of 76,200 billion VND in 1H2024, (-6% YoY), and a NPAT of 2,566 billion VND (-64% YoY). Among these, the coal-fired power group was the only one to record positive growth, with revenue (+16% YoY) and NPAT (+10% YoY). The hydropower group recorded a decrease in revenue (-31% YoY) and a decrease in NPAT (-61% YoY); while the gas-fired power group had the worst performance, with revenue decreasing by 48% YoY and a net loss. The significant divergence in business results comes from several factors: (1) The persistent El Nino phenomenon during the first five months, coupled with low coal prices, supported the mobilization of coal-fired power generation; (2) Hydropower plants had to store water for peak seasons with very low mobilization rate; (3) High gas prices, combined with declining production at gas fields, led to low mobilization rate for many gas-fired power plants.

Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

The FMP price remained high at the beginning of the year but is expected to gradually decrease by year-end

The FMP on the CGM market (VND/kWh)



Source: EVN, Shinhan Securities Vietnam

The FMP (VND/kWh) and Qc ratio over the years

	SMP	CAN	FMP = SMP + CAN	Qc ratio of Hydropower	Qc ratio of Coal-fired power
2024	1,510	330.5	1,840.5	98%	70%
2023	1,778.8	293	2,071.8	90%	80%
2022	1,602.3	379.4	1,981.7	90%	80%
2021	1,503.5	150.7	1,654.2	90%	80%
2020	1,342.3	63.5	1,405.8	90%	80%
2019	1,319	140.9	1,459.9	80%	80%

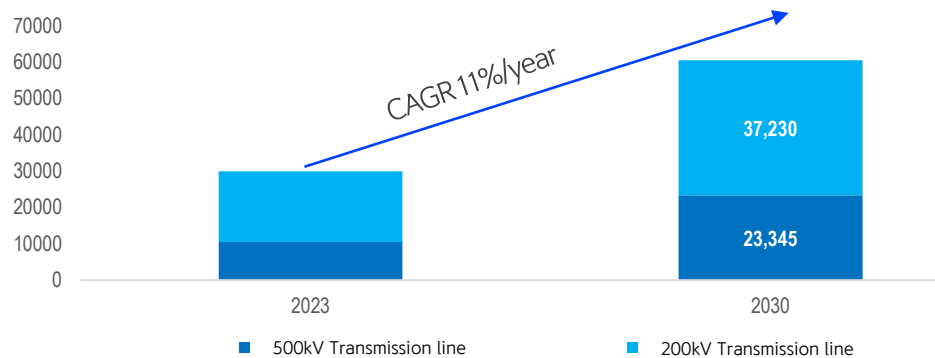
Source: The plan for electricity supply and operation of the national power system; Shinhan Securities Vietnam

- In 1H2024, the average selling price of electricity in the competitive market reached 1,473 VND/kWh, -16% yoy. Despite a record high in coal-fired power generation, the international coal price decreased by 46% during the same period, leading to a corresponding decrease in the selling price of coal-fired power. Meanwhile, gas-fired power generation was significantly lower due to the high price of input gas.
- According to the 2024 electricity market operation plan, ceiling price of SMP is set at 1,510 VND/kWh (-15% YoY), and CAN price is 330.5 VND/kWh (+12.8% YoY). The full market price (FMP) is calculated as SMP + CAN, equaling 1,840.5 VND/kWh (-11% YoY).
- We forecast that the average electricity price in 2024 will be around 1,152 VND/kWh, representing a -17% yoy. This forecast is based on the following assumptions: (1) the proportion of hydropower generation will reach approximately 30% cumulatively by the end of 2024 due to the increasing probability of a La Nina weather pattern later in the year; (2) the average international coal price in 2024 will be around \$142 per ton (+11% YoY).

Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

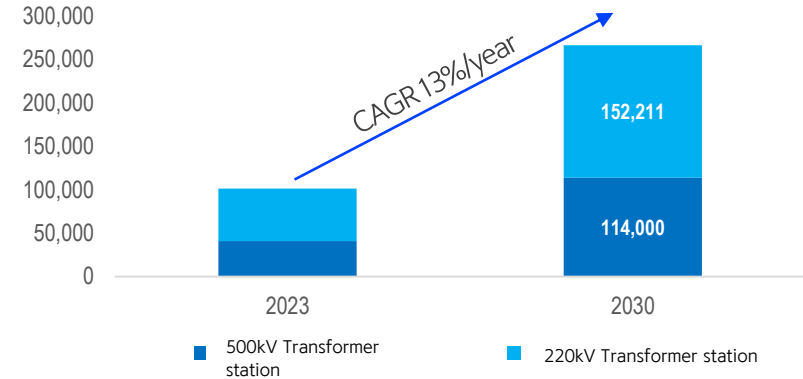
The workload in the electrical construction sector is high

Transmission Line Length 2023-2030 (km)



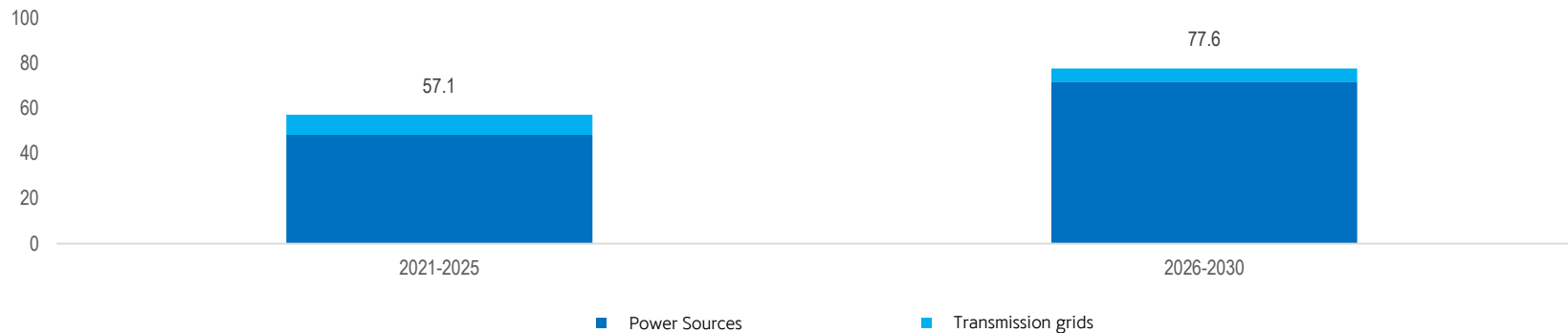
Source: Implementation plan for the PDP VIII, Shinhan Securities Vietnam

Transformer Station Capacity 2023-2030 (MVA)



Source: Implementation plan for the PDP VIII, Shinhan Securities Vietnam

Investment capital for power sources and transmission grids 2021-2030 (bn USD)



Source: Implementation plan for the PDP VIII, Shinhan Securities Vietnam

Part 1 – Power Industry Update 1H2024 and Outlook for Year-End

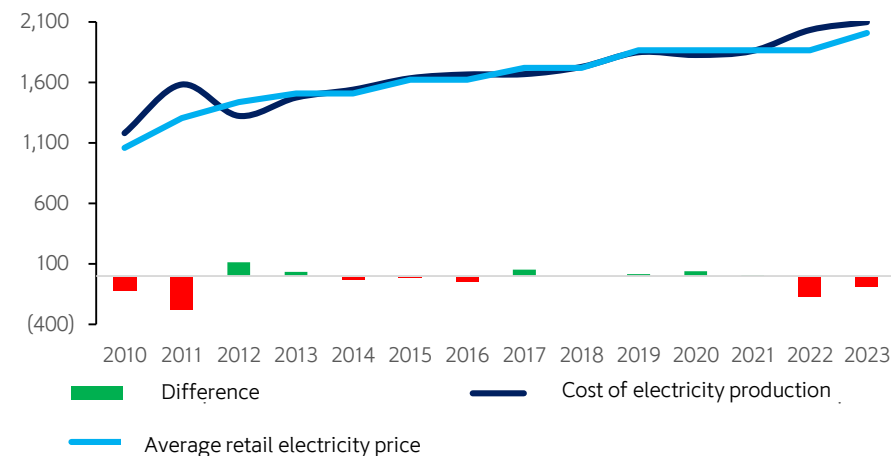
EVN had its retail electricity price adjustment cycle shortened, contributing to improve its business results

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 May 15, 2024, the Ministry of Industry and Trade issued new regulations on adjusting electricity prices. Notably, EVN is now allowed to adjust retail electricity prices more frequently, from an average of every 6 months to every 3 months. This enables EVN to promptly reflect changes in input costs, particularly given the persistently high prices of coal and gas.
- In 2023, EVN increased electricity prices twice, resulting in a 7.6% increase compared to the end of 2022. However, EVN's average electricity production cost was around 2,098 VND/kWh, which is still 91.3 VND higher than the selling price. Previously, EVN reported a post-tax loss of over 26,770 billion VND in 2023, a 29% increase from the 20,747 billion VND loss in 2022. In the first half of 2024, EVN estimates an additional loss of 13,000 billion VND.
- Increasing electricity prices will help EVN improve its business operations, promptly pay various power generation companies, and accelerate project investment, especially as EVN is about to purchase electricity from the high-cost LNG-fired Source power plant that is nearing completion. Therefore, we expect electricity prices to continue to rise in the coming years by approximately 5–10%.

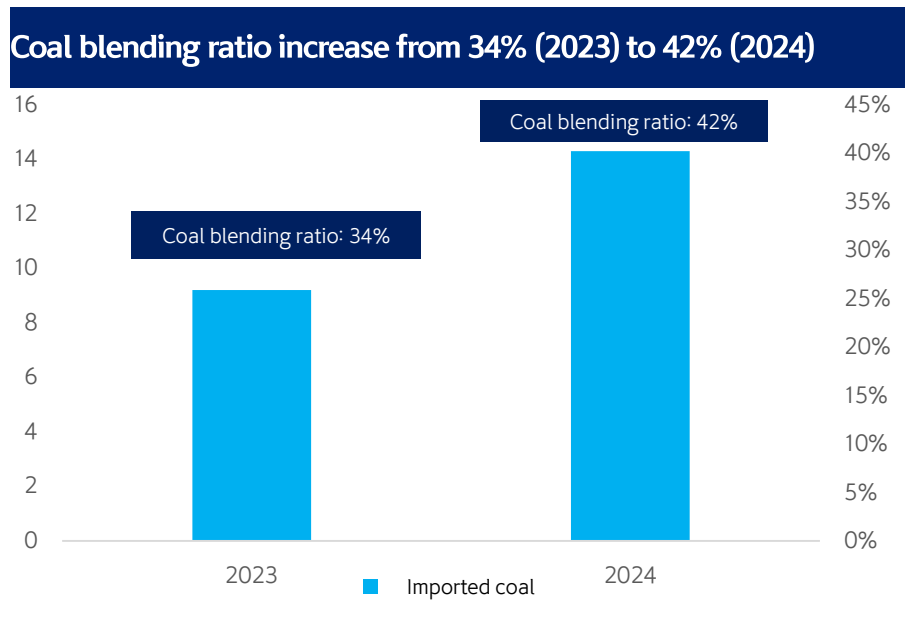


Update future prospects of different power sources

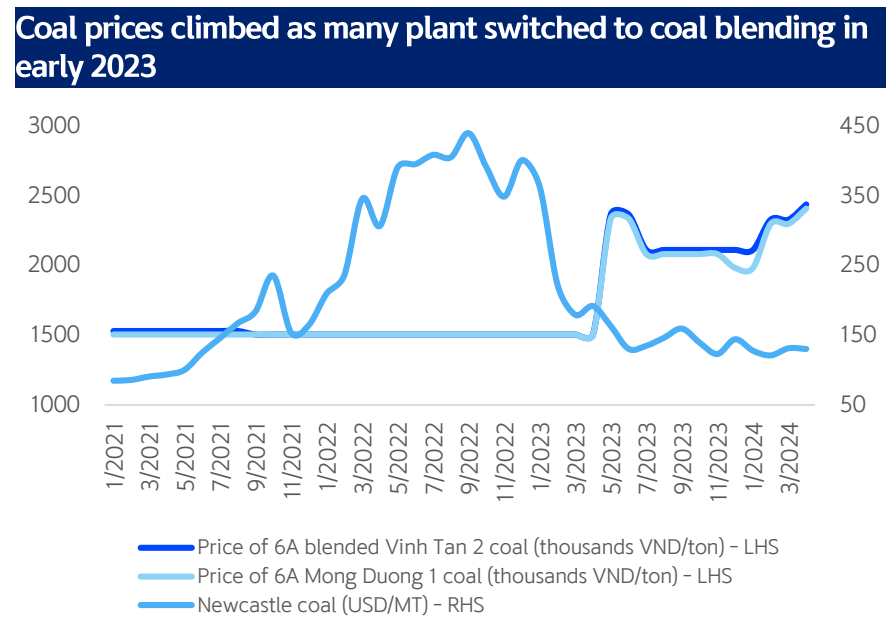
1. Thermal power is stable but long-term growth has ceased
2. Hydropower – El Nino has passed, La Nina is approaching
3. Renewable energy and gas power: The power source for the future

Part II– 1. Thermal power is stable but long-term growth has ceased

International coal prices remain low, supporting increased imports of blended coal



Source: TKV, Shinhan Securities Vietnam



Source: Bloomberg, GENCO3, Shinhan Securities Vietnam

- Coal prices began to trend upward from the beginning of 2023 as TKV had to import more coal for blending, given its domestic production couldn't keep up with the demand from thermal power plants. Looking ahead to 2024, TKV aims to increase its coal imports by approximately 14 million tons (+50% YoY) and raise the blending ratio to 42%. This will put upward pressure on input coal prices as imported coal is generally more expensive than domestic coal. However, with the global coal price trend is currently downward, we assess that input coal prices will remain relatively stable, enabling coal-fired power enterprises to maintain efficient operations.

Part II– 1. Thermal power is stable but long-term growth has ceased

Coal-fired power projects in the implementation plan of PDP VIII

No.	Project Name	Capacity (MW)	Province/City	Operation Year	Notes
1	Van Phong 1 Thermal Power Plant	1432	Khanh Hoa	2024	In operation
2	Vung Ang 2 Thermal Power Plant	1330	Ha Tinh	2025-2026	
3	Na Duong II Thermal Power Plant	110	Lang Son	2026	Preparing for construction
4	Quang Trach 1 Thermal Power Plant	1403	Quang Binh	2026	Under construction
5	An Khanh - Bac Giang Power Plant	650	Bac Giang	2027	
6	Long Phu 1 Thermal Power Plant	1200	Soc Trang	2027	

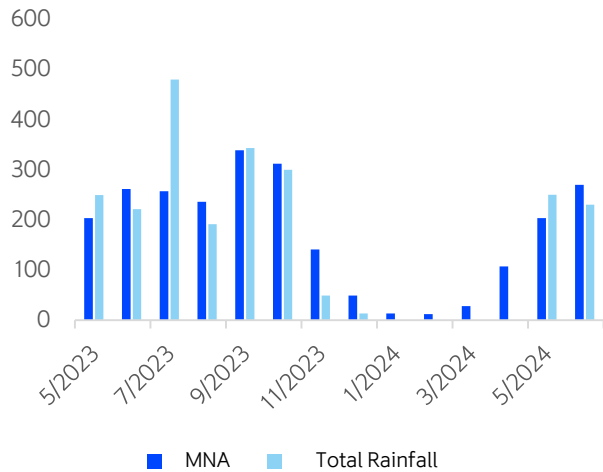
Source: PDP VIII Implementation Plan, Shinhan Securities Vietnam

- In the long term, coal-fired power will no longer be a focus of development. From now until 2030, only about 5,000 MW of additional coal-fired power will be developed, bringing the total coal-fired power capacity to 30,127 MW (according to the implementation plan of the PDP VIII). Of which, the BOT Na Duong II and Quang Trach I plants will soon be put into operation.
- Coal-fired power projects that are behind schedule or face difficulties in arranging capital and cannot be implemented before June 2024 will have to consider termination according to the law. Notably, on July 1, 2024, the Ministry of Industry and Trade terminated the BOT contract for the Song Hau 2 Thermal Power Plant (2,120 MW) due to its failure to resolve financial arrangements for the project.

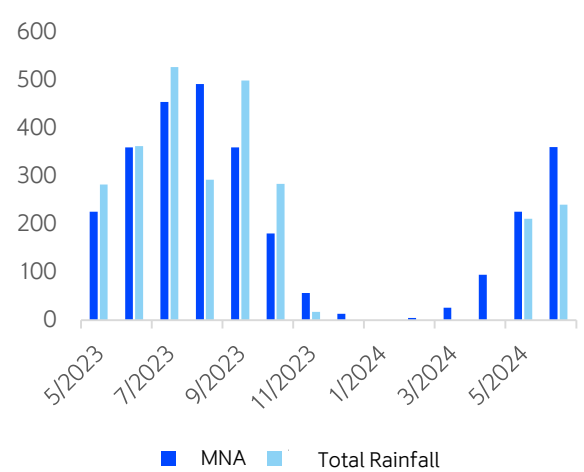
Part II– 2. Hydropower – El Niño has passed, La Niña is approaching

The rainfall measured at several monitoring stations shows a significant improvement in May (mm)

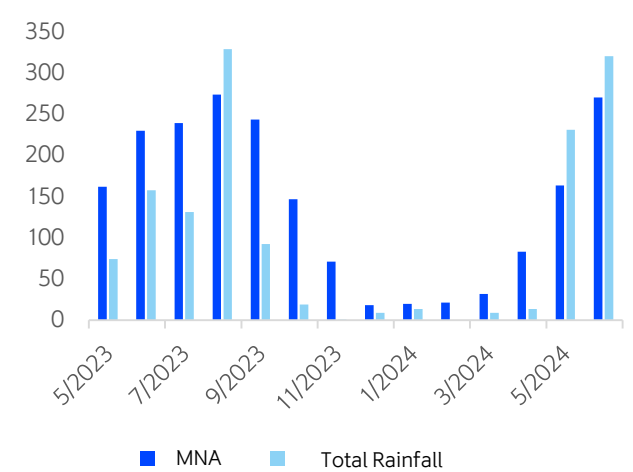
Xuan Loc Station, Dong Nai Province



Pleiku Station, Dak Lak Province



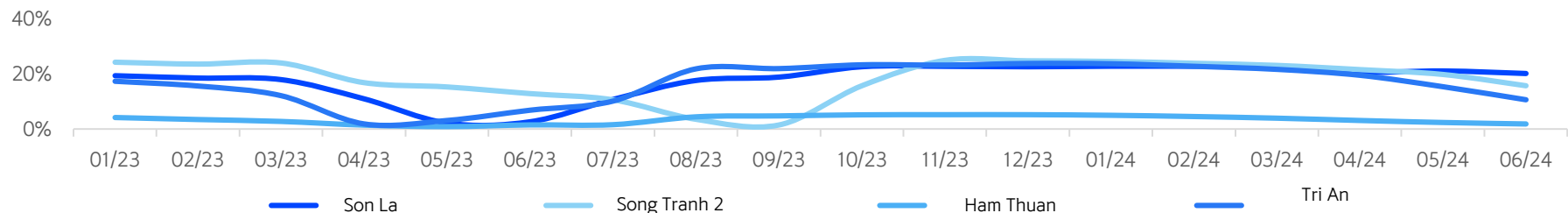
Dien Bien Station, Dien Bien Province



Source: IMHEN, Shinhan Securities Vietnam;
MNA: Many year average

Hydropower reservoirs accumulating water in 5M2024 due to low demand, started to generate electricity for the peak season in 06/2024

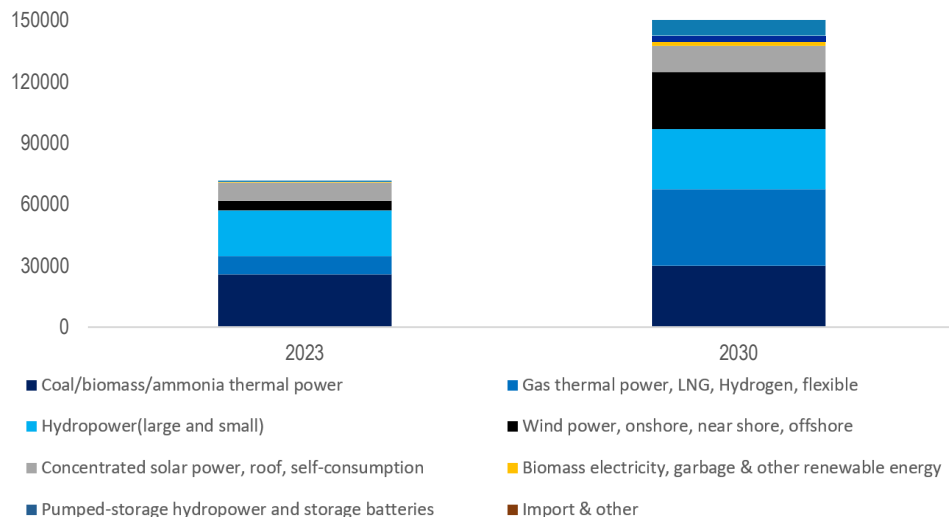
Water level of hydropower reservoirs compared to dead storage level



Part II – 3. Renewable energy and gas power: The power source for the future

Focus on developing wind power and LNG power to 2030 (MW)

Power capacity of various energy sources from 2023 to 2030 (MW)



Source: PDP VIII Implementation plan, Shinhan Securities Vietnam

Additional wind power capacity by region 2023-2030 (MW)

Region Name	Offshore wind power (MW)	Onshore windpower (MW)
1 Northern	2,500	3,816
2 North Central Coast	0	1,948
3 South Central Coast	500	1,229
4 Central Highlands	0	3,062
5 South Central Coast	2,000	2,121
6 Southern Vietnam	1,000	5,720
Total Capacity	6,000	17,894

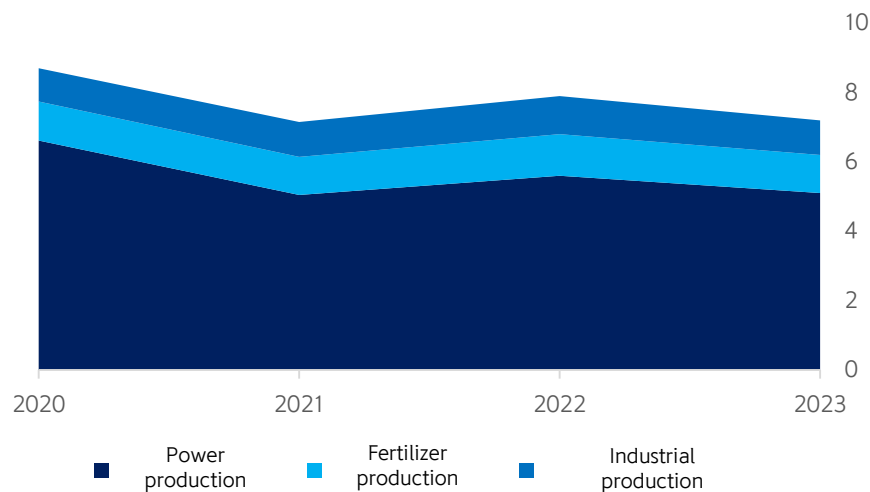
Source: PDP VIII Implementation plan, Shinhan Securities Vietnam

The implementation plan of the PDP VIII closely follows the goal of the PDP VIII to focus on developing wind power and LNG thermal power by 2030. Specifically, with the 2030 capacity target of gas power and wind power of 37,330 MW and 27,880 MW, respectively; these two power sources will have a CAGR of about 23%/year and 29%/year, respectively.

Part II – 3. Gas-fired power – The inevitable trend of the future

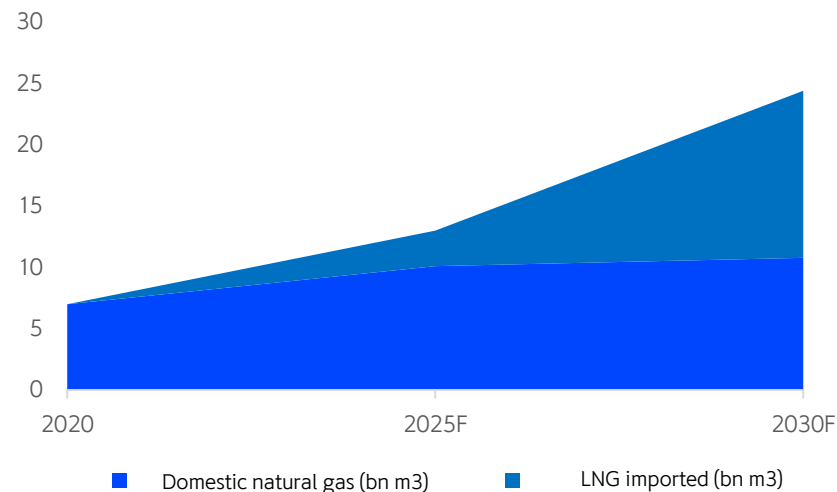
High gas demand for power generation – driving the urgent need to develop new gas fields and import more LNG

Gas consumption has significantly decreased over the years (bn m3/year)



Source: GAS, Shinhan Securities Vietnam

Annual natural gas demand for power generation (bn m3/year)



Source: MOIT, National Energy Master Plan 2021–2030, Shinhan Securities Vietnam

- Natural gas consumption for power generation accounted for approximately 70% of total consumption, reaching 5.1 billion cubic meters in 2023 (-8% yoy). This decline is attributed to the depleting reserves of domestic gas fields. Meanwhile, the demand for natural gas in power generation is projected to grow significantly by about 13% annually from 2020 to 2030. Therefore, the development of new gas fields from 2025 onward and the importation of LNG to meet the growing demand for power generation are urgently needed.
- According to the plan, several domestic gas fields such as Lan Tay – Lan Do, Nam Du – U Minh, and Lo B are expected to commence initial gas production between 2025 and 2027, increasing domestic gas production to approximately 7.3 to 10.5 billion cubic meters per year.

Part II – 3. Gas-fired power – The inevitable trend of the future

LNG-fired thermal power projects in the implementation plan of PDP VIII

No.	Project Name	Capacity (MW)	Province/City	Operation Year	Notes
1	NT3 Thermal Power Plant	1,624	Dong Nai	2024-2025	Under construction
2	Hiep Phuoc LNG Phase I	1,200	Ho Chi Minh City	2025	Under construction
3	Bac Lieu LNG	3,200	Bac Lieu	2027-2028	
4	Son My I Thermal Power Plant	2,250	Binh Thuan	2027-2029	
5	Son My II BOT Thermal Power Plant	2,250	Binh Thuan	2028-2029	Conducting feasibility study
6	Quang Ninh LNG	1,500	Quang Ninh	2028-2029	
7	Hai Lang LNG Phase I	1,500	Quang Tri	2028-2029	
8	Thai Binh LNG	1,500	Thai Binh	2029	
9	Nghi Son LNG	1,500	Thanh Hoa	2029-2030	
10	Ca Na LNG	1,500	Ninh Thuan	2029-2030	Selecting investors
11	Quang Trach II LNG	1,500	Quang Binh	2029-2030	
12	Quyhn Lap LNG	1,500	Nghe An	2029-2030	
13	Long An I LNG	1,500	Long An	2029-2030	

Source: Implementation PDP VIII, Shinhan Securities Vietnam

Some gas fields are expected to operate in 2025–2030

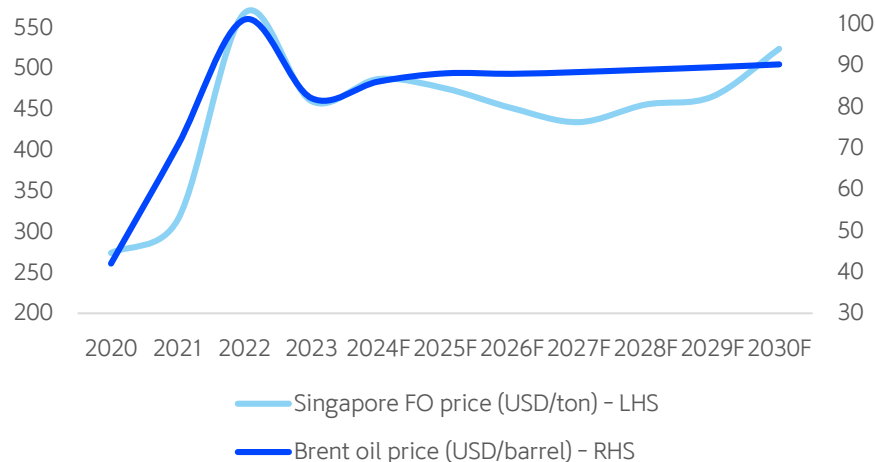
Some Typical Gas Field Projects	Block	Remaining Reserves (billion m ³)	Status	Estimated First Gas Production
White Lion - Phase 2B	05.1A	16.01	Awaiting PSC extension	2026
Nam Du - U Minh	46/07 and 51	4.44	Submitting FDP	2026
Ca Voi Xanh	117 - 119	124.76	ODP Approved	2030
Lan Tay - Lan Do	6.1	3.24	Awaiting PSC extension	2025
Thien Nga – Hai Au, Block 12.11	11-Dec	4.01	Submitting FDP	Q4/2026
Kim Long, Ac Quy, Ca Voi, Thien Ha and Vang Den	Block B	87.74	Awaiting FID	2027

Source: Shinhan Securities Vietnam

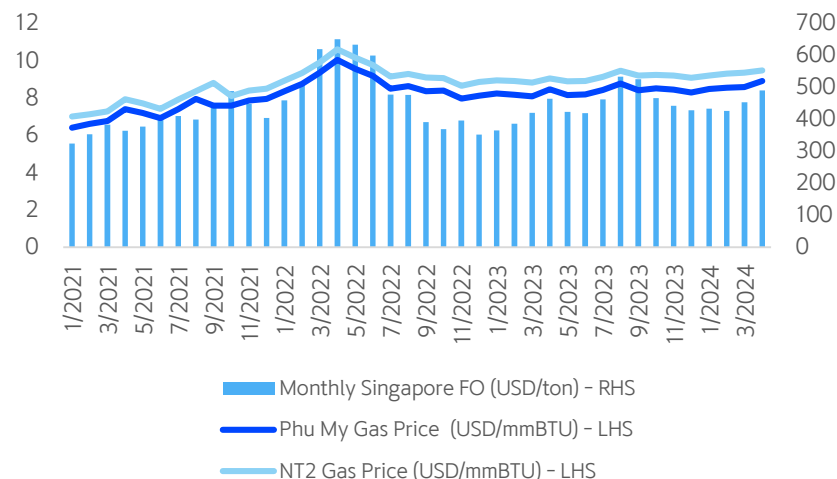
Part II – 3. Gas-fired power – The inevitable trend of the future

The price of natural gas and LNG is anchored at a high level

Brent oil and Singapore oil price



The gas price for NT2 and Phu My plants is still anchored at a high level



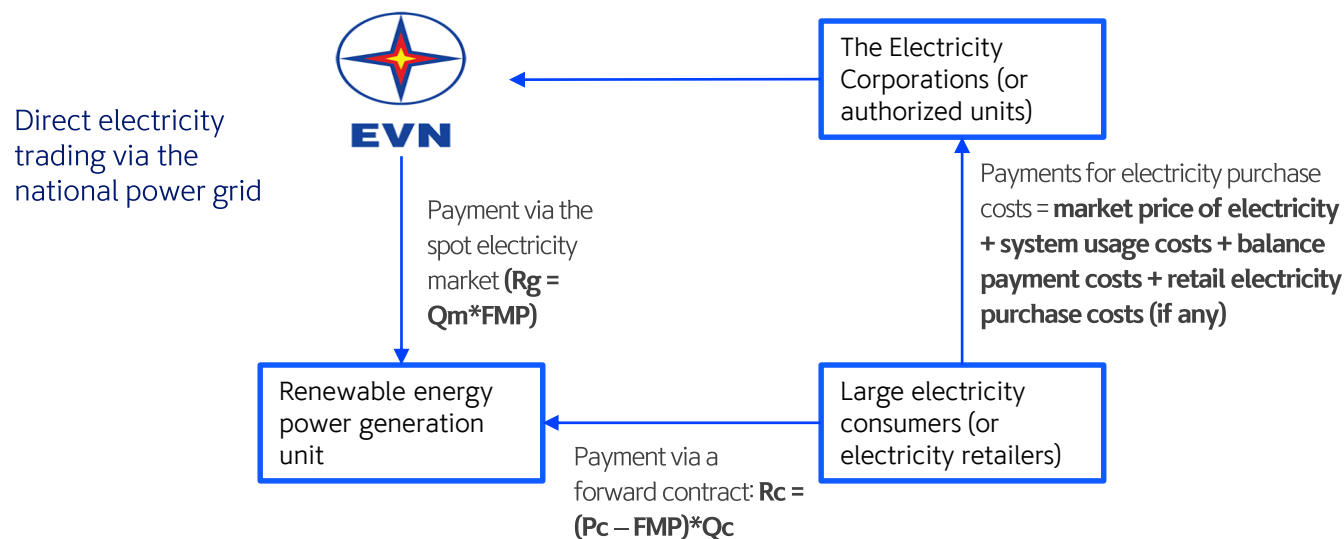
Source: EIA, Shinhan Securities Vietnam

Source: Bloomberg, Company data, Shinhan Securities Vietnam

- While Brent and Singapore FO gas prices have cooled significantly in 2023, they are forecast to remain high. According to our research, LNG prices are calculated based on Brent prices, and natural gas prices are calculated based on the Max (46% x Singapore FO price; wellhead price).
- In May 2024, the Ministry of Industry and Trade approved a ceiling price for LNG power generation of 2,590.85 VND/kWh with an LNG price (excluding VAT and other related costs) of 12.9702 USD/MMBTU. This price is 30% higher than EVN's current average retail price. However, according to our calculations, LNG power plants will still find it difficult to operate efficiently at the above price when considering other costs in power generation.
- Based on EIA's forecast of Brent oil prices of around 86-88 USD/barrel until 2030, LNG prices will be around 12-12.4 USD/MMBTU and remain high during this period, making formal power purchase agreement negotiations challenging. In the short term, we expect EVN to have a lot of motivation to raise retail electricity prices in the near future to be able to pay for LNG electricity.

Part II– 3B. Renewable energy – Direct Power Purchase Agreement (DPPA)

The direct power purchase mechanism creates opportunities for the renewable energy sector



On July 3, 2024, the Government officially issued regulations on the direct power purchase mechanism between RE electricity generation units and large electricity consumers. This power trading mechanism includes two main forms:

- 1) Direct power purchase through the national grid: Involving three parties (EVN, a large electricity consumer, and a RE electricity generation unit), three payment contracts will be signed as shown in the figure. In which, the RE electricity generation unit will receive two payment sources from EVN and large electricity consumers, respectively, as $R_g + R_c$. Notably, the RE electricity generation unit must have a required capacity of 10 MW or more, and the large electricity consumer must have an average monthly consumption of 200,000 kWh or more.
- 2) Power purchase through a dedicated connection line: The power purchase contract is negotiated directly between the large electricity consumer and the RE electricity generation unit in accordance with Article 22 of the Electricity Law.

We evaluate that the DPPA mechanism brings significant value to both customers and RE electricity generation units. Specifically, RE electricity generation units are motivated to seek customers and negotiate appropriate prices, increasing market competitiveness; consumers will have an additional source of green power in their business operations. The DPPA mechanism is also a stepping stone for the Vietnamese electricity market to move towards a competitive retail market in the future.

Part II– 3B. Renewable Energy – Estimated Electricity Price According to Circular 19

Circular 19 provides a basis for calculating renewable energy electricity prices, aiming for efficiency in investment and operation

Table: Some parameters specified according to Circular 19

No	Category	Parameter
I	Economic Life	
1	Standard Solar Power Plant	20 years
2	Standard Wind Power Plant	20 years
II	Operational Metrics	
1	Standard Deviation Distribution Factor (Compared to Electricity Receiving Station in many years, Expected to be 75% of the Standard Wind Power Plant)	0.674
III	Proportion of Various Sources of Capital in the Total Investment of the Standard Solar and Wind Power Plants (%)	
1	Loan Capital	70%
2	Equity Capital	30%
3	Foreign Currency Loan Capital	80%
4	Domestic Currency Loan Capital	20%
IV	Average Debt Repayment Period (years)	10 years
V	Post-Tax Profit Margin on Equity (%)	12%
VI	Tax Rate	According to regulations

Source: Circular 19/2023/MOIT, Shinhan Securities Vietnam

- Circular 19/2023/TT-BCT promulgates regulations on the method of constructing a framework for electricity prices applicable to solar and wind power based on standard power plants. We have conducted an estimation of the ceiling price of electricity and IRR for each type of power plant based on the required parameters in Circular 19 and made our own assumptions for the remaining parameters. Therefore, the actual calculated electricity price may differ from our calculation.
- We have observed that parameters such as investment rate, capacity mobilization rate, interest rate, etc., have a significant impact on the selling price of electricity. Therefore, investors with experience in investing and operating power plants such as GEG and REE, or the ability to mobilize low-cost capital sources like PC1, will have a significant advantage in efficiently operating power plants.

Part II– 3B. Renewable Energy – Estimated Electricity Price According to Circular 19

Selling electricity prices and IRR by power types

	Onshore Wind Power	Offshore Wind Power	Solar Power
Capacity (MW)	50	50	50
Investment Cost (Billion VND)	35	44	18
Capacity Factor (%)	35%	40%	18.5%
Loan Interest Rate (%)	8%	8%	8%
O&M Cost/Investment Cost Ratio (%) *	2%	1.80%	1.80%
Electricity Generation Price = FC + FOMC (VND/kWh)	1,663	1,829	1,394
FC (VND/kWh)**	1,434	1,578	1,249
FOMC (VND/kWh)**	228	251	144
IRR (%)	10%	11%	10%

Source: Circular 19/2023/MOIT, Shinhan Securities Vietnam

*Based on the parameters in Circular 15, calculate the transitional electricity price; The remaining parameters are assumed by the SSV

**Fc: Standard average fixed cost of the plant; FOMC: Standard fixed operation and maintenance cost of the plant

Price sensitivity of onshore wind power

		Investment rate (bn VND/MW)				
		31	33	35	37	39
Capacity factor	31%	1,663	1,770	1,877	1,985	2,092
	33%	1,562	1,663	1,764	1,864	1,965
	35%	1,473	1,568	1,663	1,758	1,853
	37%	1,393	1,483	1,573	1,663	1,753
	39%	1,322	1,407	1,492	1,578	1,663

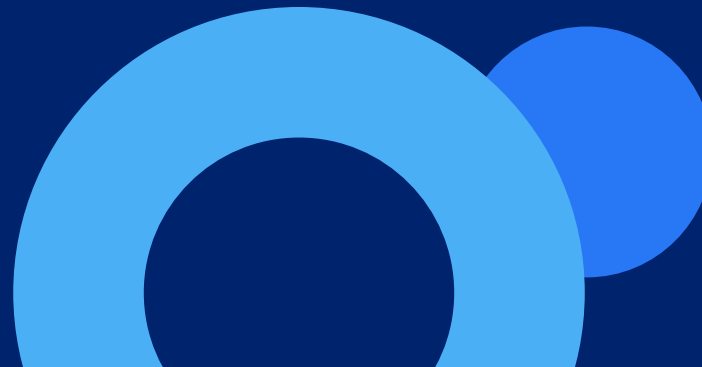
Price sensitivity of offshore wind power

		Investment rate (bn VND/MW)				
		40	42	44	46	48
Capacity factor	36%	1,848	1,940	2,032	2,125	2,217
	38%	1,750	1,838	1,925	2,013	2,100
	40%	1,663	1,746	1,829	1,912	1,995
	42%	1,584	1,663	1,742	1,821	1,900
	44%	1,512	1,587	1,663	1,738	1,814



Investment Opportunities

POW, REE – New opportunities come from many potential projects



UPDATED BUSINESS RESULTS OF SOME LISTED POWER COMPANIES

General Information					Stock Price			Key financials				Growth 1H/2024		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	11,836	50,100	51,100	2.0	45.6	0.9	6.9	3.5	(50.8)	(90.7)	1.7	10.1
2	REE	Diversified	1,091	31,558	67,000	76,700	14.5	37.3	0.6	10.3	5.1	(11.5)	(32.3)	1.6	10.9
3	HDG	Renewable	444	9,501	28,250	31,470	11.4	56.8	0.9	11.2	4.7	(9.8)	(12.6)	1.2	6.7
4	POW	Gas-fired Power	4,208	30,913	13,200	14,800	12.1	10.0	0.8	2.4	4.6	9.2	(42.3)	0.9	24.9
5	NT2	Gas-fired Power	750	5,801	20,150	19,700	-2.2	0.0	1.4	2.0	0.9	(43.9)	(109.5)	1.4	7.1
6	QTP	Coal-fired Power	1,200	6,615	14,700	16,400	11.6	8.4	2.9	-8.7	-2.3	(16.7)	(155.5)	1.1	7.3
7	PPC	Coal-fired Power	1,040	4,104	12,800	15,100	18.0	37.2	46.7	23.1	9.7	14.8	42.2	0.8	6.9
8	PC1	Power construction	313	8,848	28,450	30,200	6.2	18.8	1.9	5.3	1.4	76.5	6,808.7	1.3	12.3
9	GEG	Renewable	503	4,282	11,950	16,400	37.2	49.8	1.7	4.0	1.1	19.3	52.3	0.8	12.1
10	PGV	Diversified	5,983	24,435	21,750	25,000	14.9	8.4	2.9	-8.7	-2.3	(16.7)	(155.5)	1.1	10.6

* Target Price (fair value) for the next 12 months

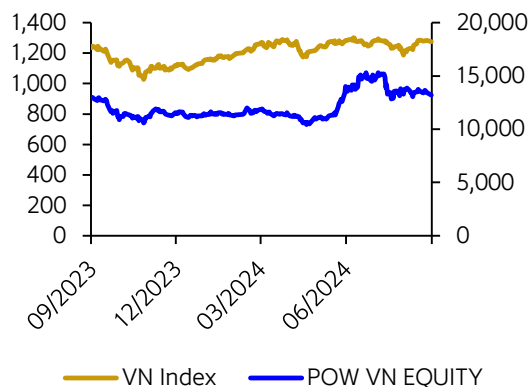
Source: Bloomberg, Fiinpro, Shinhan Securities Vietnam

Data as of 04/09/2024

Petrovietnam Power Corporation – (HOSE: POW)

Target price (12 months)	14,800VND
Current price (21/08/24)	13,200VND
Return (%)	12.1%
VNINDEX	1,276
Market P/E (x)	11.7
Market cap (billion VND)	30,913
Outstanding shares (mil shares)	2,342
Free-float (mil shares)	470
52-week high/low (VND)	15,900/10,400
90-day avg. trading volume (mil shares)	12.72
90-day avg. turnover (bn VND)	192
Major SHDs (%)	PVN 24.9

Performance	3T	6T	12M
Absolute (%)	-5.7	11.4	3.1
Rel.to VN-Index (%)	-6.8	10.0	-1.1



Maintain a positive long-term outlook

_ 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

Investment Perspective

_ Coal-fired Power: Vung Ang 1 is expected to achieve impressive growth in 2024 with a 48% YoY increase in output and a 16% YoY increase in revenue, thanks to: the plant's resumption of operations since August 12, 2023, and continuous operation throughout 2024, coal-fired power being prioritized for dispatch from the beginning of the year, and lower coal prices making coal-fired power more competitive compared to gas-fired power.

Gas-fired Power: Ca Mau 1 & 2 plants are projected to have a 10% increase in output and a 14% increase in revenue in 2024 due to low gas transportation costs and high electricity demand. NT2 and NT1 are planned to have lower dispatch due to high gas prices.

_ NT3 and NT4 Progress Update: NT3 is expected to begin test operation in October 2024, followed by NT4 six months later. We expect these two plants to begin commercial operation in mid-2025 and early 2026, respectively. The expected capacity factor is around 65%, and the load factor is around 70%. EPTC is currently submitting the PPA to EVN for review; the EPC contract is estimated to be 90% complete. The expected revenue contributions from the two plants in 2025 and 2026 are 18.5% and 46%, respectively.

_ Additionally, POW reported that insurance companies have agreed to compensate approximately VND 1,000 billion for the incident at the Vung Ang 1 plant.

Risks: (1) Shortage of input gas supply with high prices for input gas and coal; (2) Difficulties at EVN affecting POW's ability to collect payment for electricity sales; (3) High LNG prices delaying the progress of NT3&4 due to pending PPA contract negotiations.

Year	2021	2022	2023	2024F	2025F
Revenue (bil VND)	24,561	28,224	28,329	30,928	39,738
OP (bil VND)	2,459	2,765	1,290	1,219	1,405
NP (bil VND)	1,799	2,061	1,038	1,244	1,393
EPS (VND)	757	871	443	531	595
BPS (VND)	12,228	13,030	13,414	13,943	14,538
OPM	10.0	9.8	4.6	3.9	3.5
NPM	8.4	9.0	4.5	4.4	4.0
ROE (%)	6.6	7.7	3.8	3.8	4.2
P/E (x)	23.1	13.1	25.4	24.9	22.2
P/B (x)	1.4	0.8	0.8	0.9	0.9
EV/EBITDA (x)	8.3	4.7	7.3	9.9	6.9

Source: Company data, Filipro, Bloomberg, Shinhan Securities Vietnam

Refrigeration Electrical Engineering Corp (HOSE: REE)

Target price (12 months) **76,700VND**

Current price (21/08/24) 67,000VND

Return (%) **+14.5%**

VNINDEX 1,276

Market P/E (x) 11.7

Market cap (billion VND) 31,558

Outstanding shares (mil shares) 471

Free-float (mil shares) 125

52-week high/low (VND) 75,700/44,087

90-day avg. trading volume (mil shares) 1.2

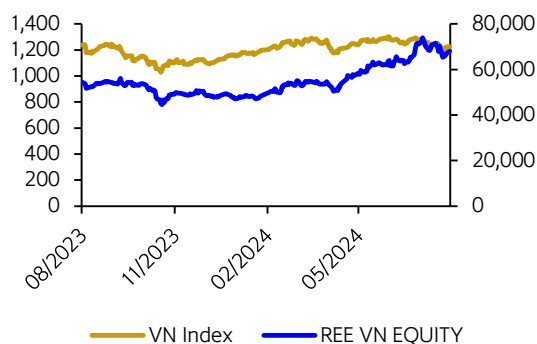
90-day avg. turnover (bn VND) 68

Major SHDs (%) Platinum Victory PTE 34.9

Performance 3T 6T 12M

Absolute (%) 7.2 -23.9 22.7

Rel.to VN-Index (%) 6.1 22.5 18.5



Many new projects support stable growth

_ REE is a company operating in three main areas: M&E (Mechanical and Electrical), Power, and Office Rental. In addition, REE also operates in the water and real estate (RE) sectors. In the energy sector, REE owns power plants with a designed capacity of up to 1005 MW. In the real estate sector, REE is renting out nearly 180,000 square meters, accounted for 25% of total profit. In the traditional M&E business sector, REE is a leading M&E contractor and distributor of Reetech air conditioners.

Investment Perspective

_ Mechanical and Electrical (M&E) Segment: Recorded a total new contract value of VND 3,127 billion (4 times higher than the same period last year). Expects 2024 revenue to reach VND 3,130 billion (+18% YoY) thanks to REE winning the Long Thanh Airport project.

_ Real Estate Segment: E-Town 6 officially opened on June 27, 2024. Expected rental rates are between USD 24/m² and USD 29/m². Assuming a 50% occupancy rate for 2024, the company expects rental revenue to reach VND 1,278 billion (+20% YoY). Bo Xuyen Project: REE announced the official opening of the Bo Xuyen real estate project in Thai Binh (consisting of 45 units) on May 19, 2024. The company is aggressively promoting sales with prices ranging from VND 40-50 million/m². The company expects initial revenue for 2024 and 2025 to be VND 725 billion and VND 390 billion, respectively.

_ Power segment: La Nina: Expects La Nina to improve hydropower output, however, the average selling price of this group is expected to decline by about 15% due to the increase in the alpha mobilization rate from 90% to 98% in 2024.

_ Update new projects: Tra Khuc 2 Hydropower Plant: Capacity of 30 MW, average output of about 120 million kWh. The company expects the plant to be operational in mid-2027. Thac Ba 2 Hydropower Plant: Capacity of 18.9 MW, average output of about 51.5 million kWh per year, expected to be operational in early 2025. Tra Vinh Wind Power Plant Tra Vinh GĐ 2, Tra Vinh V1-5, V1-6 (capacity of 128 MW). Expected to be commercialized in Q1/2026.

_ Risk: (1) The selling price of electricity for renewable energy sources still relies on the transition price; (2) The risk of El Nino reducing hydropower output; (3) Slower-than-expected recovery of revenue from the M&E segment; (4) Slower-than-expected progress of real estate projects; (5) Risks of changes in the general power sector policy.

Year	2021	2022	2023	2024F	2025F
Revenue (bil VND)	5,810	9,372	8,570	9,468	9,802
OP (bil VND)	1,854	3,663	2,954	3,644	3,964
NP (bil VND)	1,855	2,693	2,188	2,519	2,795
EPS (VND)	4,539	6,588	5,353	6,164	6,839
BPS (VND)	32,545	37,939	42,375	41,205	40,098
OPM	31.9	39.1	34.5	38%	40%
NPM	31.9	28.7	25.5	34%	37%
ROE (%)	15.0	18.7	13.3	17%	16%
P/E (x)	11.5	9.4	10.6	10.9	9.8
P/B (x)	1.6	1.6	1.3	1.6	1.6
EV/EBITDA (x)	12.2	7.7	7.9	7.3	6.4

Source: Company data, Filipro, Bloomberg, Shinhan Securities Vietnam

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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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