



RENEWABLE ENERGY AUCTIONS TOOLKIT



WHY CHOOSE AUCTIONS?

RENEWABLE ENERGY AUCTIONS VS. OTHER PROCUREMENT MECHANISMS

Renewable energy (RE) auctions allow policymakers to scale clean energy at competitive prices by assisting in price discovery and reducing windfall profits for power producers. Compared to negotiated procurement, RE auctions allow for a faster project execution and increase the transparency in the selection process. Unlike administrative feed-in schemes, RE auctions respond quickly to changing market prices.

WHAT IS AN AUCTION?

Auctions, negotiated tenders, and administratively-set tariffs are examples of mechanisms used to procure RE electricity. An auction or tender is a selection process designed to procure RE electricity or capacity, competitively. The government sets the auction volume demanded, bidders then offer a price at which they are willing to build the project, and the government ranks the bids. Ranked bids are awarded until the auction volume is met. Auctions, therefore, organize the access to off-take contracts and determine the level of the price paid per unit of RE electricity or capacity.

Auctions should reflect price developments and incentivize RE grid and system integration. The “price tag” used to remunerate RE needs to adapt to rapidly evolving markets. Auctions can result in prices that more closely reflect drastic changes in technology, financing and other costs. For example, solar PV’s utility-scale global average levelized cost of energy (LCOE) sank from \$0.36/kWh to \$0.10/kWh between 2010 and 2017, a 73 percent reduction.

Grid and system integration options become more important as countries scale variable RE

into existing and future grids. Instruments for dealing with grid integration include system and market operation, regulatory frameworks allocating balancing and forecasting responsibilities for RE producers, integration of storage, and demand-side management.

PRICE TRENDS IN RE AUCTIONS

The introduction of auctions has been followed by substantial price decreases across RE technologies. Record prices for solar PV projects to be commissioned in the next five years were reported in Mexico (\$0.019/kWh), Chile (\$0.021/kWh), Saudi Arabia (\$0.023/kWh), and Abu Dhabi (\$0.024/kWh). Similarly, record prices for onshore wind were reported recently in Mexico (\$0.018/kWh), Morocco (\$0.025/kWh), and Brazil (\$0.03/kWh).

Countries with different levels of electricity sector liberalization have implemented auctions. In Zambia and Senegal, solar PV project sites were awarded at \$0.06/kWh in 2016 and \$0.047/kWh in 2017, respectively. In Kazakhstan, auctions in 2018 awarded wind capacity for as low as \$0.046/kWh.¹ In Afghanistan, 10 MW of solar PV capacity were awarded at \$0.073/kWh in 2016.

TERMINOLOGY

AUCTIONS, COMPETITIVE PROCUREMENT, AND TENDERS

An *auction* is a competitive process for procuring electricity generated by renewable energy. It is designed to allocate a supply contract or incentive based solely on the bids submitted by participating bidders according to transparent award rules. There is no negotiation after the bidding concludes. The term *tender* is also used to designate this type of competitive procurement process. A *reverse auction* denotes the fact that bidders are bidding down to the lowest price, rather than upwards.

NEGOTIATED PROCUREMENT

Auction and negotiated tender procedures foresee competitive bidding and, ideally, limit participation to serious bidders via the use of qualification criteria. A *negotiated tender* includes a post-bidding negotiation stage between buyer and seller, in which changes in project size and price are possible.

FEED-IN TARIFF (FIT), FEED-IN PREMIUM (FIP)

Under a FIT, power producers receive a fixed payment for each unit of electricity generated, independent of the electricity market price.

Under a FIP, a bonus is paid per unit of electricity generated, in addition to the market proceeds.

STATIC AND DYNAMIC AUCTIONS

In a *static auction*, participants submit their bids simultaneously, and are unaware of competing bids (a “sealed-bid auction”).

In a *dynamic auction*, bidders observe the development of the auction price and competing bids, and adapt their bidding strategies and bids during the auction.

RENEWABLE ENERGY AUCTIONS VS. OTHER PROCUREMENT MECHANISMS

WHY USE AN AUCTION VS. NEGOTIATED PROCUREMENT?

Though negotiated procurement gives governments more flexibility to tailor RE projects in terms of size and price, **auctions bring three key benefits** compared to procurement involving negotiations between the buyer (the government) and the seller (RE producer).

First, **auctions result in stronger competitive price building** due to the absence of a post-bidding negotiation stage present in negotiated procurement, such as bilateral negotiations.

Second, **project execution after contract award is faster in RE auctions than in negotiated procurement**, also due to the absence of a negotiation stage in auctions. Assuming no delays in implementation of the auction, project execution can continue after bids are selected and awarded. In a negotiated tender, project execution can only begin once the negotiation with preferred bidders concludes and contracts are awarded. A protracted negotiation stage can lead to prices that are no longer reflective of market conditions.

Third, **RE auctions offer, in principle, higher levels of transparency in the selection process** compared to negotiated procurement. Formal participation and award criteria reduce the room for discretionary judgment calls in the procurement process. Requirements tend to be publicly posted or disseminated among bidders, and can include technical requirements (e.g. land lease/concession, grid connection permit), bidder requirements (e.g. financial and technical capability to execute similar projects), and financial guarantees (e.g. bid and performance bonds).

Ensuring that the same information and clarifications are accessible to all bidders increases the transparency and fairness of the auction process.



WHY USE AN AUCTION VS. FEED-IN MECHANISMS?

Feed-in systems, such as feed-in tariffs (FiTs) or feed-in premiums (FiPs), can be used to remunerate RE electricity. When administratively calculated, these tariffs lower risk for RE producers since the source of revenue can be secured if the project meets formal requirements. Access to remuneration does not depend on winning a competitive bidding procedure.

Though RE auctions introduce a “bid risk” for bidders, they are faster to react to changing market prices than administratively set feed-in schemes.

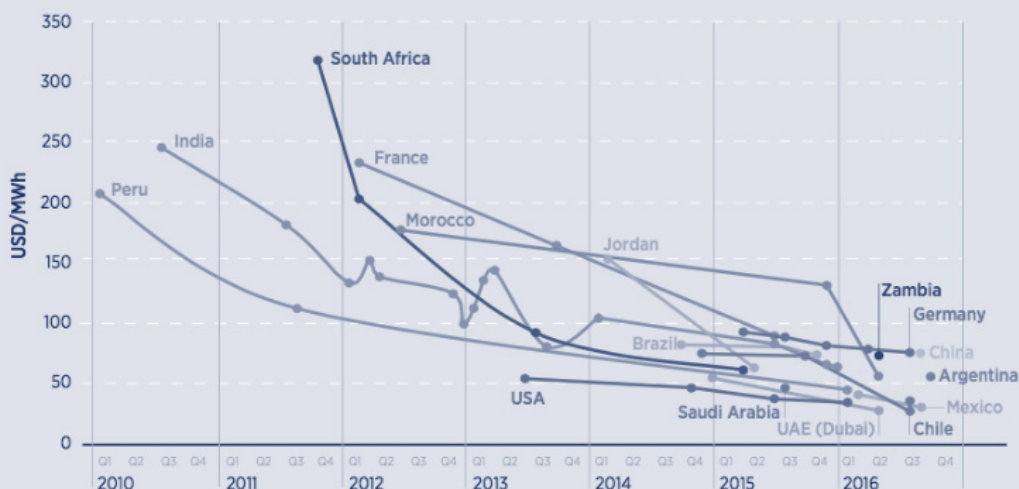
Feed-in schemes depend on the authority’s ability to calculate the right “price tag” for RE projects and adjust it periodically. RE auctions, by triggering competition between RE producers, lead to a direct market price discovery.

Moreover, and like in negotiated procurement, administrative feed-in schemes do not exert pressure for RE producers to lower their margins and offer the lowest acceptable price for power.

EVOLUTION OF AVERAGE SOLAR PRICES IN AUCTIONS

JANUARY 2010-
SEPTEMBER 2016

SOURCE:
IRENA (2017), ‘RENEWABLE ENERGY AUCTIONS: ANALYSING 2016’. IRENA, ABU DHABI.



¹“Renewable energy auctions in Kazakhstan - 2018-2019 results”, USAID, http://ptfcar.org/wp-content/uploads/2020/01/Report-on-Kazakhstan-Renewable-Energy-Auctions-2018-2019_Eng_15012020-for-print-GD.pdf.



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SCALING UP RENEWABLE ENERGY

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