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Policy Review: The Winds of Change in India's Wind Sector –Guidelines for Tariff Based Competitive Bidding for Procurement of Power from Grid-Connected Large Wind Power Projects

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POLICY REVIEW: THE WINDS OF CHANGE IN INDIA'S WIND SECTOR

Guidelines for Tariff Based Competitive Bidding for Procurement of Power from Grid-Connected Large Wind Power Projects

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1. Introduction

The policy titled 'Guidelines for Tariff Based Competitive Bidding for Procurement of Power from Grid-Connected Large Wind Power Projects'" was released on 7 December 2017. In India, till the year 2017, wind power was promoted through various tax benefits, incentives (like Accelerated Depreciation (AD) and Generation Based Incentives (GBI)) and preferential Feed-In-Tariff schemes. After 2017, the policy regime in the Indian wind sector changed completely. Previous policies were discontinued and the above mentioned new policy was introduced. This policy attempts to bring in competition and cost-effectiveness in the sector. However, 2017 onwards, India's wind sector have slowed down considerably. The rapid change in the policy framework might have contributed to this phenomenon. In this policy brief, we assess this new policy, the possible pros and cons, and the quantum of change that it has brought to the sector. We also formulate a few recommendations for the policymakers.

The policy addresses one of the major challenges of IPPs, the irregular payment from the procurer of electricity. However, a few areas like the transition of the sector, quality, curtailment and ancillary services need further attention. A slow paced transition with a predetermined timeline could have allowed for some preparation time for the wind sector. Including two more bidding parameters related to technical quality, ancillary service might help in addressing the issues. We recommend considering the time of curtailment while calculating the compensation for curtailment. Overall, the policy looks to be promising. A slight modification related to a few areas would definitely increase its effectiveness.

2. Salient Points in the Policy

The new policy is based on section 63 of "Electricity Act 2003" which talks about the promotion of competition to reduce cost in the energy sector. The main objective of the policy

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is to provide a framework for the procurement of wind power through a transparent bidding process. The distribution companies are expected to procure energy at competitive rates in a cost-effective manner with the help of this policy. The policy also defines the roles and responsibilities of various stakeholders.

The policy applies to the wind power generators having capacity more than 25 GW for intra-state and 50 GW for interstate installations. First, the procurer (Distribution Company) needs to prepare a bid document and seek approval from the appropriate commission as per "Electricity Act 2003". Next, the procurer shall call for the bids as per the bidding document. The bidder shall meet the site-specific pre-bid requirements and submit the bid. Documents related to land identification for the project, environmental clearance and clearance for the technical feasibility of connectivity from transmission utilities would also form a part of the bid document. The tariff (Rs./kWh) is considered as the bidding parameter. The procurer may opt for different types of tariffs (fixed or escalating). The e-reverse auction can also be used for the final selection of the bid. The power purchase agreement (PPA) formed through this bidding process shall be valid for a minimum of 25 years. The policy also requires the wind producers to declare certain technical parameters like capacity utilisation factor in the PPA. The policy addresses one of the major challenges of IPPs, the irregular payment from the procurer of electricity. The policy touches upon the issue of generation compensation in case of forced back down of wind generation too. Although the policy has been very effective in addressing some of the major concerns in the sector, certain challenges still remain.

3. The Underlying Philosophy of the Policy

The policy discussed here mainly targets the economic subsystem. Through the new guidelines for procurement, the central government tries to bring in transparent bidding and encourage competition in the wind sector. This policy is expected to bring down the cost of electricity for the utilities. It also deals with the governance subsystem to a certain extent. Although the policy has been very effective in addressing some of the major concerns in the sector, certain challenges still remain. We first discuss the concerns that are addressed by the policy and then look at the challenges that still need attention.

4. Concerns Addressed by the Policy

The policy tries to address one of the major challenges of IPPs, the irregular payment from the procurer of electricity. The policy specifies the use of "Letter of Credit", "Payment Security Fund" and "State Government Guarantee" to assure regular payment. If the payment irregularities still remain, the policy provides an option for novation of the Power Purchase Agreement (PPA). Assurance of timely payment may encourage wind power producers to lower the bidding price.

On the other hand, after successful bidding and execution of Power Purchase Agreement (PPA), many projects get delayed due to several issues like land accusation, financing, lack of transmission line connectivity, change in the management of the supplier, liquidity of the supplier, environmental clearances etc. The policy addresses some of these issues before bidding itself. The bidding process mandates the identification of the land for the proposed

project before the bid submission. After execution of PPA, the wind power producer needs to provide the land acquisition documents within seven months. The policy also provides a timeline for the financing of the plant. The wind power producers need to have financial closure within seven months from the execution of PPA. A certain amount of penalty is also associated with this. Getting environmental clearance and forest clearance are also made part of the project preparatory activities. Technical feasibility of the transmission line connectivity is also checked in the preparatory phase. Minimum paid up share capital that needs to be held up by the promoter in the successful project-company for a certain time period is also specified in the policy. The bidding process requires a certain amount of earnest money deposit (EMD) in the form of a bank guarantee. This EMD could be forfeited in case the successful bidder fails to execute the PPA within the specified time period. This might encourage the bidders to bid realistically, execute the PPA and commission wind plants in a timely manner.

5. Challenges that need attention

5.1. Unprepared Transition

Introduction of bidding has brought down the cost of electricity in the solar sector to a major extent. The government expects competitive bidding to bring down energy cost (Rs/kWh) in the wind sector too. However, cost reduction in the solar sector was majorly driven by the technological innovation related to the solar panel. Unlike solar, wind sector have not seen major technological innovations in the recent past. Therefore to provide price reduction, the suppliers need to depend on the economy of scale, timely payment or sustain low profit margin. The price reduction based on these is limited. To achieve large price reduction while keeping company profits intact needs design innovations. Innovation is very crucial for sustainability and innovation in the wind sector has been slow in recent years. So this policy sends the right signal to the sector. However, research and innovation may take a long time. This policy calls for an abrupt change in the way the industry was operating. This has put the Indian wind sector in jeopardy and the growth has been stalled. Slow withdrawal of the prevalent policies and introduction of the new policy as an option could have made the transition easier for the sector.

5.2. Quality

The bidding process emphasises on bring down the cost while meeting the minimum technical criteria. In line with the philosophy of the policy, the “Financial Criteria” gets more importance in the bidding evaluation methodology. Ranking of the bidder is done based on the lowest tariff quoted (L1, L2, L3). Hence, the focus of the entire wind industry would be on cost reduction. In the bidding process, the wind producer that provides the same energy cost using a better technical solution is not given any preference. This may discourage the manufacturer to invent better or sustainable technical solutions.

Introduction of another evaluation stage where the bids are technically evaluated for sustainability and given a different set of ranks (T1, T2, T3) may help in making the right decision. The choice of the successful bidder can be based on an optimal combination of both the ranks.

5.3. Curtailment

The policy discusses the general compensation applicable when the procurer cannot absorb the power produced by the wind power generator (Clause 7.6) or the generation is curtailed. The calculation of the compensation seems complicated and unfavourable for the generators.

Grid unavailability is one of the major reasons for not absorption of the scheduled power by procurers. The clause is only applicable when the grid unavailability in a contract year is more than 50 hours. The provision of generation compensation is done based on the average hourly generation for the year. However, in India, the monsoon wind generation is almost four times higher than the generation during other periods. Hence, unavailability of the grid during monsoon (pick generation season) shall be treated differently. Along with the compensation option, there is an option provided for the procurer to buy excess generation from the wind generator within the next three years equivalent to the calculated generation loss. This is economically discouraging for the generators and threatens the viability of the project.

Request for back down is another situation when the complete generation from a wind plant is not absorbed by the procurer. Although the electricity act 2003 encourages “must run” status for the wind plants, back down on account of grid security and equipment safety is possible. In the case of back down, the supplier is compensated for only 50% of the average monthly generation corresponding to the capacity backed down. This makes the compensation policy for curtailment complicated and adverse for the wind power producers.

5.4. Ancillary Services

Wind power plants can provide ancillary services, i.e., the support service essential for maintaining the reliability of the electricity system. Ancillary services are very important and have associated economic value from a grid stability perspective. Wind plants can get financial benefits by providing ancillary services. Although the policy discussed here focuses on the economic subsystem it fails to explore the possibility of economic utilization of the ancillary services that can be provided by a wind plant. The policy specifies that the minimum average CUF requirement for bidding is 22 %. However, wind plants located in areas with lower average CUF might help in firming up the wind generation and provide ancillary services. As the high potential areas are already occupied by the wind plants, we might need to look for areas with moderate wind speed.

6. Recommendations

The policy, “Guidelines for Tariff Based Competitive Bidding for Procurement of Power from Grid-Connected Large Wind Power Projects”, mainly focuses on the economic subsystem. Hence, we review the policy from an economic perspective alone. However, there are many sustainability concerns related to the policy like the absence of any incentive for recycling, responsible consumption, sustainable design, protection of local biodiversity, minimisation of noise pollution etc. These are not discussed here.

From an economic perspective, this policy shows the right path and addresses one of the major challenges of IPPs, the irregular payment from the procurer of electricity. However, some of the challenges still need attention.

(1) Rapid change is proposed in the procurement process of the wind plants in this policy. This might have contributed to the abysmal growth rate of India's wind sector in the last two years. A slower transition with a predetermined timeline could have allowed for some preparation time for the sector. Technical innovation could have helped in reducing the cost gradually. In the first year, the policy could have been applied for 50% of the total planned wind projects. Going forward, in the next year the percentage could have increased to 75%. Eventually, 100% of the wind projects could have been finalised through bidding.

(2) The policy emphasises on the lowest possible cost and the quality takes a back seat. This might harm the sector in the long run. In the bid evaluation methodology, the policy considers only one bidding parameter, the tariff (Rs./kWh) of the energy generated from the wind plant. Inclusion of one more parameter based on the technical specification would help in addressing the concern related to quality. Presently, the bids are ranked based on the lowest cost offered by the bidders. The lowest tariff is rated L1. We recommend having another ranking system based on the technology being offered by the bidder. The best technology is rated T1. This way every bidder would get two ratings. A bidder having the optimal combination of both the ratings shall be declared as a successful bidder.

(3) The curtailment issue is also not settled satisfactorily in the policy. The policy does not consider "time of the curtailment" while calculating the compensation. However, wind generation varies rapidly from day to day, from season to season. Hence, the time when the curtailment occurs is very important for the power producers. We recommend deciding the compensation based on the measured wind speed and expected generation from the wind plant during the time of curtailment.

(4) On the other hand, the policy does not consider the economic value of the support services or ancillary services related to wind plants. This issue can be addressed by introducing one more bidding parameter based on ancillary services. The wind plants can be designed to provide an inertial response and power oscillation damping facility. Wind plants located in different regions show variation in the generation pattern. Hence, locating wind plants in such different areas would help in reducing the variation in the aggregate generation level. With the growing wind sector, these services have become valuable for grid stability. Hence, these services shall be included in the bidding process. The bidder ready to provide more ancillary services shall have some preference. The bidding process shall quantify the ancillary services and associated monitory benefits shall be considered in the bid evaluation process. In relation to this, a farm having considerably less capacity utilization factor, but providing a large number of ancillary services shall be eligible for bidding.

Overall, the policy looks to be promising. A slight modification related to a few areas would definitely increase its effectiveness.

Reference

1. Ministry of Power, Govt. Of India, Guidelines for Tariff Based Competitive Bidding for Procurement of Power from Grid-Connected Large Wind Power Projects, No 23/54/2017–R&R, December 8, 2017, available at https://mnre.gov.in/sites/default/files/schemes/guideline-wind.pdf accessed on 29 April 2019