

**Comments on
Staff Paper on Power Market Pricing**

| Para Ref. | 3.1 | Point of Discussion | Does pricing methodology need a change? |
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| Comments: | | | |
| <p>a) The apparently weighty logic, that has been furnished in the staff paper with regard to shifting to pay-as-bid pricing methodology, is the super normal profits being garnered by the inframarginal generators.</p> <p>The lignite-based power plants, cheaper coal-based generations and RE generators have been painted by a wide brush as the inframarginal generators.</p> <p>b) While it has been recognised that increased prices of fuel, particularly imported coal, led to the increase in marginal costs of the margin-setting generators which in turn led to the higher market price, further accentuation of the market price due to sharp increase in demand has been left to be dealt with.</p> <p>c) A free market was envisaged in the Act where the price shall purely be dependent on Demand vis-à-vis the Supply. The same has been followed till now – even when the “market discovered” prices, year after year, were abysmally low.</p> <p>d) It is no one’s guess that it is the Private IPPs with merchant capacity who are in the radar.</p> <p>e) The bid price by a generator in the exchange in the DAM is not essentially a reflection of its cost of production. Many a times the generator is required to go for distress sale, either to maintain technical minimum load or to make the working capital earn minimal returns.</p> <p>Some useful inferences can be derived by studying the trends of the Herfindahl-Hirschman Index (HHI) - index to calculate market concentration and the monthly weighted average market discovered price for the available data of the last 24 months.</p> <p>(Source – CERC Monthly Market Monitoring Report)</p> | | | |

| Month | DAM Data | |
|----------------|---------------|------------------------------|
| | HHI | Weighted Avg. Price (Rs/Kwh) |
| May-22 | 0.1691 | 6.81 |
| Apr-22 | 0.1463 | 9.52 |
| Mar-22 | 0.1701 | 7.95 |
| Feb-22 | 0.2439 | 4.6 |
| Jan-22 | 0.2719 | 3.58 |
| Dec-21 | 0.2773 | 3.76 |
| Nov-21 | 0.2415 | 3.26 |
| Oct-21 | 0.228 | 9.15 |
| Sep-21 | 0.2643 | 4.15 |
| Aug-21 | 0.2395 | 5.23 |
| Jul-21 | 0.2501 | 3.11 |
| Jun-21 | 0.2795 | 3.17 |
| May-21 | 0.2689 | 2.9 |
| Apr-21 | 0.2296 | 3.75 |
| Mar-21 | 0.1767 | 4.11 |
| Feb-21 | 0.1911 | 3.56 |
| Jan-21 | 0.2134 | 3.41 |
| Dec-20 | 0.2115 | 3.01 |
| Nov-20 | 0.2419 | 2.86 |
| Oct-20 | 0.2379 | 2.83 |
| Sep-20 | 0.2153 | 2.77 |
| Average | 0.2270 | 4.45 |

Average HHI during the above period (the index used to calculate the market concentration) is 0.2270. **This indicates moderate concentration** of market power. *It is high (>0.25) in only a couple of months and during these months it is observed that the market price is between Rs 2.5 to Rs 4.0. The HHI is less or nearly 0.15 (indicative of non-concentration) when the market price goes above Rs 5.*

This indicates that there is larger participation when the market price is reasonably high and there are only a few generators who can be termed as “inframarginal” who generally bid low in the market.

- f) The discovered market price is inclusive of Open Access Charges and IEX margins. The net value accruing to the generator may typically be less by Rs 0.55 to Rs 0.75. Considering the above 24-month average of weighted average market rate of Rs 4.45, the net earnings for a generator would be in the range of Rs 3.70 to Rs 3.90 per unit.

This price may just be sufficient to cover the coal cost and the O&M Cost while the other fixed cost components viz. RoE, Interest on loan and working capital, depreciation remain unrecovered or at best partially recovered. The fact that a number of private IPPs are stressed clearly points out to this scenario. Assurance of timely payment and short cycle of working capital for the energy supplied are the most compelling reasons.

The Government has chosen not to intervene in capping the minimum price though it was indecently low in most of the months, as given below.

| Month | DAM Price (Rs/Kwh) | | |
|--------|--------------------|------|-------|
| | Average | Min | Max |
| May-22 | 5.32 | 0.2 | 12 |
| Apr-22 | 10.06 | 2.7 | 20 |
| Mar-22 | 8.17 | 1 | 20 |
| Feb-22 | 4.4 | 2 | 20 |
| Jan-22 | 3.39 | 1.58 | 11.27 |
| Dec-21 | 3.54 | 1.47 | 20 |
| Nov-21 | 3.08 | 1.37 | 20 |
| Oct-21 | 8.01 | 1 | 20 |
| Sep-21 | 4.4 | 1.5 | 20 |
| Aug-21 | 5.06 | 1.1 | 20 |
| Jul-21 | 2.94 | 1 | 10.9 |
| Jun-21 | 3.06 | 0.6 | 9.67 |
| May-21 | 2.83 | 1.5 | 7.1 |
| Apr-21 | 3.49 | 1 | 10.5 |
| Mar-21 | 4.07 | 2.34 | 9.88 |
| Feb-21 | 3.39 | 1.58 | 8.75 |
| Jan-21 | 3.02 | 0.4 | 9 |
| Dec-20 | 2.83 | 1.57 | 6.05 |
| Nov-20 | 2.73 | 1 | 6 |

| | | | |
|----------------|-------------|-------------|--------------|
| Oct-20 | 2.73 | 1.6 | 6 |
| Sep-20 | 2.69 | 1.77 | 6.44 |
| Average | 4.48 | 1.33 | 12.86 |

- g) The cheapest source of coal in India is the linkage coal which can only be used only for supply obligations against executed Long term and Medium term PPAs. The coal that can be used for market transactions is either Spot Auctions or the Special Forward Auctions or the coal allocation through Para B(viii) (a) of Shakti Policy. There is no cap on the pricing discovered in these auctions. The premium has been 300% to 400% or even higher in some of the recent auctions. The Government has not intervened in capping the price though it is a fact that the Special Forward and the Shakti allocations are exclusively for power plants. The fact that CIL is making windfall gains is ignored.

Suggestions:

- a) Any attempt to adopt a simpliciter view of either just allowing the current pricing mechanism (uniform Market Clearing Price) “as it is” to perpetrate or switch to Pay-as-Bid pricing methodology would not achieve the objective of the Commission.
- b) This would not address the shortcomings as outlined above.

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| Para Ref. | 3.2 | Point of Discussion | What should be the criteria for Regulatory intervention? |
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Comments:

The staff paper has indicated a few criteria which would trigger Regulatory intervention and the ways in which the intervention would work.

As has been indicated above in the comments for Para 3.1, the generators, left with no other option, participate in the market many a times due to various reasons. Therefore, the intervention has to holistically consider the losses incurred by the generators during low demand periods (and low market price) while being conscious of the supernormal profits earned by the inframarginal generators.

The obvious question would be what should be the criteria for categorisation of the generators into inframarginal, marginal and supramarginal while exempting some from the capping?

In a highly regulated coal market with near monopoly of CIL, domestic coal is mix of many variants – with regard to place of availability, price and quality (grade). The generators are unable to get the coal of their choice. The mine from which they get coal is also uncertain since there is no coal auction calendar that is published in advance by the subsidiaries of CIL.

Suggestions:

The right approach is to instil discipline among the generators while bidding. While market should ideally be left to itself without any intervention, some regulatory intervention may be called for since electricity cannot just be treated as any other commodity.

It is therefore suggested that a two-step approach be adopted:

- i. The generators may be categorised into Inframarginals, Margin-setters and Others.
 - a. Inframarginals – Cost of generation less than Rs 2 per unit
 - b. Margin setters - Cost of generation more than Rs 2 but less than Rs 4 per unit
 - c. Supramarginals (Others) – More than Rs 4 per unit
- ii. Set the cap rates for the above categories as follows:
- iii.

| Category | Last month running average lowest price | 3- month bid | Minimum possible bid price for the coming month | Last month running average highest price | 3- month bid | Maximum possible bid price for the coming month |
|----------------|---|--------------|---|--|--------------|---|
| Inframarginals | x | | 0.8x | y | | 1.5y |

| | | | | |
|----------------|------------|------|---|----|
| Margin setters | p | 0.5p | q | 2q |
| Supramarginals | No capping | | | |

The above will help as below:

- a. There will not be any price bump.
- b. The generators themselves will be more disciplined.
- c. The generators normally have visibility of the coal availability for a 3-month period and the coal used would be blend of fresh coal and coal stock already available.
- d. Market data regarding the bid pattern of the various generators vis-à-vis their approximate generation cost would provide further data point while fixing the factors.
- e. The cap prices can be further grossed up with average auction prices of thermal coal discovered in the various auctions of CIL.

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| Para Ref. | 3.3 | Point of Discussion | How do we address the negative impact of price cap? |
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Comments:

The Staff paper has rightly raised apprehensions regarding imposition of market cap – reduction in market participants, basis of categorisation of the generators into inframarginals / supramarginals etc., resultant depth of the market etc.

Suggestions:

The above has already been elaborated in the previous section.

The idea has to be to do away with a “cast in stone” and “fixed” upper market cap risking both the number of participants and providing a knee-jerk approach to mitigate the apprehension of super normal profits for the inframarginals. This can be done through a “Dynamic” upper and lower cap for each of the generators based on its previous bidding style.

Therefore as has been suggested above, a two-step approach can be adopted:

- i. The generators may be categorised into Inframarginals, Margin-setters and Others.
 - a. Inframarginal – Cost of generation less than Rs 2 per unit
 - b. Margin setters - Cost of generation more than Rs 2 but less than Rs 4 per unit
 - c. Others – More than Rs 4 per unit
- ii. Set the cap rates for the above categories as follows:
- iii.

| Category | Last 3-month running average lowest bid price | Minimum bid price for the coming month | Last 3-month running average highest bid price | Maximum bid price for the coming month |
|----------------|---|--|--|--|
| Inframarginal | x | 0.8x | y | 1.5y |
| Margin setters | p | 0.5p | q | 2q |
| Others | No capping | | | |

The above will help in two ways:

- f. There will not be any price bump.
- g. The generators themselves will be more disciplined.