

Bundling Benefits

Impact of proposed MNRE scheme to sell solar power along with thermal

In an effort to address the issues of intermittency, limited hours of supply and low capacity utilisation of renewable power plants, and make them more attractive for state-owned power distribution companies, the Ministry of New and Renewable Energy (MNRE) has proposed a scheme to sell renewable and thermal power together in a “bundle” to provide firm, uninterrupted electricity supply to buyers. Industry experts comment on the scheme and its likely impact on the sector...

Do you think that the government's proposed scheme for bundling renewable and thermal power will be beneficial for the sector?

T.N. Arun Kumar

The MNRE recently came out with the draft scheme for supplying round-the-clock (RTC) power by bundling renewable energy with thermal power. Earlier, in the first phase of the Jawaharlal Nehru National Solar Mission, a provision for bundling expensive renewable power with cheaper thermal power was made in order to drive the growth of grid-connected solar power. Now, under the new scheme, it is the other way round as cheaper renewable power will be bundled with thermal power.

The aim of the current scheme is to address the intermittency issue associated with renewable power, bring down the overall cost of power supplied to utilities, and increase renewable energy penetration. If effectively implemented, the scheme will be beneficial in multiple ways. On the one hand, it will help in scaling renewable energy capacity, while on the other, it will provide an opportunity for

stressed thermal assets to find buyers for their power. Also, the scheme will benefit the associated transmission infrastructure, ensuring better capacity utilisation. Currently, reports suboptimal utilisation levels owing to the unpredictable nature of renewable power.

Simarpreet Singh

The move will be extremely beneficial for the power sector as it will reduce the cost burden on discoms and help them clear their dues, which stand at around Rs 800 billion. As a result, power generators will get their payments on time and their money, instead of getting blocked, can be ploughed back, which will benefit the industry on the whole.

The bundling of renewable energy and thermal power will also solve problems associated with the intermittent nature of renewable energy, such as restricted supply and low capacity utilisation. The scheme will also benefit the power sector by making it more sustainable since the bundling will involve at least 51 per cent generation from renewable sources.

Dr Rahul Tongia

There have been many ideas to undertake blending of power to help combine different sources of power, wind and solar, and now thermal and renewable energy. Thermal power is firm or dispatchable power, while renewable (wind and solar) is inherently variable. While this will help scale renewable energy further, the grid is going to soon approach its renewable energy handling limit without storage. The counter view could be how much does this help thermal instead of renewable energy.

At an abstract level, why bundle? One can always get more thermal separately. If you want more thermal, then signal for it. Rather, if you want more peak power then signal for it. The first step would be to initiate time-of-day (ToD) pricing for bulk procurement. This is different from consumer ToD pricing, which takes more time and requires appropriate metering infrastructure. This is a key issue as most of the power is obtained via power purchase agreements (PPAs), which not only distort signals by locking in the fixed cost under a two-part tariff, but also distort all output by treating it the same way, regardless of ToD. If the intent is to move towards more flexible regimes, including market-centric ones, then bundled bids (and PPAs) go against that. There are a number of practical concerns regarding any proposed change. First, what is the problem that is being addressed and is the proposed solution the best one? Second, will there be any winners and losers? Instead of picking technologies and mixes for bundling we should signal properly and let all the alternatives com-



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pete. If there is a need for clean energy with proper pricing signals, we can deploy not just storage but also smart grids, demand response, end-user storage, etc. In terms of the second issue, this will help those who are able to make the combined bid, that is, have the required scale. Hence, smaller players (more prevalent in the renewables space) will find this more difficult, and it is easier for selected large players to continue in the market.

Blending or bundling is a common mechanism analogous in many ways to risk mitigation via pooling. It reduces variance, but does not improve the expected value. This proposal will create lumpy instruments, instead of providing flexible, granular signals. While individually, thermal and solar may not be the cheapest in the market, they can be the cheapest in a combined bid. This crowds out alternatives. It is hard to measure success since we cannot compare bundling with alternatives. Even without this, many projects are not competing directly. So numbers alone are not the right metric. There are other questions – what is the impact on must-run or two-part versus single-part tariffs. The last implication pertains to winners and losers. It is not just what it costs discoms, but which generators get such contracts and which do not.

To restate the meta-challenge, bundling helps solve a liquidity problem, not a solvency one. It will make storage appear cheaper when it really is not. This does not mean do not ask for storage. Do it directly, and be willing to pay its inherently high cost.

What will be its impact on discoms and thermal power plants?

T.N. Arun Kumar

From the discoms' angle, it will reduce their responsibility to integrate renewable power into the grid as the onus of the same will lie with the generator, which will offer RTC power to the discom. To manage the infirm nature of renewable power, utilities are procuring balancing power to maintain grid stability and meet



their requirement during non-renewable hours. Also, the procurement of such power will be eligible for the fulfilment of renewable purchase obligations by the obligated entities.

The scheme will be available for commissioned as well as under-construction coal-based power plants provided they have spare capacity that can be offered on a long-term basis. Thus, offers an opportunity to thermal power producers, which have been struggling to sell their power given the competitive merchant market, to tie up long-term power. Apart from promoters, the improving plant load factor of stressed thermal power plants (TPPs) will provide a relief to lenders by reducing their quantum of non-performing loans.

Simarpreet Singh

Discoms that ended up buying expensive thermal power to supplement renewable energy can now save on costs and manage the grid better through reverse bundling. The cost of renewable energy has decreased, but discoms continue to buy thermal power, which turned out to be costlier for them in view of the rising coal prices. Under the bundling scheme, high-cost thermal power bundled with cheaper renewable energy will be provided round the clock to discoms, thus helping them bring down power buying costs, balance out losses, and make timely payments to power generation companies. The proposed scheme will also benefit stressed TPPs that lack PPAs. It will provide opportunities to stressed thermal assets to find buyers for their electricity, thus reducing the non-performing assets of banks.

How can the scheme be made successful?

T.N. Arun Kumar

So far, the draft scheme has ticked all the right boxes, whether it is providing an impetus to the 175 GW renewable energy target by 2022, addressing discoms' apprehensions in buying intermittent renewable power, or providing the much-needed support to TPPs, which are reporting multi-year low utilisation rates. However, the real success of the scheme lies in its ability to offer value to both power procurers and sellers. From the discoms' perspective, if it is successful, the scheme should help them buy competitive RTC power while giving TPPs a remunerative price duly factoring in the uncertainties associated with coal prices.

Simarpreet Singh

If carried out by the government in earnest, this scheme will turn out to be highly successful, addressing the issues of intermittency, limited hours of supply and low capacity utilisation of renewable power plants. As proposed under the scheme, a government-authorised intermediary agency should carry out auctions specifying the single composite tariff for renewable energy-based power combined with a thermal fuel source. At no cost should the generator be allowed to supply less than 51 per cent renewable electricity. The renewable energy bought under this scheme should comply with the RPO norms. To bring in more efficiency in renewable power generation, discoms should procure balancing electricity to stabilise the grid and to meet their requirements in the face of intermittent solar and wind energy generation. ■