

Business Model Innovations Drive The Philippines' Energy Transition

Trends and key players in the renewable energy
sector

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Key Findings

A standout feature of the acceleration of renewable energy adoption in the Philippines is the emergence of listed companies that are at the center of this growth.

Investors put a demonstrably higher value on firms that have a greater share of renewables in their business.

The national Green Energy Auction Program marks the government's ambition to raise renewables capacity.

The Philippine renewables companies are introducing interesting innovations that can further unlock finance for investments into clean energy, such as the use of REIT structures, a privately financed coal plant phaseout, and scale via regional expansion.



Executive Summary

The Philippines' renewable energy sector has seen enhanced interest and notable growth in the past two years. New and incumbent players with track records in infrastructure and utilities have begun to accelerate investments in renewable energy. The sector is dominated by local private-sector players, many of whom are listed on the stock exchange.

Against this backdrop, a study of the various strategies and business models is instructive to see how companies are handling different aspects of the energy transition. While the sector has its laggards, some of the leading companies have demonstrated impressive innovativeness as part of their strategy to build out renewables.

This report will show that investors are willing to place a higher value on pure plays in renewables than on traditional utilities. The emergence of stock exchange-listed renewables developers and operators, including ACEN Corporation,¹ Citicore Energy REIT Corp and Solar Philippines, has been a standout feature in the country over the past few years. Most Southeast Asian nations lack such listed renewables pure plays. Valuation premiums for pure play renewables companies – as seen in their higher price-to-book (P/B) ratios, stronger market valuation of installed capacity, and stock performance over the past five years – suggest this focus on renewables as a concentrated strategy has paid off.

Attracting financial and investor interest is also evidently easier for renewables-focused companies, particularly those that are able to execute their plans. This may explain the valuations for ACEN, which has taken the most initiatives to develop renewables and to grow in both size and geographic presence.

Funds for growth can be raised by using innovative structures such as moving renewable assets into business trusts and real estate investment trusts (REITs) to attract investors looking for steady returns. These instruments allow for faster and more efficient recycling of capital while opening up the sector to new types of investors who may be more risk averse.

Examples of successful renewables investments and other innovative mechanisms, such as REITs and privately financed coal phaseouts and retirements, can guide regional fossil-dependent utilities to invest aggressively in renewables to stay relevant and capitalize on opportunities offered by the energy transition. On the other hand, laggards, who stick with fossil fuel assets as their main line of business, will likely continue to see ebbing interest among investors and financial markets unless they can change and adopt some of the more successful strategies.

This report highlights some examples of both dynamic as well as more hesitant renewables developers, explores the strategies of leading Filipino renewable energy companies, and provides a few takeaways from their business models.

¹ ACEN is part of the Ayala group and used to be called Ayala Corp Energy (AC Energy). The company retains a residual interest in coal assets, which it has stated an intention to exit. This small coal capacity of 68MW is mainly used for grid balancing purposes, as per company reports.

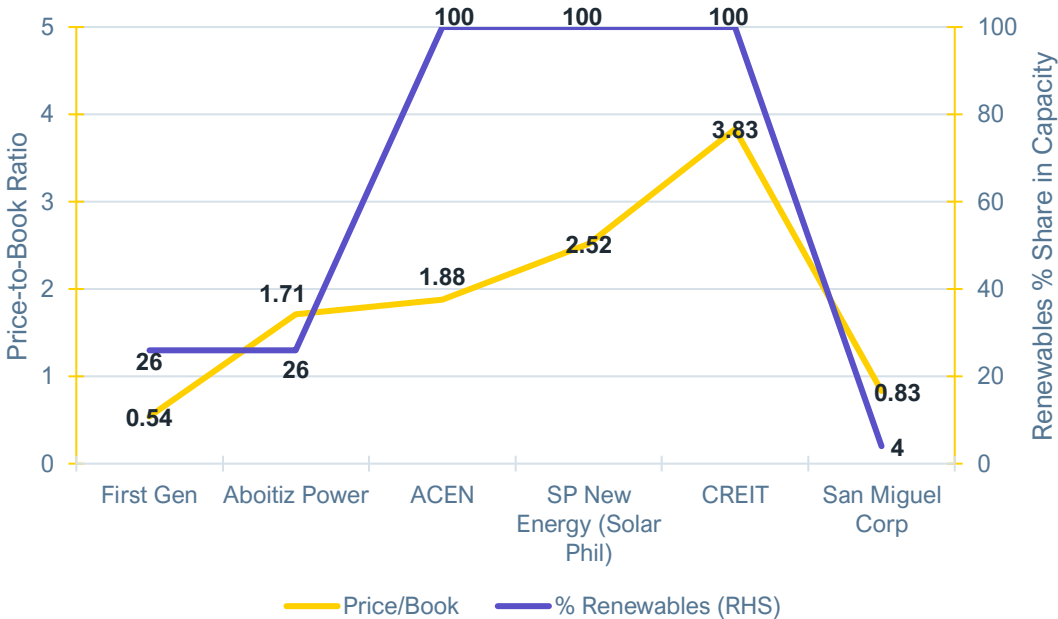
What Investors and Financiers Like

The Philippine stock market offers a mix of traditional utilities, with varying degrees of fossil fuel dependence, and newer pure play renewables. There is a long history of private-sector involvement in, and ownership of, important parts of the economy, including power generation, power distribution, telephony, transport and airlines, which have all been privately owned in the Philippines for decades, unlike most of Southeast Asia, where state-owned enterprises (SOEs) have tended to dominate traditional “infrastructure” sectors.

The power market in Southeast Asia varies widely in dynamics and structure, ranging from a freely tradable wholesale setting to single-buyer markets, or monopsonies. The presence of private-sector players in a relatively free-to-operate market such as the Philippines offers the opportunity to observe corporate features that are well regarded, and well rewarded, by capital markets. Good strategies backed up by execution, and their acknowledgement by financial markets, can be key to raising investments and accelerating the transition to renewables.

For starters, investors are evidently willing to place a higher value on pure plays in renewables than on traditional utilities. This preference is observable among listed renewables developers and operators, such as ACEN Corporation and Solar Philippines, the emergence of which has been a standout feature in the Philippines over the past few years and is not found to the same extent in other Southeast Asian markets. In terms of how investors view asset values, pure play renewables companies command a valuation premium over utilities that have varying levels of renewables in their mix (Figure 1).

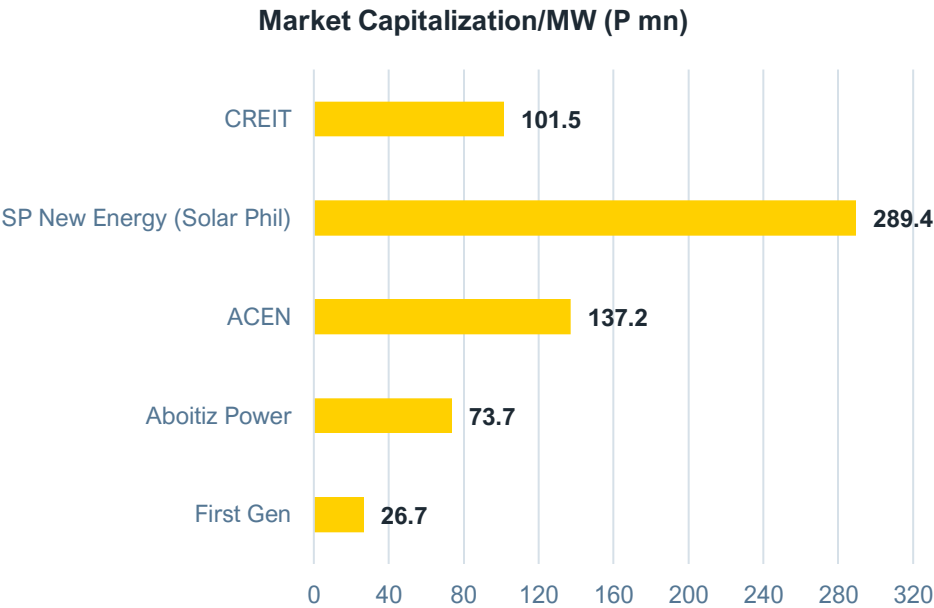
Figure 1: P/B Ratio vs Renewables' Share of Capacity



Source: S&P Capital IQ; IEEFA compilation from company websites and reports

A second observation is that investors are willing to reward firms which plan to grow in the field of renewables and are able to execute their plans (Figure 2). For example, investors value each megawatt (MW) from ACEN at P137 million (US\$2.46 million)² based on the market capitalization and megawatts in operation as at August 4, 2023, and Citicore Energy REIT Corp (CREIT) at P102 million/MW (US\$1.83 million). First Gen Corporation is valued at only P26.7 million/MW (US\$479,000).

Figure 2: Different Capacity Valuations Under Different Strategies



Source: S&P Capital IQ; IEEFA compilation from company websites and reports

Among the key players examined in this report, Solar Philippines has grown rapidly nearly from scratch, and within 18 months of its listing in 2021, the firm attracted the investment of an established group at a hefty valuation premium. Its success is encouraging to entrepreneurs that follow a strategy focused on renewables.³

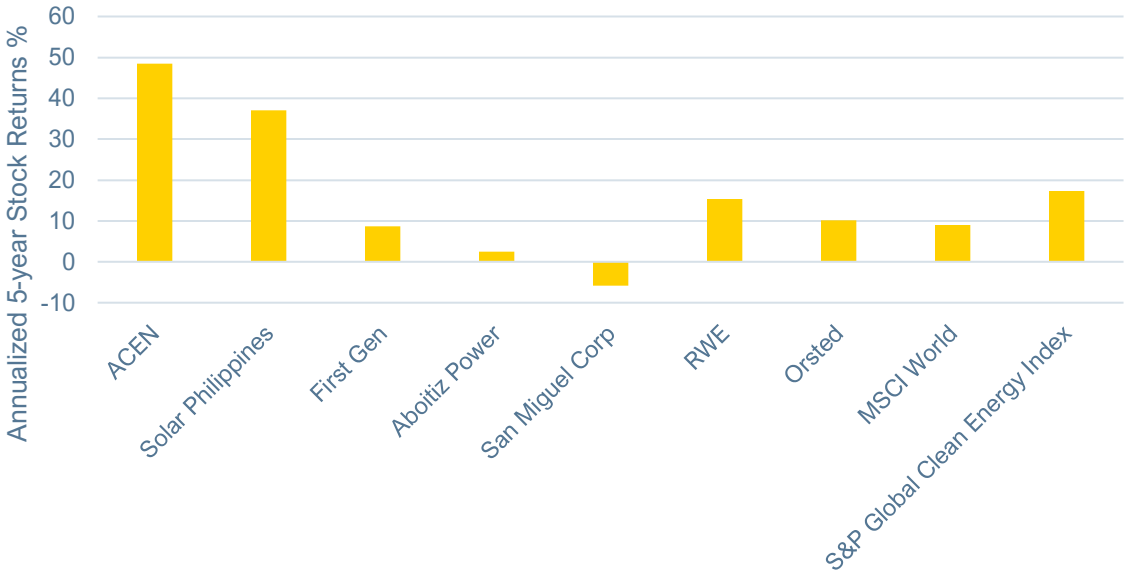
Similarly, ACEN's valuations are likely boosted by the fact that it has taken the most initiatives to be renewables-focused and to grow in both size and geography in the renewable energy space. The proactive approach matters because investors typically look for a strong growth profile in the preferred field, in addition to a good strategy and execution capabilities.

² This report uses the exchange rate of US\$1 = P55.75, which was the closing rate on August 4, 2023.
³ SP New Energy Corporation (SPNEC), the listed entity of Solar Philippines, started trading on the Philippine Stock Exchange (PSE) in December 2021 at P0.90 and generated returns of 62% to investors until May 29, 2023, when trading was suspended after the company's free float fell below the minimum requirement as a result of infrastructure giant Metro Pacific Investments Corporation's (MPIC) purchase of a 42% SPNEC stake at P1.25 per share, a nearly 40% premium to the initial price.

Europe also has some good examples of traditional utilities that used to be heavily or entirely exposed to fossil fuels and therefore fell out of favor with markets and financiers, but which have seen their fortunes revive after changing strategy. The Institute for Energy Economics and Financial Analysis (IEEFA) has highlighted them in previous reports.⁴

A review of the past five years shows that Danish multinational renewable energy company Orsted A/S and Germany's RWE AG continued to outperform global equity benchmarks even after making strong gains of 66% and 49% in the two years prior to the five-year period, which was when their transition plans were laid out fully and began to be implemented. In the Philippine context, ACEN and Solar Philippines have received significantly higher investor support compared to First Gen and Aboitiz Power, which have underperformed even broader equity benchmarks (Figure 3).⁵

Figure 3: Stock Returns of Philippine and Foreign Renewables and Utility Firms



Source: Bloomberg

Note: Solar Philippines' data is as of May 29, 2023, when the PSE suspended its listed entity SPNEC from trading (see footnote 3).⁶ SPNEC plans to issue new shares to resume trading.

The valuation premiums for pure play renewables companies – as seen in their higher price-to-book ratios, stronger market valuation of installed capacity, and stock performance over the past five years – suggest that the focus on renewables as a concentrated strategy has paid off for companies and investors.

⁴ IEEFA. [India's renewable energy journey: Short-term hiccups but long-term trajectory intact](#). Garg, Buckley and Srivastava. October 2022.

⁵ All stock market prices and returns are as of August 4, 2023.

⁶ The Manila Times. [PSE halts trading in SP New Energy](#). June 3, 2023.

The broad conclusion is that renewables companies in the Philippines and elsewhere in the region would do well to focus even more on renewables and draw up clear growth plans, perhaps regionally, to enable themselves to grow faster and become more relevant to financiers, thereby arguably leading to potentially lower cost of capital which would be reflected in higher valuations.



Renewables companies in the region would do well to focus even more on renewables and draw up clear growth plans

Domestic Innovation

In the past, IEEFA has critically analyzed the volatility of gas price movements and investments in natural gas infrastructure around the world, including in the Philippines, which tends to lock in that risk.^{7,8} Such investments raise the risk of being stuck with expensive fossil-based power strategies that do not support the environment, economic affordability or even energy security, based as they are on imported feedstock. We do not intend to revisit these analyses here, nor go over the small 5% share of solar and wind power in the national energy mix.⁹

On another note, the Philippines is also home to several innovative business models in the renewable energy space. The following section reviews the top five players in terms of capacity, as well as their plans, their business model innovations, and how they have tried to differentiate themselves as a means to raise more capital, thereby accelerating the growth of renewables. The paper ends by discussing a move in recent years toward auction mechanisms and how the auction approach has fared.

The five offer ongoing case studies of how renewable energy companies can adapt and accelerate. They are also notable in that a number of the rising players are existing energy companies with fossil-based assets. Their success (or otherwise) and their strategies offer examples for similar legacy operators in the region.

⁷ IEEFA. [Contracting debacles underscore long-term LNG risks in the Philippines](#). Reynolds. April 2023.

⁸ IEEFA. [Delays of LNG terminals in the Philippines reflect supply and cost uncertainties](#). Reynolds. September 2022.

⁹ IHS Markit.

Key Players: Leaders and Laggards

The capacity distribution of the Philippine renewables industry is set out in Table 1.

Table 1: Leading Renewable Energy Developers

Parent/developer	Listed on PSE	MW in operation
Energy Development Corporation (subsidiary of First Gen)	Y	1,480
ACEN Corporation	Y	601
Aboitiz Equity Ventures*	Y	339
Solar Philippines	Y	183
Citicore Renewable Energy Corporation (Citicore Energy REIT)	Y	163
Pan Malayan Management & Investments	N	112
Nickel Asia Corporation	Y	100
Gregorio Araneta Inc	N	98
JG Summit Holdings Inc	Y	92
Manila Electric Company	Y	90
Allfirst Equity Holdings Inc	N	86
Alternergy Wind One Corporation	N	54

Source: Bloomberg; BloombergNEF (BNEF)

Note: Some capacity figures vary slightly depending on the source, so for the sake of uniformity, Table 2 is based on data from Bloomberg and BNEF.

* Excludes 290MW geothermal and hydro projects located in Tiwi and owned through an entity known as MORE, where Aboitiz does not have management control.

The five largest renewable energy players are First Gen, ACEN, Aboitiz Power, Solar Philippines and Citicore. Some of these firms are poised to grow significantly bigger and are expected to play a large role in accelerating the growth of renewables in the Philippines. With government policy showing signs of turning into an enabler of renewables, the on-the-ground positivity comes from the fact that most of the major solar and wind power developers have long years of experience in other forms of renewable energy, power and the accompanying infrastructure.

ACEN

ACEN Corporation operates slightly more than 600MW of solar and wind power generation capacity in the Philippines. Going forward, it could be the key mover in the country's renewables space.

ACEN is a spin-off from the conglomerate Ayala Corporation, one of the largest business groups in the Philippines. The firm is 71% majority-owned by Ayala and 10.5% by Singapore's sovereign wealth fund, GIC Private Limited.¹⁰ It is listed on the Philippines Stock Exchange (PSE).



ACEN is a spin-off from the conglomerate Ayala Corporation, one of the largest business groups in the Philippines

What sets ACEN apart from its peers is its strategy to develop into a large regional renewable energy player. Other than 601MW operational in the Philippines, it has an attributable¹¹ operating portfolio of 1,087MW internationally, with a further 941MW and 1,700MW under construction domestically and abroad, respectively.^{12,13} The combined portfolio of currently operating infrastructure and facilities under construction adds up to more than 4.3 gigawatts (GW), so ACEN is already a large enough player to start benefiting from economies of scale and accumulated acumen in renewables. Its international operations are found in Australia, India, Laos and Vietnam.

In the near term, an estimated 1.5GW is expected to come onstream by the end of the 2023 fiscal year, which runs from January to December. These projects include a 521MW New England Solar Farm, which has a 20-year energy service agreement with Australian utilities, and a 420MW Masaya Solar project in India.^{14,15} Earlier this year, ACEN also announced its maiden venture in Laos, a 24% strategic holding in Monsoon Wind to develop a 600MW wind farm at a cost of about US\$1 billion by end-2025.¹⁶ In the medium term, it aims to build a 20GW portfolio by 2030.¹⁷

¹⁰ ACEN. [Company website homepage](#).

¹¹ Attributable capacity refers to gross capacity of owned assets, multiplied by the company's effective economic ownership.

¹² ACEN. [Geographic presence](#). Accessed on July 27, 2023.

¹³ ACEN. [First half 2023 financial and operating results](#). August 3, 2023.

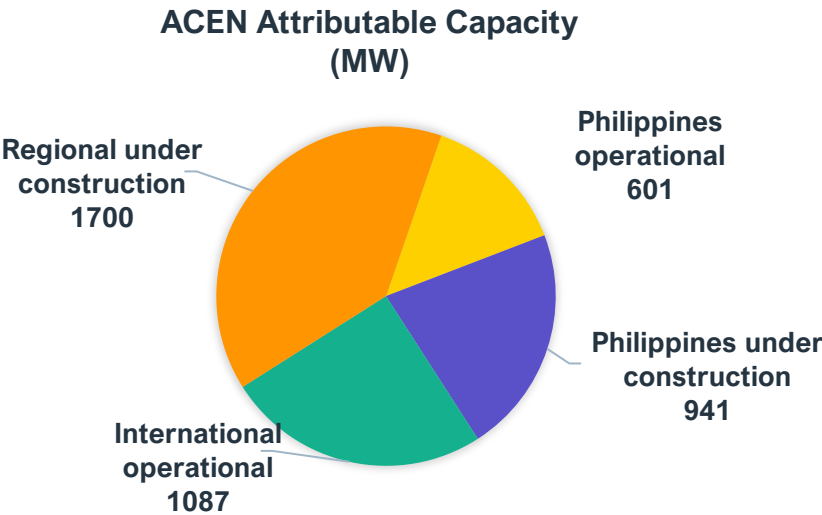
¹⁴ ACEN Australia. [New England Solar Farm](#). Accessed on July 27, 2023.

¹⁵ ACEN. [UPC-AC Energy Solar's largest solar farm in India](#). Accessed on July 27, 2023.

¹⁶ Asian Power. [ACEN signs financing for Monsoon Wind project in Lao PDR](#). Accessed on July 27, 2023.

¹⁷ ACEN. [ACEN targets 20GW renewables by 2030](#). August 8, 2022.

Figure 4: ACEN's Attributable Renewable Energy Capacity



Source: Company reports

To this end, the company has been a heavy spender, investing almost P70 billion in capital expenditure over the past two years, and management has suggested a similar figure for 2023.¹⁸ On the ability to secure financing, ACEN seems well placed for now, with a net debt-to-equity ratio of 0.25 as of the 2023 first quarter, thanks to its equity raising and strategic investors, giving it a war chest to pursue the expansion plans.

The company has also taken other steps to cement its commitment to renewables. At the time of the stock offering in 2021, which followed the restructuring and infusion of the Ayala group's renewable energy assets into ACEN, the latter was not yet a pure play in renewables, having just over 400MW of fossil-based capacity on its books. After the listing, it has taken steps to divest that capacity and now has only a 68MW facility remaining, which is used mainly to meet grid balancing requirements.

For example, the company announced last year that it had, through a privately financed energy transition mechanism (ETM), exited its largest coal-fired power plant, a 246MW project run by South Luzon Thermal Energy Corporation (SLTEC).¹⁹ We estimate ACEN has received only around two-thirds of the book value of this asset. However, by doing that, the corporation has let go of its biggest coal asset, boosting its green credentials and putting itself even more firmly on the radar of financiers and investors who exclude from their ambit companies which own coal assets.

¹⁸ Inquirer.net. [ACEN to spend P70B this year to support clean energy ambition](#). April 25, 2023.

¹⁹ The Asset. [How the Philippines' ACEN convinced cautious investors to invest in its coal plant](#). November 14, 2022.

SLTEC Energy Transition Mechanism

Under this mechanism, ACEN has exited the SLTEC coal plant through a combination of receiving a P3.5 billion return of part of its initial capital, and a transfer of its remaining equity into a special purpose vehicle called ETM Philippines Holdings, worth P3.7 billion. One of the Philippines' largest insurers, Insular Life Assurance, is a joint investor in the vehicle, giving it the credibility that comes from having an external investor.

The plan is to retire the plant in 2040, which is 15 years earlier than the technical end of its life span, effectively cutting the remaining useful life to just over half. ACEN will reinvest the proceeds of P3.5 billion in renewables. This commitment to shorten the operating life of the coal plant was perhaps necessary for the now independent SLTEC to secure loans from its bankers, the Bank of the Philippine Islands and Rizal Commercial Banking Corporation, which have pledged to phase out their coal loans by 2031 and 2032, respectively.^{20,21}

While ACEN has not explicitly stated its gain or loss from the deal, the firm's 2021 annual filing with the PSE specified its holding in SLTEC as being worth P11.5 billion. It appears the transaction will incur a cost of P4.2 billion in the form of lower value received for the sale.²²

On the other hand, ACEN has through the transaction turned itself almost fossil-free, cut the life of a fossil-powered asset by 15 years, and enabled SLTEC to secure bank funding for the power plant to fulfill its commitments until 2040, while bringing in a large insurance company as a co-investor to lend credibility to the transaction.

Strategy Highlights

- ACEN is developing a regional footprint to stay abreast of and learn from developments across geographies. This strategy has the dual benefit of achieving scale and geographic risk mitigation through regional diversification.
- The firm is proactive in ridding itself of coal and other fossil fuel assets. Financiers prefer pure plays untainted by fossil fuels.
- ACEN is partnering with deep-pocketed global investors to accelerate expansion and transition plans.
- It is well positioned to ride the energy transition with a renewables-focused strategy.

Citicore

Citicore Renewable Energy Corporation (CREC) is the renewable energy arm of Citicore Power Inc, which is part of the Megawide group, a major infrastructure builder in the Philippines and the

²⁰ Bank of the Philippine Islands. [Coal policy](#). Accessed on July 27, 2023.

²¹ Rizal Commercial Banking Corporation. [Sustainability](#). Accessed on July 27, 2023.

²² ACEN. [SEC 17A Annual Report 2021](#).

operator of Mactan-Cebu International Airport. Citicore is a leading player in the local solar energy space with an installed generating capacity of 163MW, plus more than 200MW of renewable energy projects at advanced stages of development.²³ This year, it was the big winner in the second round of the government's Green Energy Auction Program (GEAP; see the section titled Looking Ahead), clinching bids for 555MW of solar power and 362MW of wind power projects. The firm has said it plans to complete these projects by 2026.

What is most interesting about Citicore is its use of an innovative structure to free up its balance sheet, raise funding, and at the same time offer investors a differentiated avenue of investment. The company has spun off one solar plant of 22MW, and the land on which a set of its solar plants were located, into Citicore Energy REIT Corp (CREIT), the Philippines' first renewable energy REIT. The box on the next page explains the REIT structure.

The innovation from Citicore is in recognizing that solar assets constitute long-term infrastructure that will likely provide a steady income stream, and in monetizing individual assets without having to raise dilutive equity or debt financing.

CREIT derives its income primarily in the form of lease rentals from the solar operator structured as base and variable leases. The lessees are Citicore and its affiliates. The guaranteed annual base rental rate is based on the three-year historical average of the generation output of the solar plants located on the leased lands, multiplied by the tariff realized. The variable rental rate is equivalent to 50% of the incremental gross revenue earned by the plant operator over and above its base revenue.²⁴



Citicore uses an innovative REIT structure to free up its balance sheet, raise funding, and offer investors a differentiated avenue of investment

In effect, CREIT and its security owners or investors earn at least the average revenue generated by the solar energy sales of the past three years, removing near-term downside, while benefiting from any rise in revenues via either generation or pricing due to CREIT's 50% share in any incremental revenue over and above the base revenue. Guaranteed base lease rentals are independent of the operating performance of the assets, thus providing income stability.

Citicore has lined up a robust pipeline of renewable energy projects of 1.5GW (1GW attributable to Citicore) over the next five years. The largest is a solar farm in Pampanga, an equal-ownership joint venture with ACEN.²⁵ Citicore expects this to be the biggest single solar farm in the country once commissioned. The company has also said its strategy will focus on acquiring land in clusters in provinces where it has a key presence and where its sponsor CREC can expand its renewables exposure to 5GW. To date, CREIT has acquired 475 hectares in Batangas and has projects under construction in the area.²⁶

²³ CREC. [Our businesses](#). Accessed on August 8, 2023.

²⁴ CREIT. [Citicore Energy REIT Corp final prospectus](#). Company overview. January 23, 2023, p. 20.

²⁵ CREC. [Citicore, ACEN boost capacity of Pampanga solar plant](#). August 2, 2022.

²⁶ CREIT. [Citicore Energy REIT Corp final prospectus](#). January 23, 2023.

Real Estate Investment Trust

A real estate investment trust is an entity that owns and operates income-producing assets, typically commercial real estate such as shopping malls, offices, hotels and rental apartments. Simply put, REITs are similar to mutual funds that hold equities and bonds as assets; however, REITs hold property and other real assets in their portfolio, as opposed to equities or bonds. In recent years, this asset class has grown to include other infrastructure assets, such as roads and expressways, and these REITs are often called infrastructure investment trusts. In essence, assets that are regularly used and associated with a predictable cash flow and income are typically set up in a REIT.

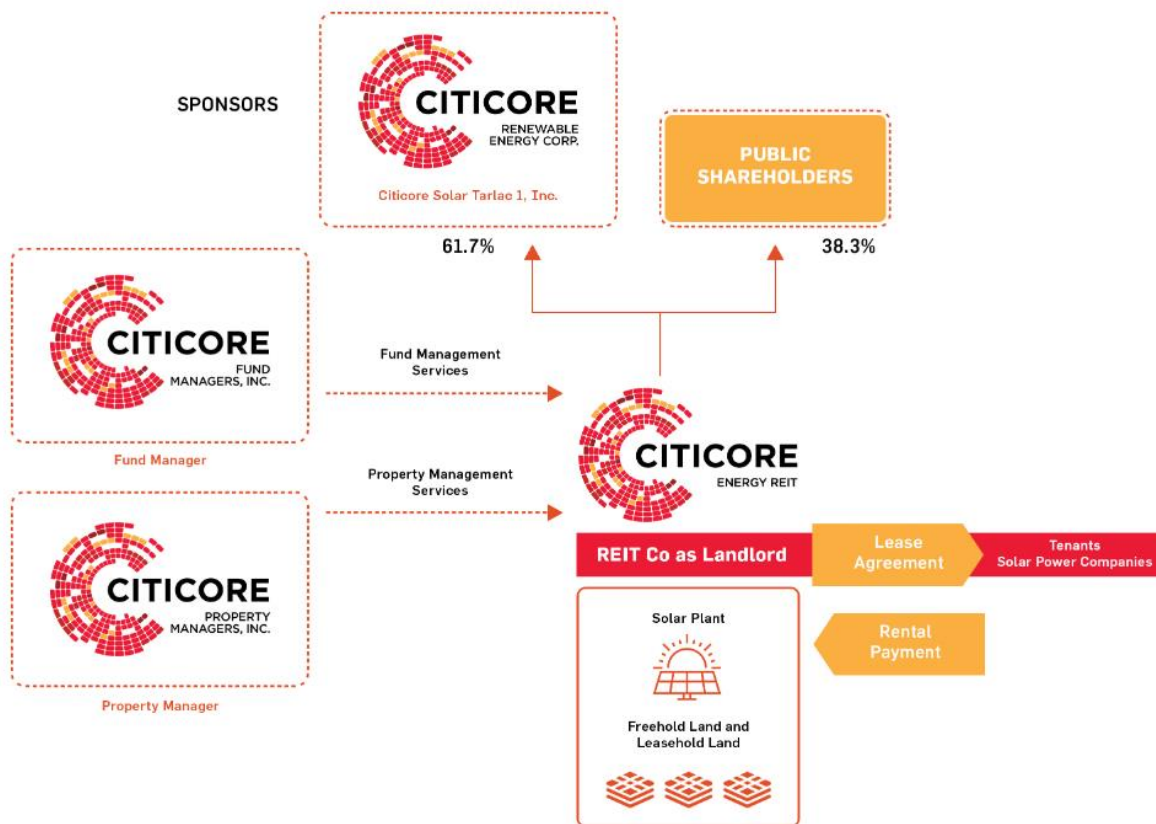
REITs are attractive to asset owners and infrastructure and real estate developers since they enable them to monetize the asset by spinning it off into a vehicle that allows fractional ownership of the asset, opening up the asset market to a wider base of investors. Usually, tax exemptions are involved to avoid double taxation of the dividend payouts to investors. There are also rules regarding the minimum percentage of income generated by the asset that needs to be distributed to REIT holders, and limits on the amount of leverage the REIT can take to ensure flow-through of the asset income and avoid over-leverage. The minimum distribution for Philippine REITs is mandated at 90% of the net income, and a maximum debt leverage of 70% of assets is allowed.

REITs are attractive to investors because they can receive regular dividends from commercial real estate investments without actually having to buy or manage individual assets. Since the future income streams have reasonable visibility, REITs also appeal to the more risk averse among investors, and to those wishing to have regular dividend incomes, thus opening up new asset classes for investors. Owing to these characteristics, longer-term investors, such as pension funds and insurance funds, which usually make up large pools of long-term capital in most countries, also invest in such assets.

In Southeast Asia, the REIT market is well established. Singapore is the market leader in the region, with its REITs accounting for 3.3% of global REITs included in the FTSE Nareit Global REIT Index, a benchmark for REIT investors. The Philippines and Thailand each make up 0.5%-0.7% of the REITs in the global benchmark, while Malaysia and Indonesia have only nominal weightings, reflecting the lower development of REITs in those countries.²⁷ Nevertheless, broad guidelines exist for such structures throughout the main Southeast Asian markets, giving options for innovative renewables companies to explore.

While Singaporean companies have led in monetizing assets through this route, there are other examples such as WHA Corporation, Thailand's leading industrial estate developer, which has a stated strategy of developing assets and then spinning them off into REITs. As of the 2023 first quarter, WHA has monetized 89% of its logistics properties and 75% of its industrial developments in the form of REITs.²⁸

Figure 5: Citicore Corporate Structure



Source: [CREIT](#)

Strategy Highlights

- Citicore adopts innovative use of the REIT structure to free up capital, which can then be deployed more widely to grow faster than otherwise.
- It partners with the group's companies to achieve synergistic growth.
- New avenues are developed to attract different kinds of investors with varied objectives.
- Citicore is well positioned to grow and become a key player in the renewables space as a result of the above strategies and projects that are under implementation or have been won at auctions.

²⁷ FTSE Russell. [FTSE EPRA Nareit Global Real Estate Index Series](#). Accessed on July 31, 2023.

²⁸ WHA. [Investor kits](#). Accessed on July 29, 2023.

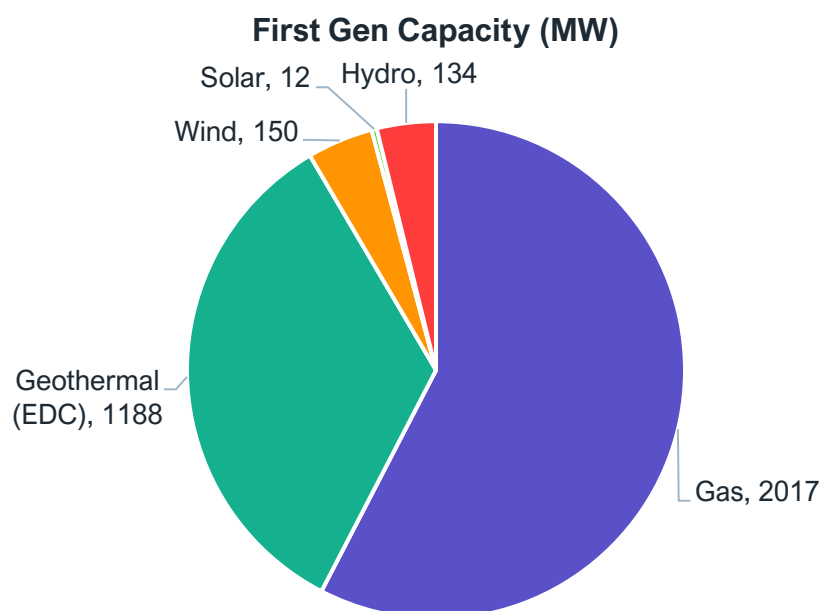
First Gen/EDC

The largest renewables company is the Energy Development Corporation (EDC), which is also the leader in the domestic geothermal energy industry. EDC is a subsidiary of PSE-listed First Gen, the Philippines' third-largest independent power producer.

First Gen owns and operates 30 power plants across the country with 2,721MW of attributable capacity. The company is a self-styled clean energy player by virtue of the fact that it has no coal-based plants. However, its "clean energy" portfolio, primarily through EDC, is dominated by gas, which makes First Gen an ongoing case study in the energy transition while it continues to hold on to fossil fuel assets. It has a 45.8% economic interest in EDC and 65% voting power, with the balance held by investors who bought into EDC in 2017 and 2018, primarily affiliates of Macquarie Australia and Singapore's GIC.^{29,30}

Figure 6 shows that EDC's portfolio is predominantly geothermal, reflecting its position as the Philippines' largest geothermal power producer with a geothermal power capacity of about 1.2GW.

Figure 6: First Gen Capacity



Source: First Gen Annual Report 2022

Wind and solar power form a relatively small part of First Gen's portfolio, accounting for capacities of just 150MW and 12MW, respectively. EDC Burgos Wind Power Corporation (EBWPC), a subsidiary

²⁹ Macquarie Group Limited. [Renewable energy and resilience in the Philippines](#). Accessed on July 28, 2023.

³⁰ First Gen. EDC's Corporate Structure. Securities and Exchange Commission Form 17-Q. March 2023, p. 33.

of EDC, is the owner and operator of the 150MW Burgos Wind Project, the Philippines' largest wind power development. EDC has also used spare parcels of land at this 600 hectare site to install and operate solar projects of 6.82MW capacity.³¹ Last month, the company won a bid to operate an existing 168MW hydroelectric plant in Casecnan for US\$526 million.^{32,33} This project will more than double its hydro-based capacity.

At its annual stockholders' meeting in May, First Gen announced a large investment road map wherein the company envisaged expanding its 3.5GW portfolio to 13GW by 2030, involving capex of US\$20 billion. Of this intended capacity, "renewables" are targeted to grow to 9GW. The plan involves adding 5.1GW of wind and 1.5GW of solar capacity, but also 2GW of gas-based capacity, news reports say.^{34,35}

How First Gen navigates the tricky transition will be worth watching in the coming years. Its large expansion plans in renewables will no doubt be challenging as they are of an order of magnitude higher than its existing wind and solar capacities. Capex in excess of US\$2.8 billion per annum is also needed based on the 2030 road map, whereas First Gen's market capitalization was only about US\$1.3 billion as of June 2 this year.

The company has shown a willingness to explore innovative options to enable growth. For example, to raise capital for growth in the renewables space, it has a successful track record of partnering with international investors and infrastructure players.

Strategy Highlights

- First Gen uses its existing low-scalability renewables, such as hydro and geothermal power, as a springboard to raise capital for scalable renewables. It partners with deep-pocketed global investors to attract more capital and fund growth.
- The company aims to aggressively grow true renewables such as wind and solar resources to transform itself from being a predominantly gas-based utility. The jury is out on whether financiers will buy this logic.
- It is trading at a P/B valuation of just 0.54. This means the market is implicitly already putting a deep discount on First Gen's gas-based assets. Thus, First Gen needs to start getting more aggressive in moving away from fossil fuels even if that means taking haircuts to its investments, since the market is already valuing it much lower. Until that happens, in spite of its stake in EDC and pronouncements on renewables, it will likely remain a laggard.

³¹ First Gen. [Our energy facilities](#). Accessed on July 28, 2023.

³² Power Sector Assets and Liabilities Management Corporation (PSALM). [PSALM issues Notice of Award to winning bidder for Casecnan power plant](#). May 30, 2023.

³³ Department of Finance (DOF), Republic of The Philippines. [DOF commends successful privatization of Casecnan Hydroelectric Power Plant](#). May 19, 2023.

³⁴ Power Philippines News. [First Gen reveals \\$20B investment plan to 2030](#). May 19, 2023.

³⁵ BusinessWorld. [First Gen aims to expand its renewable energy portfolio](#). May 22, 2023.

Aboitiz Power

The PSE-listed Aboitiz Power is part of the Aboitiz Group. The company has the Philippines' second-largest net attributable capacity, of 3,495MW in coal, oil, geothermal and hydropower. It is a power generation and distribution company with nine distribution utilities that operate across the country, including the second and third-largest ones.³⁶

While Aboitiz Power has a long history of hydropower projects, its non-hydro renewables portfolio is limited to 290MW of geothermal power and a 59MW solar facility. The company plans to add 1GW of renewables, primarily solar energy, by end-2026 according to the last company presentation, held in May. It aims to add 3.75GW of renewable energy by 2030³⁷ to broaden its renewables exposure, now in large part narrowly focused on hydropower.



Aboitiz plans to add 3.75GW of renewable energy by 2030 to broaden its renewables exposure, now in large part narrowly focused on hydropower

In the near term, though, Aboitiz Power remains more heavily geared to coal, which makes up more than 60% of its mix, and also has a debt-to-equity ratio of 1.1 (net) and 1.5 (gross),³⁸ which, combined with its publicized investment plans, may limit how much more it can grow. Apart from the investments in renewables, the company has targeted that by 2030, it will grow the total portfolio to 9.2GW of capacity from 4GW now and move to a 50:50 mix of clean energy and thermal capacity, which is unlikely given 3.7GW is less than half of 9.2GW. It also aims to have 10% of its portfolio in overseas assets. Currently, its asset base is entirely domestic.

Strategy Highlights

- Balance sheet strength will be key to achieving growth and moving away from fossil fuels.
- Aboitiz Power aims to achieve both an increase in renewables capacity and a decrease in coal-based power generation. To date, the firm has been a laggard in the transition from fossil fuels in spite of its hydro-based capacity and plans to grow wind and solar resources.

Solar Philippines

Solar Philippines started in 2013 with a focus on renewable energy and is listed on the PSE.³⁹ It has 183MW of solar generating capacity in operation. The company describes itself as a pioneer in the concept of solar energy zones,⁴⁰ which it defines as large areas of barren land with high irradiation,

³⁶ Aboitiz. [Our businesses at a glance](#). Accessed on July 28, 2023.

³⁷ Aboitiz Power. [First quarter results: Maximizing opportunities in the country's recovery](#). May 2, 2023.

³⁸ Bloomberg.

³⁹ Solar Philippines. [Energizing and empowering the nation](#). Accessed on July 29, 2023.

⁴⁰ A solar energy zone is an area in which power consumers get their supply from solar-based plants. It is seen as a potential solution to the issue of "renewables curtailment," which happens when grid capacity is inadequate to accept or transport excess solar power, which is wasted as a result. These zones, being close to customers, reduce the criticality of long-distance grid evacuation availability, while customers can obtain power from local, renewable sources.

and has used that positioning as a base for winning large bids in the first round of the Green Energy Auction Program (see the section titled The GEAP Leap). In fact, Solar Philippines was by far the biggest winner, clinching contracts to develop 1,350MW of solar and 30MW of wind projects, which was about 70% of the total projects awarded in the auction.⁴¹

The company listed on the PSE in December 2021 under the name SP New Energy Corporation (SPNEC). Consequent to its continued growth, infrastructure conglomerate Metro Pacific Investments Corporation (MPIC) in the second quarter of this year invested more than US\$425 million to take a 43% stake in SPNEC.⁴² Interestingly, another Asian conglomerate, Japan's Mitsui & Co, Ltd, later announced plans in May to buy out MPIC, although the details are still under discussion.⁴³ Either way, Solar Philippines has rapidly moved from being a start-up in renewables to possibly part of a global conglomerate.

Strategy Highlights

- As a pure play, Solar Philippines' focus on renewables makes it easier to attract capital, and thus grow even faster.
- SPNEC has announced plans to issue new shares to boost liquidity in the coming months and fund growth plans after the PSE suspended its stock from May 2023 for falling below the minimum public holdings requirement of 20% mandated by exchange listing rules following the share purchase by MPIC.⁴⁴
- MPIC's purchase of SPNEC was made at a hefty premium to its listing price. This appears to be a validation of Solar Philippines' focused growth strategy. MPIC itself is now in the process of being taken over by the multinational Mitsui. Solar Philippines is expected to remain a key player in the Philippine renewables sector so long as it executes and delivers on its plans and promises.

Looking Ahead: The GEAP Leap

The government's Department of Energy (DOE) last year launched the Green Energy Auction Program for renewables, replacing the old feed-in tariff (FiT) system. The GEAP works on competitive bidding to generate maximum tariffs. It has so far conducted two rounds of capacity build-out auctions.⁴⁵

Under the new regime, the DOE launched its first tender for nearly 2,000MW of renewable power projects in January last year and released the results that June. The winning bids were awarded 20-year contracts to supply power at prices lower than or equal to the green energy auction reserve

⁴¹ Philstar Global. [Solar Philippines takes 70% of the DoE's Green Energy Auction Program capacity](#). June 27, 2022.

⁴² MPIC. [MPIC to invest in SPNEC](#). March 28, 2023.

⁴³ Mitsui. [Notice regarding progress of tender offer to acquire Metro Pacific Investments Corporation, an integrated infrastructure company in the Philippines](#). June 1, 2023.

⁴⁴ Manila Bulletin. [SPNEC has two-pronged plan to lift trading suspension](#). June 12, 2023.

⁴⁵ DOE. [Notice of Award: List of Winning Bidders for the GEA-2](#). July 12, 2023.

(GEAR) price (Table 2).^{46,47,48} These projects are expected to begin operations between 2023 and 2025.

What is notable is that the tariffs at which the capacities were auctioned were significantly below the existing FiTs, setting a new benchmark for renewable energy prices, and also proving that renewable energy is competitive and capable of generating business interest without subsidies. The solar tariffs at the auction came in at about 55% below previous FiTs, while wind projects saw bids 18% below the FiT rate.

Table 2: 2022 GEAP-1 Auction Winners

	Winner		Bid Price
Solar	Solar Philippines	1350	3.67
Solar	Greystone Asia	100	3.41
Solar	Pavi Green – Villar	40	3.4
	<i>Solar Reserve Price</i>		<i>P3.6779 per kilowatt-hour (kWh)</i>
Wind	ACEN	230	4.26
Wind	Cleantech/ Blue Circle	101	4.64
Wind	Solar Philippines	30	4.2
Wind	Petrogreen	13	5.76
	<i>Wind Reserve Price</i>		<i>P5.76/kWh</i>
Hydro	Santa Clara/Aboitiz/Cordillera	99	

Source: [Department of Energy](#)

GEAP-2

Energized by the first auction, the Philippine government proposed a more ambitious, long-term annual auction program with installation targets of 3.6GW each in 2024 and 2025, and 4.4GW in 2026, for a total of 11,600MW of renewable energy.⁴⁹ Of this aggregate, 6,715MW would be ground-mounted solar, 605MW roof-mounted solar and 300MW floating solar. Another 3,720MW is targeted from onshore wind, 230MW from biomass and 30MW from waste-to-energy conversion.⁵⁰

⁴⁶ DOE. [Notice of Award: List of Winning Bidders for the GEA-1](#). June 24, 2022.

⁴⁷ Energy Regulatory Commission (ERC), The Philippines. [ERC approves a lower feed-in tariff allowance](#). Accessed on July 29, 2023.

⁴⁸ Simmons & Simmons LLP. [Snapshot: FIT in the Philippines](#). December 16, 2016.

⁴⁹ DOE. [Notice of Auction – Green Energy Auction-2 \(GEA-2\) for renewable energy \(RE\)](#). March 20, 2023.

⁵⁰ DOE. [Green Energy Auction Program in the Philippines](#). July 12, 2023.

Figure 7: Planned Auctions 2024-26



Source: DOE

The results of the second auction were released in July this year. Projects totaling 3.43GW attracted bids at or below the auction price, and were awarded. The bulk of the winners accounted for a combined 1.88GW of solar and 1.46GW of onshore wind projects.⁵¹

Prima facie, the auction results can be considered a mixed bag. The fact that awards were made for only 3.43GW out of the available 11.6GW may be somewhat disappointing. The DOE has said it will continue to hold auctions annually for the remaining capacity, since this is a target until 2026.

It is worth noting that these awards represent a substantial 72% increase in generating capacity over the previous auction, suggesting interest in investing in renewables remains high. Nevertheless, the fact that such massive auctions are being conducted in a short time frame may be leading to developers taking a conservative stance. A commentary published in the run-up to the auctions said the available grid capacity and the demand might not be ready to absorb all the capacities if they were installed by 2026.⁵²

In terms of players, Citicore emerged as the big winner in these auctions, securing 916MW of solar and wind power projects. Alternergy was another significant player, winning 208MW of solar and wind projects. ACEN and Solar Philippines, which took big chunks of capacity in the previous auction, were largely absent this time, perhaps suggesting that they are for now focused on delivering the projects they have won.

Finally, pricing may also have played a role in demand being lower than anticipated. In the second auction, the GEAR price was changed as key assumptions such as pre-tax WACC and Equity IRR

⁵¹ ReGlobal. [Philippines' Department of Energy awards 3.43GW of renewable projects](#). July 21, 2023.

⁵² S&P Global Commodity Insights. Philippines' 11.6-GW GEA-2 renewables tender must balance ambition with strategic development. May 25, 2023.

were revised upwards.⁵³ The new assumption used interest rates of 7.36% and WACC of 9.5%, about 1.55% and 1.7% higher, respectively, than the GEAR assumptions made in the first auction. This led to a 15% increase in the solar GEAR price (the wind price was little changed), which may have fed expectations of the higher price attracting more bids. However, the outcome should be seen in light of the fact that overall interest rates in the Philippines have been on an upward trend the past year. The benchmark 364-day T-Bill rate, which is the risk-free rate at which the government borrows from the market, averaged 1.8% in the first half of 2022 but rose to 5.8% in the first half of 2023. The latest rate, on August 4, of 6.3% was 390 basis points higher than the 2.4% in effect at the time of the first auction in June 2022.⁵⁴ It appears that many developers and investors may have felt that the 1.7% increase in WACC does not fully compensate for the rise in interest rates since the last auction.

Taken together, the higher cost of capital and the large scale of projects being put out to bid have likely led to the situation of a big chunk of capacity having to be placed back for auction next year. We see this as a “glass half-full” situation, with the likelihood that as winners of the past auctions develop their projects, they will gain confidence and return to add capacity to their portfolio. The ERC is considering offering the uncontracted capacity for rebidding at a higher GEAR price.⁵⁵ A likely peaking of interest rates in the near future should also lead to a lower cost of capital and enhanced interest in the projects.

Table 3: Green Energy Auction Reserve (GEAR- 2) Price/kWh

	Proposed 2023	2022 GEAR
Solar – ground mounted	4.2395	3.6779
Solar – rooftop	4.7156	3.6779
Wind	5.9823	6.0584

Source: Energy Regulatory Commission

⁵³ ERC. [Preliminary Green Energy Auction Reserve \(GEAR\) Prices for Round 2](#). April 26, 2023.

⁵⁴ Bangko Sentral Ng Pilipinas. [Financial systems accounts](#). Accessed on August 10, 2023.

⁵⁵ Power Philippines News. [Gov't to adjust price cap for green energy auction](#). July 18, 2023.

Conclusion

A few positive pointers emerge for the Philippine renewables industry from the picture of key players presented herewith.

Firstly, thanks to a history of private-sector involvement in important parts of the economy, there exists the know-how and ability to take on infrastructure projects and deliver. Power generation, power distribution, telephony, transport and airlines have all been privately owned in the Philippines for decades, unlike most of Southeast Asia, where the public sector or SOEs dominate these sectors.

A second observation is that investors are willing to reward those that grow big and are able to execute their plans. This willingness is commonly seen in developed economies where the larger renewables players tend to trade at a premium to smaller or single-asset peers. In light of this tendency, ACEN is showing good acumen in adding assets to build scale and growing regionally.

The willingness to take the initiative and not wait for government mandates or sops characterizes the SLTEC ETM transaction, which again suggests vibrancy in corporate thinking.

Similar enterprise can be seen in the floating of a REIT structure and bundling of some of the underlying solar assets into such a structure, as done by Citicore.

Fifth, and finally, the fact that success begets success is perhaps again visible in the case of Solar Philippines, which, having grown rapidly from nearly scratch, managed to attract the investment of an established group at a hefty premium within 18 months of its public listing.

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