Sam Reynolds, Energy Finance Analyst
June 2021

Institute for Energy Economics and Financial Analysis
IEEFA.org

The Philippines' 2030 Clean Energy Target Is Still Within Reach

The Green Energy Auction Program Is Key to Reaching 35% Clean Energy Generation by 2030

Introduction

The Philippines' renewable energy sector is poised for takeoff. One of the major development goals reiterated in the updated Philippines Energy Plan 2018-2040 is to increase deployment of clean, affordable, and indigenous energy sources, and the country recently set an ambitious 75% greenhouse gas emissions reduction target by 2030.[1] The current administration is actively implementing measures established by the 2008 Renewable Energy Act aimed at boosting renewables capacity and enhancing consumer choices, such as the Renewable Portfolio Standard, the Green Energy Option Program, net metering, and the Green Energy Auction Program.

The Green Energy Auction Program—with an inaugural auction for 2GW set to occur in 2021[2]—is a crucial piece of the renewable energy framework because it advances several desired outcomes at the same time. First, the centralized procurement method can facilitate greater investment in the indigenous renewable generation sources. The Institute for Energy Economics and Financial Analysis (IEEFA) recently estimated that the auction program could catalyze USD20 billion of renewable energy and energy efficiency investments over the next decade.

The Green Energy Auction Program can catalyze USD20 billion in clean energy investments.

Second, the auction program would achieve higher renewables deployment at the lowest cost to end-users. Electricity consumers in the Philippines are subject to the second highest average electricity costs in the Southeast Asia region.[3] High prices are largely due to the prevalence of imported fossil fuels in the country's energy mix, making electricity bills dependent on volatile global fuel markets. This has a negative effect on the economy writ large, as high prices can limit the Philippines' ability to compete regionally in the manufacture of cost-sensitive higher-value products.

[1] Reuters. Philippines raises carbon emission reduction target to 75% by 2030. April 16, 2020.
[2] Manila Bulletin. DOE to issue RE capacity auction rules next month. May 21, 2021.
[3] Department of Energy (DOE). Philippines Energy Plan 2018-2040, p. 20.

Third, the auction program can contribute to high impact development goals that have been neglected during the COVID period, such as off-grid and island electrification. Given the flexibility of auction design elements, the program can boost capacity investments in vulnerable locations using specific technologies, such as distributed energy resources. Implementation of a successful auction is also urgent, given that the Luzon grid was recently placed on red alert, with only 215MW of available reserve capacity.[4]

Renewable energy auctions have many benefits, but their success ultimately depends on how design parameters are set to attract project sponsors, facilitate financing, and achieve higher project realization rates. Power sector experts now have a range of solutions to early design problems that hurt some auctions such as unrealistic bidding by developers unable to achieve commercial operations on time or at submitted prices, lack of competition due to limited participation, and lack of available financing for auction winners. Addressing auction design elements can drastically improve auction outcomes. For example:

- Disclosure of the regulatory price ceiling can anchor bids, resulting in higher prices. Leaving the ceiling price undisclosed, or allowing the market to set the price, can lead to greater price discovery.
- Setting technology and site-specific bid requirements can deliver more effective auction results, allowing adoption of technologies to meet diverse demand profiles and creating targeted sub-markets for new projects.
- Two-phase auction processes can streamline bidding assessments to determine credible participants based on technical and financial requirements.
- High minimum capacity floors for individual projects can limit participation in the auction and prevent small and medium enterprises (SMEs) from bidding.
- Balancing lenient qualification requirements with more stringent compliance rules is likely to increase participation while improving bid credibility.
- Any penalties, such as bid and commitment bonds, can inhibit SMEs from participating if set too high.
- Clear contract schedules for winning projects are likely to add certainty to project timelines and improve the overall auction bankability.
- Foreign ownership restrictions for renewable energy projects can limit auction participation and result in higher prices.
- Soliciting pre-arranged commitments from banks to provide low-cost

[4] Business World. Red alert raised for Luzon grid. May 31, 2021.

financing and/or guarantees to SMEs participating in the auction is likely to help smaller companies compete with larger players.

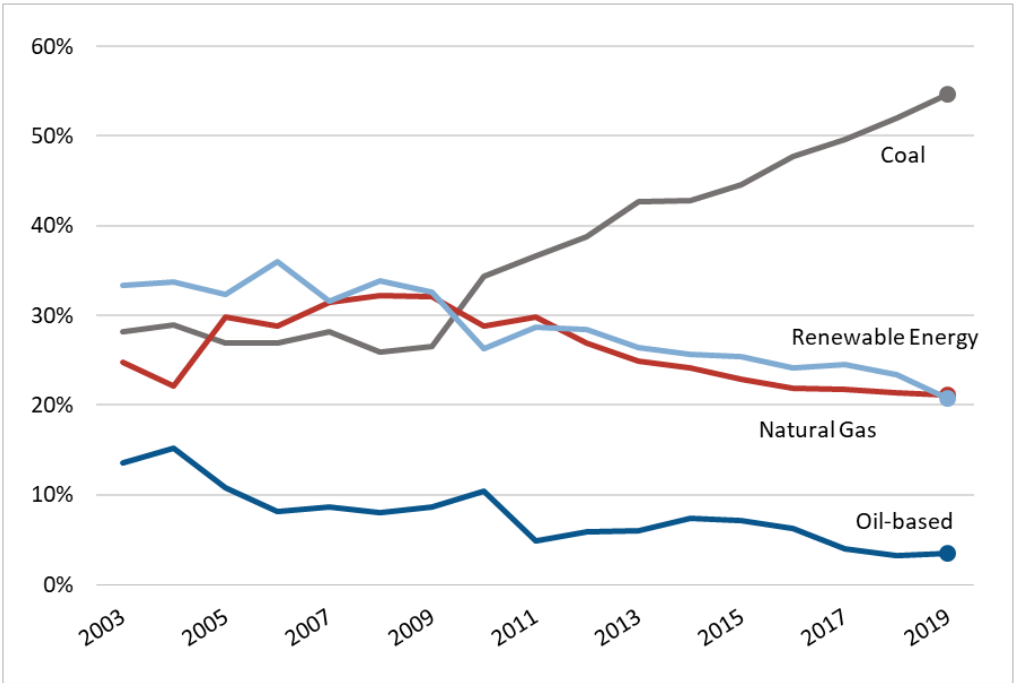
- Multilateral development banks (MDBs) can have a large role in improving auction outcomes but should be involved in the early planning stages to align auction requirements with MDB financing standards.

These design elements can help maximize bidder participation in program while lowering prices and raising project realization rates, as demonstrated by recent examples in Cambodia, India, and elsewhere. Overall, successful auctions conducted annually could get the country back on track to achieve a primary renewables target set in the original National Renewable Energy Plan more than 10 years ago for a 35% share of clean energy in the country's electricity generation mix.

The Current State of Renewable Energy in the Philippines: Goals vs. Reality

The Philippines is running out of time to achieve its 2030 target for renewable energy deployment. The 2009 National Renewable Energy Plan (NREP) set a goal of achieving a 35% share for renewables in electricity generation by 2030, but renewable energy—including solar, wind, geothermal, hydropower, and biomass generation—accounted for just 20.8% of gross electricity generation in 2019.[5] The share of clean energy in the country's electricity generation mix has declined steadily since 2008—ironically when the Renewable Energy Act was passed into law—due largely to growth in coal-fired power capacity (see Figure 1 below).

Figure 1: Renewable Energy and Coal Share of Gross Power Generation



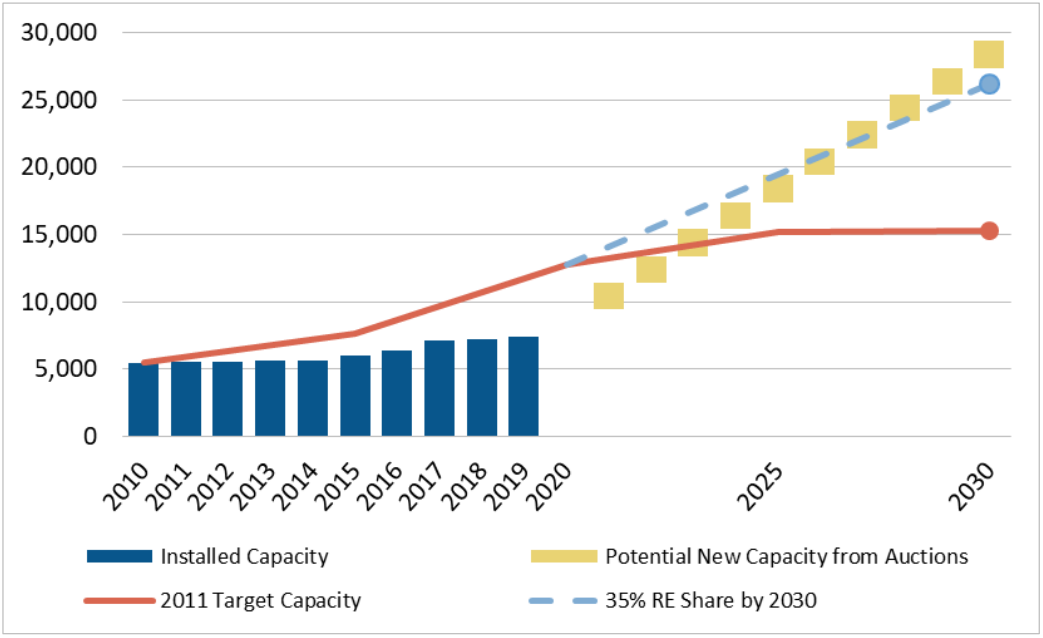
Source: DOE Power Statistics 2019.
Note: Total power generation in 2019 was 106,041 GWh.

To achieve 35% renewable electricity by 2030, the original NREP set a target of 15.3GW of new renewables installed capacity by 2030. Now, however, achieving a 35% share of the electricity mix in the same timeframe will likely require an additional 20GW from 2018 levels, according to the National Renewable Energy Board (NREB).[6] [7] The clean energy scenario in the Philippines Energy Plan 2018-2040 also envisions 19GW of new renewable capacity in the next decade and over 45GW added by 2040. Similarly, AC Energy posited that the Philippines could meet

[5] DOE. Power Situation Report 2019.
[6] Manila Times. PH can boost RE share to 35% in 2030. June 16, 2020.
[7] DOE. Philippines Energy Plan 2018-2040, p. 36-38.

its 35% target by deploying 15GW of solar, 3GW of wind, 1GW of hydropower, and 0.5GW each of geothermal and biomass by 2030.[8]

Figure 2: Philippines' Targets vs. Existing Renewable Energy Capacity



Source: Targets are from 2011-2030 NREP, DOE Statistics, IEEFA.

NREB officials have recently called for an increase in required capacity additions by utilities under the Renewable Portfolio Standard (RPS)—a policy established in 2008 which mandates power offtakers to obtain a specific percentage of their electricity from clean sources. Currently, utilities are required to increase renewable energy generation capacity by 1% annually, which would be insufficient to achieve 2030 targets. However, increasing the RPS to 2.52% per year beginning in 2023 would provide a 2030 generation mix consisting of 37% renewables by 2030 and nearly 56% of renewables by 2040.

With the recently announced moratorium on greenfield coal plants, along with a firm commitment to the implementation of various renewable energy policies and the Green Energy Auction, clean energy deployment can grow consistently over the long-term. The competitive benefits of reverse auctions for renewable energy—in which suppliers bid for capacity rather than buyers—have been demonstrated throughout the world and have been discussed at length in previous IEEFA reports.[9] For example, renewable energy auctions can:

- Lower electricity prices for consumers and industry

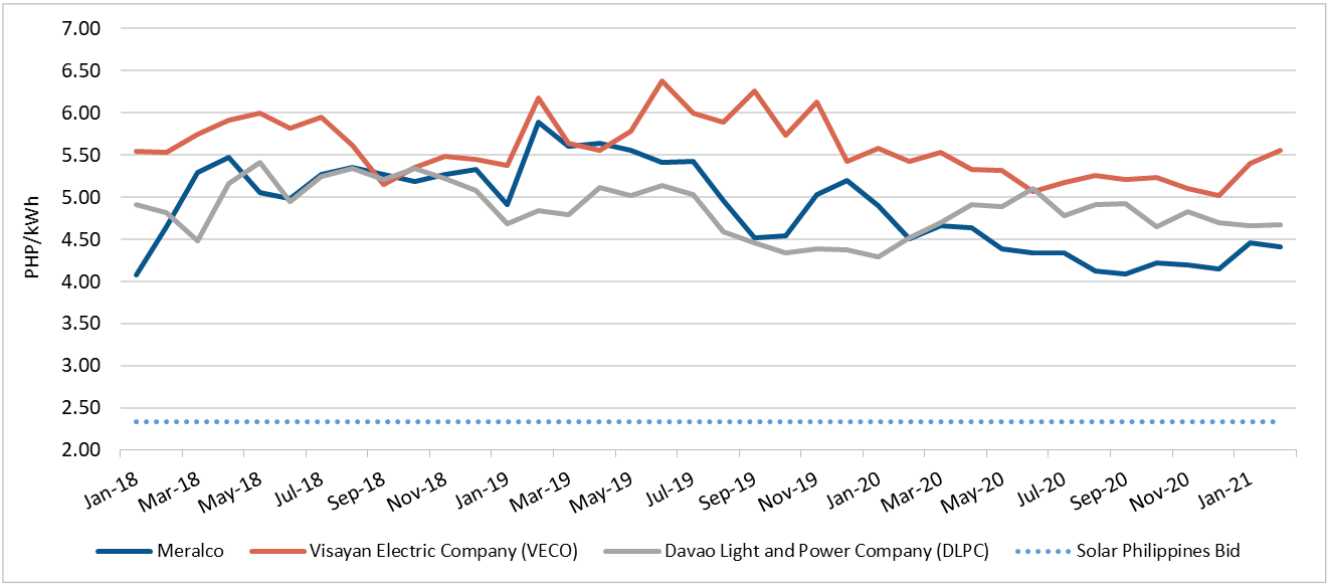
[8] Manila Bulletin. PH can boost RE share to 35% in 2030. June 16, 2020.
[9] See, for example, Paying Less for More - How Auctions Can Transform the Philippines Power Sector.

- Ensure greater renewable generation capacity is available in target areas
- Help resolve electricity capacity shortages and rotating power outages in the Luzon grid
- Provide an entry point for international renewable energy developers
- Streamline the procurement process for developers, utilities, and regulators, as well as reduce banks' turnaround rates for financing proposals
- Ensure that renewable energy capacity procurement to meet the RPS is subject to competition
- Allow small distribution companies, which might otherwise be unable to do competitive procurement, to meet RPS requirements at low costs
- Fast-track procurement to reach a 35% share of renewables in generation by 2030.

India's auction track record has relevant lessons for the Philippines. India held seven solar auctions between January and August 2020, all of which received winning bids between USD0.032-0.040/kWh (PHP1.55-1.94/kWh). These prices are 20-30% below the average thermal generation prices in India of USD0.040-0.050/kWh (PHP1.94-2.43/kWh).[10] The Philippines is likely to see similar results compared to current generation prices. In 2018, for example, Solar Philippines submitted a winning bid of PHP2.34/kWh (USD0.044/kWh) for a 50MW solar plant in Meralco's competitive selection process.[11] This represents a nearly 50% reduction from the average generation rates of the country's three largest utilities—Manila Electric Company (MERALCO), Davao Light and Power Company (DLPC), and Visayan Electric Company (VECO)—in 2020 (see Figure 3).

[10] IEEFA. Despite Pandemic Disruptions, India's Renewable Energy Sector is Still Primed For Growth. September 2020.
[11] PV Magazine. Philippine utility Meralco receives Southeast Asia's lowest solar bid. August 13, 2018.

Figure 3: Large Utilities' Average Monthly Generation Rates



Source: Company websites.

The Green Energy Auction Program

The Green Energy Auction Program is key to realizing low renewable energy prices. The program is designed to aggregate demand for new renewables capacity from large power offtakers, which are required to procure clean energy under the RPS. Although the Department of Energy (DOE) intends to auction 2GW, the final amount is still being determined and will ultimately depend on the volume that distribution companies must secure to meet RPS mandates.[12] [13] An increase in the RPS from 1% to 2.52% could therefore increase the amount of capacity up for tender in future auctions.

The Green Energy Auction Program is key to realizing low renewable energy prices.

DOE initially planned to hold the Green Energy Auction in mid-June but is now aiming for the second half of 2021. As of May 2021, DOE and the Renewable Energy Management Board (REMB) were still finalizing the auction rules, the terms of reference for contracts, and templates for the Power Supply Agreements (PSAs).[14] [15]

[12] BusinessWorld. Green energy auction seen starting next year. August 9, 2020.
[13] Power Philippines. DOE to issue green energy auction rules in June. May 24, 2021.
[14] Philippine Star. DOE reviews proposal to hike RE capacity. January 2, 2021.
[15] Power Philippines. DOE to issue green energy auction rules in June. May 24, 2021.

According to a draft circular issued in July 2020, DOE will have the option of conducting two types of auctions:[16]

1. PSA-only option. In these auctions, DOE would only award Green PSAs to projects already covered by Renewable Energy Contracts with the government.[17]

2. An integrated Open Competitive Selection Process-PSA (OCSP-PSA) auction. These auctions would award renewable energy developers with Green PSAs along with renewable energy contracts.

Renewable energy suppliers can offer some or all of their capacity. Bid prices must not exceed a ceiling established by the Energy Regulatory Commission (ERC), which will determine the maximum price and submit it to DOE before the auction in June. All distribution utilities (DUs) required to comply with the RPS will automatically be enrolled in the auction, though DOE may grant voluntary exclusions if the DU conducts its own competitive selection process to procure renewable energy supply contracts or renewable energy certificates (RECs) required to comply with the RPS.

According to the draft circular, DOE would publish auction round procedures before each auction, which include auction timelines, total supply volumes, type of supply required (baseload-capable or variable renewables), applicable price caps, delivery periods and contract terms, applicable annual line rental cap, and applicable Green PSA templates providing the terms and conditions of supply.

Qualified suppliers can place their bids electronically (MWh supply offer and PhP/kWh price). Only bids below the initial market value will be considered. The highest offer (PhP/kWh) that is below the ceiling price and meets the total auction volume would be the clearing price (aka the "Green Auction Tariff").

The final auction price is to be determined based on a marginal scheme rather than pay-as-bid, meaning that all qualified suppliers that submitted bids below the clearing price (up to the maximum auction capacity) are eligible to receive Green PSAs with tariffs set at the Green Auction Tariff.

---

[16] DOE Circular DC2020-07-0017. Promulgating the Guidelines Governing the Policy for the Conduct of Green Energy Auction in the Philippines. July 2020.

[17] DOE Circular DC2009-07-0011. Guidelines Governing a Transparent and Competitive System of Awarding Renewable Energy Service/Operating Contracts and Providing for the Registration Process of Renewable Energy Developers. July 2009: "An RE contract is a service agreement between the Government, through the President of the DOE, and an RE Developer over an appropriate period as determined by the DOE in which the RE Developer shall have the exclusive right to explore, develop or utilize a particular RE area…The RE Contract shall be divided into two (2) stages, namely: i. Pre-Development Stage – involves the preliminary assessment and feasibility study up to financial closing of the RE project; and ii. Development/Commercial Stage – involves the development, production or utilization of RE resources, including the construction and installation of relevant facilities up to the operation phase of the RE facilities." Conversion from pre-development to commercial stage requires DOE approval.

Key Auction Design Elements Must Be Addressed to Improve Auction Outcomes

The success of the auction will ultimately depend on its ability to attract both potential project developers and financiers of clean energy projects. In many ways, these are competing goals. On one hand, auction design elements can be set to allow less stringent rules and standards for potential bidders, thereby maximizing competition and encouraging project developer participation. On the other hand, setting higher requirements for bidder participation is likely to increase the credibility of the auction participants, and could therefore be more attractive to financiers, ultimately leading to higher project realization rates. Therefore, critical design elements of the auction must be carefully balanced to increase participation—especially from SMEs—while ensuring successful project outcomes.

Whether to disclose the regulatory price ceiling is a critical question in renewable energy auctions. Renewable energy auctions can facilitate price discovery of various technologies, while minimizing the price-setting role regulators often play in other renewables support instruments, such as feed-in tariffs (FITs). Although it is common to establish auction price ceilings—beyond which bids become ineligible—these maximum allowable prices can influence bidder behaviour, as participants will likely be inclined to submit bids closer to the ceiling rather than their actual marginal cost. One way around this dilemma is to refrain from disclosing the determined ceiling price.

Price ceilings are typically set below prevailing FIT rates (see Figure 4 below), to ensure the auction results in lower prices. In Japan's first solar auction in 2017, for example, the ceiling price was set at a discount to the prevailing FIT rate and disclosed prior to bid submissions. However, half the awarded volumes were at the disclosed ceiling price.[18] Similarly in South Africa, disclosed ceiling prices in the first round of renewable energy auctions resulted in contracted prices that were relatively high and close to the ceiling. In subsequent rounds when the ceiling price was *not* disclosed, the bids received were very competitive and lower than expected.[19]

[18] International Renewable Energy Agency (IRENA). Renewable Energy Auctions: A Guide to Design. January 2015, p. 30.
[19] *Ibid.*, p. 21. Note: price reductions were also due to lower auctioned capacity volumes, which increased competitiveness among bidders.

Figure 4: Feed-in Tariff Rates

Technology	FIT Round	Approved Rate (PHP/kWh)
Solar	FIT 1 (2012)	9.68
	FIT 2 (2015)	8.69
Wind	FIT 1	8.53
	FIT 2	7.4
Hydro	FIT 1	5.9
	Degressed Rate	5.8705
Biomass	FIT 1	6.63
	Degressed Rate	6.5969

Source: National Transmission Corporation (2019).

The ERC is reportedly still determining the appropriate price ceiling for the upcoming auction but has suggested it will be lower than the prevailing FIT rate. Comparing auctions in various countries is difficult due to substantial market differences. But from a basic design standpoint, disclosing ceiling prices in auctions with less or uncertain competition is likely to encourage participating developers to submit higher bids and inhibit price discovery.

Technology- and site-specific requirements can deliver more effective auction results.[20] Technology-specific auctions allow the government to aim for specific capacities of various resources and coordinate the development of diverse renewable energy asset classes. Some industry associations in the Philippines have suggested that the auction should prioritize projects that failed to secure a guaranteed power rate under the FIT, including biomass and hydropower.[21] Rather than giving priority to technologies in a single bidding process, however, separating auctions into specific resource bands would allow uptake of clean energy sources currently unable to compete with more mature technologies on price alone. Resource bands can be organized according to generation profiles to allow certain clusters of technologies to compete with one another, thereby diversifying

Technology-focused auctions can provide greater benefits to local renewable energy developers dependent on continued technology adoption.

[20] *Ibid.*, p. 27.
[21] Business World. Priority sought for 'stranded' projects as DoE prepares auction for green energy. January 19, 2021.

technologies available to meet various demand profiles. In addition, technology-focused auctions can provide greater benefits to local renewable energy developers dependent on continued technology adoption.[22]

Site-specific auctions provide several benefits. First, they allow policymakers to identify areas of high resource availability and grid access, reducing non-completion risks and shortening development timelines. Second, they reduce administrative costs by easing several barriers to successful auctions, including regulatory uncertainty, permitting processes, and consultations with local stakeholders. Third, site-specific auctions can create targeted sub-markets around the country, such as island electrification, off-grid electrification, and renewable energy parks.[23]

The current design of the Green Energy Tariff Program places site selection and permitting risks with the developer. To improve auction outcomes and significantly reduce lead times for winning project implementation, it would be prudent to focus the inaugural auction specifically on areas of high renewable resource availability and existing grid capacity. For example, auction locations could be selected from the candidates for Competitive Renewable Energy Zones—geographic locations identified by USAID and the US National Renewable Energy Laboratory (NREL) with "high concentrations of cost-effective renewable energy and strong developer interest." The 25 areas identified have an estimated wind and solar capacity of 152 GW, 740 MW of geothermal and biomass capacity, and more than 650 GW of hydropower potential (see Figure 5 below).[24] Focusing auctions on these locations will increase economies of scale in transmission planning and improve project timelines.

Overall, the more risk the government assumes in land procurement, site development, and grid infrastructure, the more project sponsors can focus on lowering their project costs, resulting in better auction outcomes. Such was the case in Cambodia's 2019 solar auction (discussed further below), in which the state-owned utility secured the site while the Asian Development Bank provided financing for the transmission infrastructure.

Figure 5: Potential Capacity of Competitive Renewable Energy Zones

	Esimated CREZ Capacity (MW)				
Grid	Solar PV	Wind	Geothermal	Hydropower	Biomass
Luzon	35,031	54,115	285	270,603	210
Visayas	11,876	25,429	40	1,917	71
Mindanao	11,203	14,443	40	382,514	93
Total	**58,110**	**93,987**	**365**	**655,034**	**374**

Source: USAID.

[22] IRENA. Renewable Energy Auctions in Japan: Context, design, and results. January 2021, p. 27.
[23] IEEFA. Paying Less for More - How Auctions Can Transform the Philippines Power Sector. February 2020, p. 2.
[24] USAID and NREL. Ready for Renewables: Grid Planning and Competitive Renewable Energy Zones in the Philippines. Pg. 7.

Two-phase auction processes can streamline bidding assessments to determine credible participants. A two-step auction design, in which bidders provide an initial technical offer for evaluation followed by a commercial price offer is common in developing countries. In the preliminary phase, bidders submit detailed engineering, procurement, and construction plans, which the auctioneer can assess based on technical and financial strengths. If successful, bidders are allowed to submit a price. The two-step model allows the auctioneer to narrow bids to only those developers able to meet technical and financial standards.

High minimum capacity floors for individual projects can limit participation in the auction, as many SMEs will be unable to develop larger projects. Establishing a low threshold for minimum capacity bids, on the other hand, is likely to encourage greater participation from smaller players, boosting competition and increasing the effectiveness of the auction. This is particularly true when other conditions of the auction are better suited to smaller players. For example, when land is only available in smaller acreage, sites are owned by local landowners, the service area is suitable for new technical options, and local grid connection is readily available.

Balancing lenient qualification requirements with more stringent compliance rules is likely to increase participation while improving bid credibility. There is a trade-off in auctions between bidder participation and non-compliance risk, completion delays, and "experimental" bidding, in which participants submit bids without the actual capacity to deliver. Less restrictive qualification requirements maximize bidder engagement and allow for participation of smaller players and new market entrants, which ultimately increases competition while reducing potential collusion and price manipulation. However, greater participation increases the risk that bidders will not have the legal, financial, and technical strengths to complete their project. Therefore, more relaxed bidding qualifications must be balanced with clear penalties and compliance rules.

Past clean energy auctions in other countries have required, among other factors, some combination of: (1) reputational standing, such as past experiences with projects and financial documentation to ensure liability coverage; (2) technological specifications, such as equipment compliance with international standards; (3) documentation for pre-determined site location; and (4) pre-authorized grid access. In Denmark's 2015 site-specific offshore wind auction, the auction only required proof of financial and technical capabilities, while the government assumed risks related to site location and grid access.

The potential impact of these design choices matter because DOE's July circular establishing the ground rules for the upcoming auction provided the option of holding PSA-only auctions specifically for participants with pre-existing renewable energy contracts. This is a fairly strict qualification requirement that could limit auction competition. One alternative is the two-part auction model, which would allow projects with and without existing renewable energy contracts to compete together. In a two-phase auction process, projects with contracts are likely to pass the technical screening round more quickly, as they have already been vetted for legal, financial, and technological capabilities.

As for grid access requirements, proof of an application for grid access should be sufficient for bidders to participate. Although removing this requirement risks delays in project implementation, this can be mitigated by holding site-specific auctions, which would reduce the amount of time to process grid access applications.

Penalties and compliance rules, including bid and commitment bonds, can prevent "experimental" bidding but can also deter smaller bidders. Potential penalties for delays in construction and operation could be in the form of (a) a one-time financial penalty in proportion to the delay; (b) recurring financial penalties such as a reduction in contracted price or duration; (c) contract cancellation. The goal of setting penalties is to balance compliance risk between parties; higher penalties relieve offtakers of some completion risk but could also result in higher auction prices as sponsors charge premiums for assuming greater risks.

The project sponsor's bid does not constitute a binding commitment to complete the project, meaning the bidder can refuse to sign a contract if they do not like the resulting auction price. As such, governments conducting auctions often require a bid bond, which requires bidders to provide a small deposit that is returned once the company signs a Power Purchase Agreement (PPA). The price of the bid bond is a small fraction of the cost of completing the project, so it should not be a barrier to entry for smaller auction participants. In Brazil, for example, bid bonds are typically one percent of the total project cost.[25] Bid bonds can also be confiscated if there is evidence of auction rigging.

Completion bonds are a deposit provided by the bidder that is confiscated in case of project delays beyond the accepted lead time. Importantly, however, bond amounts should be set low enough not to deter smaller auction participants. Japan's recent renewables auction demonstrates completion bonds that were too strict and deterred participants. Developers were required to pay USD45.3/kW two weeks after the auction, and if they failed to receive government certification within three months, their bond would be confiscated, and the contract revoked. As a result of these high completion bond amounts, five projects accounting for 100MW that were awarded in the auction did not pay and were not contracted.[26]

Lifting foreign ownership restrictions is likely to help attract low-cost capital from international markets.

Clear contract schedules for winning projects are likely to add certainty to awarded project timelines. Important aspects of contract schedules include the

[25] IRENA (2015). Pg. 13 Chapter 6.
[26] IRENA (Japan). Pg. 32.

lead time for project completion and the contract duration. The lead time must be strict enough to prevent non-credible bidding while flexible enough to allow awardees time to complete administrative requirements. According to IEEFA's research, the average construction time for large, utility-scale solar projects in the Philippines—from "first pile in" to "first power out," not inclusive of permitting or planning timelines—is roughly 1.25 years. The fastest grid-connected solar farm over 20MW was the 50-MW Petrosolar plant, which took 123 days from construction start to commissioning.[27] IEEFA also estimates that the average construction time for large wind farms is 1.5 years. To allow greater flexibility, lead times can begin on the date contracts are signed, rather than the auction date. Contract duration should be compatible with typical financing maturity from banks. Loan terms in renewable energy are typically 8 to 15 years.[28]

Foreign ownership restrictions for renewable energy projects can limit auction participation and result in higher prices. Lifting foreign ownership restrictions is likely to help attract low-cost capital from international markets.[29] The Philippines limits foreign ownership of power companies to 40%, while the other 60% must be Filipino owned. Energy Secretary Cusi indicated in July 2020 that DOE was aiming to allow 100% foreign ownership in energy projects, but to date that policy has only been extended to large-scale geothermal and biomass projects.[30] While the auction program provides a key entry point for international stakeholders looking to invest in the Philippines' renewable energy sector, ownership restrictions can limit access to low-cost international capital.

Soliciting commitments from banks to provide low-cost financing and/or guarantees to SMEs participating in the auction is likely to help smaller companies compete with larger players. The cost of capital (including interest rates, equity hurdle rates, and financing fees) is now one of the main determinates of solar and wind prices given rapid declines in technology costs and project developments costs. Larger enterprises and international sponsors typically have access to low-cost capital, which allows them to bid at lower prices than SMEs without similar access to such cheap capital. Given that renewable energy projects are characterized by very high up-front capital costs—which are compensated over the long-term by lower operating costs than thermal power plants—interest rates have a dramatic effect on the amortization of capital investments. According to one Bank of America analyst, "The single biggest secret sauce in making renewables work is low interest rates."

Bundling commitments from banks to provide low-cost capital to auction awardees would have several benefits. First, it would allow greater competition of SMEs and lead to lower auction prices. Second, it would ensure that awarded projects could be completed more quickly, as most financing terms could be arranged in advance based on the PPA templates used in the auction. Third, it would ensure that greater revenues from electricity sales of awarded projects are staying in-country and going

[27] Syntegra Solar. 50 MW: Tarlac Solar Power Project (TSPP), Philippines.
[28] IEEFA. Paying Less for More - How Auctions Can Transform the Philippines Power Sector. February 2020, p. 12.
[29] *Ibid.*, p. 12.
[30] Manila Bulletin. PH to open RE for 100% foreign ownership. July 12, 2020.

to domestic businesses. Government financial institutions, such as the Land Bank of the Philippines and the Development Bank of the Philippines, should be actively involved to improve auction outcomes.

MDBs should play a key role, especially in the early stages. The auction process can be coordinated with international financial institutions, such as the Asian Development Bank (ADB) and the Asian Infrastructure Investment Bank (AIIB). These institutions can assist the auction process by providing technical assistance and financing. For example, MDBs can assist early on in setting technology- and site-specific guidelines to maximize technical feasibility of bid submissions, help screen bid offers in conjunction with DOE, and provide low-cost concessional financing and guarantees to winning projects or the grid infrastructure necessary to integrate them. Coordinating with MDBs from an early stage is important to ensure that projects participating in the auction can satisfy early concept reviews and MDB standards for due diligence. Project appraisal and MDB board approval can typically take 4-8 months, though early-stage coordination with bidding requirements can contribute to shorter durations. The involvement of MDBs in the auction design is in part determined by their influence in ensuring the credibility of projects awarded in the auction process.

Multilateral development banks can assist the auction process by providing technical assistance and financing.

The ADB helped facilitate an auction process in Cambodia and is currently assisting Vietnam in developing solar auction procedures.[31] The 2019 auction process for the Cambodia National Solar Park was widely considered a success and led to an awarded tariff of USD0.0387/kWh for a 60MW solar project. The process drew 148 initial bids, 26 of which passed the technical and financial qualification standards. Electricite du Cambodge (EDC), the country's national utility, provided the land and transmission access, while ADB advised the transaction and provided a sovereign loan blended with climate finance funds to back the transmission line and substation for the park.[32] The private sector, namely the auction winning Prime Road Alternative Company Ltd., will provide the electricity generation.

[31] PV Magazine. Vietnam to hold auctions for 400 MW of floating solar. January 6, 2020.
[32] Asian Development Bank. ADB-Supported Solar Project in Cambodia Achieves Lowest-Ever Tariff in ASEAN. September 5, 2019.

The success of the Cambodia auction was due largely to its site- and technology-specific requirements, a low cost of capital provided by the ADB for transmission infrastructure, and a bankable PPA framework to facilitate financing of the generation project.

Conclusion

The administration has taken major strides in the energy transition toward a cleaner, more affordable, and more secure energy system. Now, the Green Energy Auction Program can help the Philippines achieve its ambitious renewable energy targets at the lowest cost to end-users. By stimulating competition, auctions can provide domestic SMEs with greater opportunities and experience, while lowering the cost of capital through transparent grid planning and the involvement of potential financiers, including domestic banks and MDBs. Although the share of renewables in the country's generation mix has been declining, the 35% by 2030 target established by the inaugural NREP is still within reach.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy. www.ieefa.org

About the Author

Sam Reynolds

Sam Reynolds, Energy Finance Analyst for IEEFA, is a former political and regulatory risk analyst focusing on global commodity markets. He has a master's degree in energy economics and international environmental law from Johns Hopkins University. He has also lived and worked throughout Asia and published extensively on Asian energy issues.