

Sector note

Jan 16, 2023



Power sector

The transitional framework requires optimal operational ability from renewable developers

- On Jan 07, the MOIT issued the official price framework for transitional RE projects, the new prices are 21%-29% lower than the previous FIT.
- We see the new price framework somewhat dashed investors' expectations with a low price. However, this is a necessary premise to trigger the price mechanism of newly developed projects.
- We see M&E firm and company with transitional RE projects to be benefit soonest including PC1, BCG, GEG, Trung Nam, T&T...

The new price framework has dashed investors' expectations

Following the calculation from EVN, the Ministry of Industry and Trade (MOIT) issued the price bracket for transitional RE power projects on Jan 07, 2023, effective right on the decision date. Accordingly, the new price framework provided a 21-29% lower than the previous FIT price. We see the new price to be the first rescue signal for transitional RE developers, as their projects have been stalled for a long time since the FIT expiration. However, with this price bracket, we believe not every project will enjoy optimal profitability.

The transitional price requires operating ability at optimal level

We conduct an internal rate of return (IRR) test, using assumptions for standard RE power plant and carry out a result that: The new price will significantly reduce the IRR of these projects. Particularly, solar farm IRR locates at 5.1%, while onshore and nearshore IRR decrease to 8.0% and 7.9% from around 12.0% in previous FIT. In order to enhance the profitability under the new price framework, RE developers need to put hard effort to cut investment cost, operating costs and loan interest. Therefore, we see enterprises with experiences in developing and operation projects, as well as the ability to access low-cost capital will have advantages during this period.

There are still factors that help reducing cost for RE power in the future

In the next five years, Vietnam is expected to mobilize about US\$15.5bn from the financial package provided by the G7 countries and the European Union. We see this as an abundant capital source with low interest rates, and this is the huge opportunity for efficient transitional projects to restructure its debt in the future. Besides, according to the Power Development Plan 8 draft (PDP8 draft), investment cost of RE power will reduce sharply in 2022-30 period, which can partly offset the damage for being mobilized at low price level.

PC1, GEG, BCG to be the soonest firms that benefiting from the new price

We see **PC1** – one of the top players in wind power EPC contracting and substations & transmission line M&E, will be benefited soonest thanks to new backlog growth. In addition, we name some prominent RE developers including **BCG**, **GEG** that owned transitional RE projects will expand its capacity as well as releasing cash flow pressure in near-term. Besides, some of the unlisted giants such as Trung Nam Group and T&T Group also benefited by owning finished transitional projects, ready to sell into the grids. Although we see the transitional RE price framework somewhat lower investors mood, we believe this to be a necessary premise for the MOIT to pull out the official price mechanism for newly developed RE projects more considerably and objectively. With Vietnam's strong commitment in COP26, we expect a formal RE price that is still attractive yet competitive and long-term, to encourage qualified investors continue to participate in this field in the upcoming years.

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THE TRANSITIONAL FRAMEWORK REQUIRE OPTIMAL OPERATIONAL ABILITY FROM RENEWABLE DEVELOPERS

The transitional RE price is 21-29% lower than the previous FIT price

On Jan 07, 2023, the Ministry of Industry and Trade issued a price framework for transitional solar and wind power plants. The decisions basing on the result of previous calculation submitted by EVN. Accordingly, the new price for solar farm project is VND1,184.9/kWh, 29.5% lower than the FIT price. On the other hand, onshore and offshore wind power price decrease around 21% to VND1,587/kWh and VND1,816/kWh, respectively.

Figure 1: EVN calculate four price options, and suggest the final prices framework to MOIT at November 20, 2022 (Unit: VND/kWh)

	Option 1	Option 2	Option 3	Option 4	EVN suggesting option
Solar farm	1,482.7	1,508.4	1,508.8	1,188.0	1,188.0
Floating solar	1,740.8	1,569.8	NA	NA	1,569.8
Onshore wind	1,590.9	1,597.6	1,630.2	NA	1,590.9
Offshore wind	1,971.1	1,944.9	1,974.0	NA	1,944.9

*Input assumptions: (1) Investment cost assumed lower than 90% actual number provided from investors; (2) Foreign/domestic loans' interest rate of 4.62%/9.87%; (3) Tax rate: averaging 8.25%/20 years

Sources: VNDIRECT RESEARCH, EVN, MOIT

Figure 2: MOIT issued the final transitional price framework from Jan 07, 2023, effective right at the decision date (Unit: VND/kWh)

	Official price	EVN suggested price	FIT price (transferred to VND)	% change vs FIT price
Solar farm	1,184.9	1,188.0	1,680.0	-29.5%
Floating solar	1,508.3	1,569.8	1,823.0	-17.3%
Onshore wind	1,587.1	1,590.9	2,015.0	-21.2%
Offshore wind	1,816.0	1,944.9	2,323.0	-21.8%

Sources: VNDIRECT RESEARCH, EVN, MOIT

According to our statistics, the new price framework will be applied to about 16 solar farms and 62 wind power plants that are transitional projects – delayed RE power plants that have been invested and deployed but not yet completed before the FIT deadline (for solar power is from January 01, 2021, and for wind power is from November 01, 2021). Hence, we see the new price is the first rescue signal for RE developers whose projects have been delayed for a long time after the expiration of FIT price. (Refer to Appendix: “List of transitional RE projects” page 8)

- **For solar power:** Following the review of MOIT, noted in the PDP8 draft, there are 2,428.4MW that have been approved investors, of which 5 projects/parts of projects with total capacity of 452.62MW completed and installed but not yet connected to the grid including Phu My 2 (BCG); 170MW Trung Nam Thuan Nam (Trung Nam Group); Thien Tan 1.2 and part of Thien Tan 1.3, 1.4 (T&T Group). Moreover, there are 11 projects with total capacity of 426MW that have signed contracts for equipment procurement, we name some of the outstanding plants, including Duc Hue 2 (GEG), Phuoc Thai 2, 3 (EVN), Krong Pa 2 (BCG). Following a clear orientation from the government to minimize solar capacity expansion in 2022-30 period. We see these projects to be the few possible one (636MW) that can be continued and negotiated with EVN basing on the transitional price.
- **For wind power:** According to EVN report, there are 62 remaining wind power projects that did not finish the FIT race in November 2021 with total capacity of about 3,479MW. We highlight some of the outstanding projects from listed company such as Tan Phu Dong 1 (100MW – GEG), VPL Ben Tre 2 (30MW – GEG), Tra Vinh Phase 1 (80MW – BCG) and Khai Long Phase 1 (100MW – BCG).

However, we believe this price framework somewhat dash investors' expectations, who have been waiting for too long, following these below factors:

- Issuing new price framework in VND instead of US\$ does not reflect price slippage.

- The new price for transitional solar projects (VND1,184/kWh) is based on the fourth calculation option in the EVN's report, which calculated using the input parameters of only two solar power plants – Phuoc Thai 2,3. The three other options which both provided a higher price of around VND1,500/kWh calculated from average value of a much larger sample size (more than 100 projects). We believe that using the estimated value from the larger sample will be more representative and objective.
- At this price level, not all transitional projects will be profitable.

It will no longer be everyone's present, the transitional price requires investors to demonstrate their abilities in develop and operating projects

We run a valuation model and evaluate the internal rate of return (IRR) of each RE power sources, applying the assumptions for a standard plant with capacity of 50MW:

Figure 3: We run a valuation model to estimate the profitability efficiency of a standard RE projects. IRR expected to drop sharply under the new price.

	Solar farm	Onshore wind	Nearshore wind
Input parameter			
Debt to capital ratio (%)	70%	70%	70%
Domestic loan interest rate (%)	11%	11%	11%
Operation hour (hour/year)	1,800	3,000	3,500
Tax rate (average 20 years)	8.25%	8.25%	8.25%
Investment cost (US\$m/MW)	0.9	1.6	1.9
Depreciation (years)	20	20	20
FIT price (VND/kWh)	1,680	2,015	2,323
Estimated IRR - FIT (%)	11.7%	12.7%	12.9%
Transitional price (VND/kWh)	1,185	1,587	1,815
Estimated IRR - Transitional (%)	5.1%	8.0%	7.9%

Sources: VNDIRECT RESEARCH, Company reports

Following the above results, we see the new price framework will significantly reduce the projects' IRR. Particularly, solar farm IRR reaches only 5.1% according to our estimate, far lower than the 11.7% from previous FIT. Meanwhile, onshore, and nearshore IRR decrease to 8.0% and 7.9%, respectively from more than 12% level at the old price.

About the investment cost structure, procurement cost of equipment and materials still account for major portion of 70-75% total Capex, followed by construction cost of 20-25% and the remaining costs related to consulting and project management. In addition, we see capital cost appeared to be another essential factor, plays a key role in the project's efficiency. Therefore, we run a sensitivity analysis on two variables that we think will have the most obvious effect on IRR including investment cost and interest expense rate, using onshore wind power to be the representative object. Therefore, assuming interest rate of 11% and investment cost of US\$1.6m/MW, IRR of onshore wind power will locate at around 8%.

Figure 4: There is still a lot of room for IRR improvement thanks to gradual reduction in investment cost with foreign cheap capital flow into Vietnam

Sensitivity analysis for onshore wind power IRR							
		Investment cost (US\$m/MW)					
		1.41	1.48	1.56	1.64	1.73	1.81
Interest rate (%/year)	5%	15.2%	13.5%	12.0%	10.5%	9.1%	7.8%
	7%	14.0%	12.5%	11.0%	9.6%	8.3%	7.1%
	9%	13.0%	11.5%	10.1%	8.8%	7.6%	6.4%
	11%	12.0%	10.6%	9.3%	8.1%	7.0%	5.9%
	13%	11.2%	9.9%	8.7%	7.5%	6.4%	5.4%
	15%	10.5%	9.2%	8.1%	6.9%	5.9%	5.0%

Sources: VNDIRECT RESEARCH, Company reports

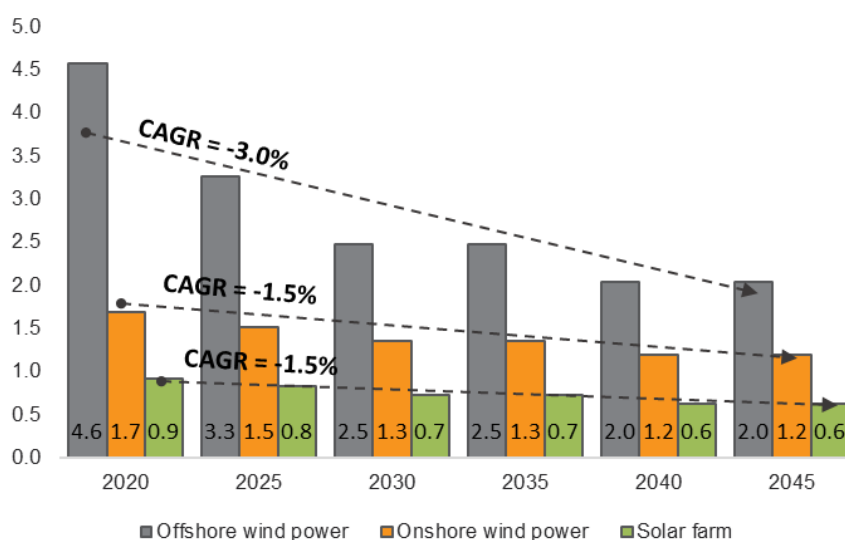
In reality, a number of factors related to operating hours, interest rates and investment cost will vary between particular projects. Therefore, we believe there is still room for IRR improvement basing on the above sensitivity analysis. We put our faith on reputational RE developers that have experience in developing RE projects, strong price negotiation and ability to raise large capital flow with cheaper cost.

There are some of the factors that help reducing cost for RE projects in the upcoming years

As we see there is still a lot of room for enterprises to improve their projects financial efficiency, we note down two major support trends including:

- On December 14, Vietnam and G7 countries with their partners – the European Union, Norway, Denmark, approved a declaration – the Just Energy Transition Partnerships (JETP) to support Vietnam's green energy transition. Accordingly, the initial plan is to mobilize about US\$15.5bn from both public and private sectors over the next 3-5 years to help Vietnam actualizing its net-zero goals. We see this to be the abundant capital sources with low interest rates, which is flowing rapidly into our country. We see a higher opportunity for transitional RE projects to restructuring its debt in the following years
- According to the PDP8 draft, RE investment cost will gradually drop in 2022-30F period, which will be a supporting factor for the development phase of the upcoming projects. At the same time, the lower development cost will partly offset the low mobilized price under transitional price framework, especially for solar power. Particularly, solar farm and onshore wind power development cost will stably decline 1.5% per year. While for offshore wind power, the reduction rate recorded at 3% in 2022-45F period. Therefore, the lower development cost will help on lower levelized cost (LCOE) correspondingly and we expect the cost downward trend will help businesses to releasing cost pressure in both short and long term.

Figure 5: Capex investment cost will decrease rapidly in 2022-25F under the PDP8 draft forecast (Unit: million US\$)



Sources: VNDIRECT RESEARCH, PDP8 draft

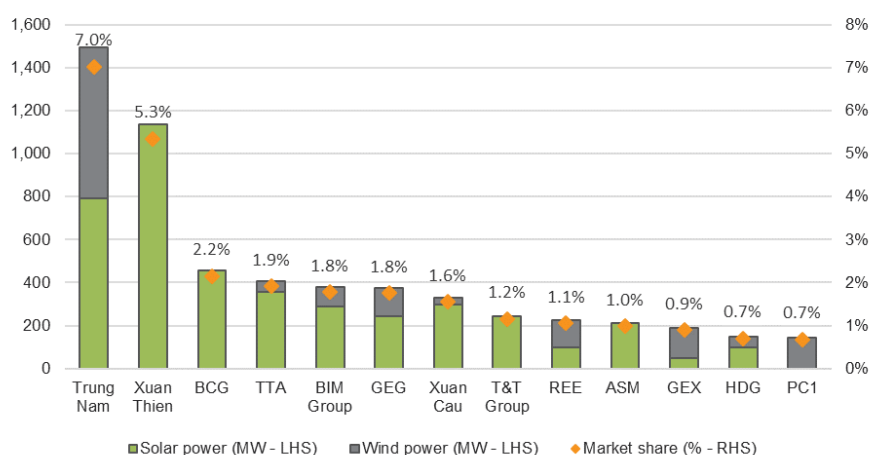
Conclusion

We believe that the transitional RE price will serve as the foundation for the MOIT to continue carrying out further guidance, especially for the official price mechanism of newly developed RE projects. Moreover, the transitional price will be a necessary test for authorities to carefully evaluate and improve for the next official price mechanism. Under the Vietnam's strong commitment in COP26, along with ambitious adjustment in the latest PDP8 draft – favoring toward RE power, we still expect an attractive yet competitive price mechanism to continue encouraging qualified investors to participate in this field.

We believe that businesses with strong ability to optimize developing and operating cost, as well as strong capability to mobilize cheap capital will stay ahead in this phase.

We see PC1 will be the soonest beneficiary as the company is one of the top players in transmission line M&E and wind power EPC contracting. In addition, we name some of the prominent listed developers including BCG, GEG that will be able to expand their capacity by owning transitional RE projects. Besides, Trung Nam and T&T Group are some of the unlisted giants which also benefited thanks to owning finished transitional plants that ready to sell to the grid.

Figure 6: We see leading enterprises with advantages of scale, strong prices negotiation and ability to raise large capital with attractive interest rate will stay ahead in upcoming period



Sources: VNDIRECT RESEARCH, Company reports

We name some of the listed companies will be benefited soonest including PC1, GEG and BCG

Figure 7: Investment idea

No	Ticker	1-year TP (VND/share)	Rating	Investment thesis
1	PC1	30,800	ADD	<p>(1) The transitional price framework will help PC1 to be benefited at the earliest as the company is one of the leading players in transmission line M&E and wind power EPC contracting. We see the publication of PDP8, and official price mechanism will give even more impetus for this business segment to explode.</p> <p>(2) We see PC1 will continue to expand its RE portfolio, including 81MW small hydropower in sight. Besides, the company is also conducting surveys of more than 1,000MW of wind power and finding opportunity to reach the 350MW additional RE power ambition in 2025F.</p> <p>(3) PC1 wind power is one of the outstanding plants, fully ensuring ESG standard and financed by a green loan with very attractive interest rates of around 5-6%, much lower than average domestic loan of around 10-11%. We see this to be the advantage for PC1 to achieve cheaper capital for its future projects.</p>

- (1) GEG is among top RE companies with total capacity of 456MW, including 81MW small hydropower, 245MW solar power and 130MW wind power.
- (2) The company also has a pipeline of 130MW wind power including VPL2 Ben Tre (30MW) and Tan Phu Dong 1 (100MW). We see the official announcement of new RE price mechanism will activate brighter outlook for the company from FY23F.
- (3) Besides, the company also invested in a transitional solar project, that suggested to continue develop in the latest PDP8 draft – the Duc Hue 2 (48MW)

2	GEG	NA	NA	
3	BCG	NA	NA	<p>(1) BCG is currently the largest listed RE firm in term of capacity. The company has put into operation 592MW including 4 solar projects BCG Long An 1 (40.6MW), BCG Long An 2 (100.5MW), Phu My 1 (216MW), BCG Vinh Long (49.3MW), and 72MW of rooftop solar (Updated at Dec 31,2022).</p> <p>(2) At the same time, the company is implementing two wind power projects including Khai Long Ca Mau (Phase 1) and Tra Vinh project (Phase 1) with a total capacity of 180 MW. We see this to be the main engine for its RE segment to shine in FY23-24F.</p> <p>(3) The transitional price mechanism will be the opportunity for BCG when the company owned some delayed-FIT projects including Phu My 2, Krong Pa 2 which area ready to connect to the grid. In addition, Phu My and Krong Pa 2 is also one of the few projects that are proposed to continue developing in the latest PDP8 draft. When it comes into operation, we see these projects will reduce cash pressure for BCG.</p>

Source: VNDIRECT RESEARCH

Figure 8: Peer comparison

Company name	Ticker	Price	Target price	Recom.	Mkt Cap	P/E(x)		P/B (x)		EV/EBITDA (x)		ROE (%)	
	Bloomberg	LC\$	LC\$			US\$m	TTM FY23F	Current FY23F	Current FY23F	TTM FY23F	TTM FY23F	TTM FY23F	TTM FY23F
RE power peer													
Gia Lai Electricity JSC	GEG VN Equity	15,000	NA	NR	205.9	12.9	12.9	2.1	1.2	8.9	10.6	10.7	11.6
REE Corp	REE VN Equity	72,500	85,500	ADD	1,098.8	9.3	9,6	1.6	1,2	8.4	8.7	20.2	17.4
Ha Do Group JSC	HDG VN Equity	31,800	43,800	ADD	331.7	5.5	5,1	3.0	1,0	5.0	3,2	30.7	14,3
PC1 Group JSC	PC1 VN Equity	23,800	30,800	ADD	274.5	15.8	5,1	2.0	1,0	8.9	3,2	8.7	21,5
Bamboo Capital Group JSC	BCG VN Equity	6,710	NA	NR	152.6	5.0	NA	3.0	NA	17.8	NA	12.3	NA
Gelex Group JSC	GEX VN Equity	13,150	NA	NR	477.5	22.5	NA	2.9	NA	4.4	NA	4.2	NA
Average						11.8	12.9	2.4	1.2	8.9	9.6	14.5	14.5
Median						11.1	12.9	2.5	1.2	8.7	9.6	11.5	14.5

Sources: VNDIRECT RESEARCH, BLOOMBERG, Data as of Jan 16, 2023

Appendix: List of transitional RE projects

Figure 9: List of transitional wind power projects

No	Project	Capacity (MW)	Investor
1	Thanh Phong phase 1	30	BayWa.re Wind (Netherlands)
2	Khai Long phase 1	100	BCG
3	Tra Vinh phase 1	80	BCG
4	Binh Dai 2	49	Mekong Wind Power JSC (Thailand)
5	Binh Dai 3	49	Mekong Wind Power JSC (Thailand)
6	Cu Ne 1	50	Envision Energy Group (China)
7	Cu Ne 2	50	Envision Energy Group (China)
8	Tan Phu Dong 1	100	GEG
9	VPL 2 Ben Tre	30	GEG
10	HBRE Ha Tinh	120	HBRE
11	Hoa Dong	30	
12	Xanh Song Cau phase 1	50	
13	la Pech 2	50	
14	Tan An 1 phase 1	25	
15	Mien Nui	50	
16	Tan Hop	38	
17	TNC Quang Tri 1	50	
18	TNC Quang Tri 2	50	
19	So 7 Wind phase 2	88	
20	Yang Trung	145	
21	Tan Tan Nhat	50	
22	Song An	46	
23	Lac Hoa 2	130	
24	Sunpro	29	
25	Dak N'Drung 2	97	
26	Dak N'Drung 3	100	
27	Dak N'Drung 1	100	
28	Vien An	50	
29	Krong Buk 1	50	
30	Krong Buk 2	50	
31	Phong Dien 1	30	
32	Thanh Phu	120	
33	Hai Anh	40	
34	Che Bien Tay Nguyen	50	
35	Nam Binh	30	
36	Cau Dat	60	

Sources: VNDIRECT RESEARCH, EVN, MOIT

Figure 10: List of transitional wind power projects

No	Project	Capacity (MW)	Investor
37	Lig Huong Hoa 1	48	Licogi 13
38	Lig Huong Hoa 2	48	Licogi 13
39	Nexif Energy Ben Tre	30	Nexif Energy
40	Bac Lieu phase 3	15	Super Energy Corp
41	Asia Dak Song 1	50	Super Energy Corp
42	Cong Ly Soc Trang phase 1	30	Super Wind Energy (Thailand)
43	Huong Linh 3	29	Tan Hoan Cau Group
44	Huong Linh 4	30	Tan Hoan Cau Group
45	So 5 - Thanh Hai 3	30	Tan Hoan Cau Group
46	So 5 Thanh Hai 4	30	Tan Hoan Cau Group
47	So 3 (V2-1) Soc Trang	29	Banpu Corp - Thailand
48	Hoa Thang 1.2	72	Vietracimex
49	Hoa Thang 2.2	20	Vietracimex
50	Ca Mau 1A	88	
51	Ca Mau 1B	88	
52	Ca Mau 1C	88	
53	Ca Mau 1D	88	
54	Duyen Hai V1-4	48	
55	Phuoc The	26	
56	So 2 Soc Trang	30	
57	So 18 Soc Trang	22	
58	Thien Phu	30	
59	Thien Phu 2	30	
60	So 19 Ben Tre	50	
61	So 20 Ben Tre	50	

List of transitional solar projects

No	Project	Capacity (MW)	Investor
1	Phu My 2	114	BCG
2	Krong Pa 2	49	BCG
3	Phuoc Thai 2,3	100	EVN
4	Duc Hue 2	49	GEG
6	Chu Ngoc GD2	25	LICOGI
3	Thien Tan 1.2	100	T&T Group
2	Trung Nam Thuan Nam	170	Trung Nam Group
4	Ngoc Lac	90	
5	Phu Thien	40	
6	Duc An	30	
7	MT1, 2	60	
8	Son Quang	29	

Sources: VNDIRECT RESEARCH, EVN, MOIT

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Add	The stock's total return is expected to reach 15% or higher over the next 12 months.
Hold	The stock's total return is expected to be between negative 10% and positive 15% over the next 12 months.
Reduce	The stock's total return is expected to fall below negative 10% over the next 12 months.

The total expected return of a stock is defined as the sum of the: (i) percentage difference between the target price and the current price and (ii) the forward net dividend yields of the stock. Stock price targets have an investment horizon of 12 months.

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Definition:

Overweight	An Overweight rating means stocks in the sector have, on a market cap-weighted basis, a positive absolute recommendation.
Neutral	A Neutral rating means stocks in the sector have, on a market cap-weighted basis, a neutral absolute recommendation.
Underweight	An Underweight rating means stocks in the sector have, on a market cap-weighted basis, a negative absolute recommendation.

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