

## COAL MINISTRY IS ALSO MONITORING QUALITY: POWER SECRETARY KUMAR

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There are always some uncertainties in fuel supply because of international prices, monsoons, operational disruptions, says Alok Kumar, Union power secretary

**NEW DELHI :** With India's growing electricity demand suggesting a sustained economic recovery, the Union government is working to ramp up coal stocks at power plants to 58 million tonne (mt) by the end of June, before the peak demand season kicks in, to avoid shortages, said union power secretary Alok Kumar in an interview.

Kumar, a 1988-batch Uttar Pradesh cadre IAS officer, has been instrumental in building fuel stocks at coal-based power projects after they fell to record lows in October, leading to concerns about electricity shortage. Kumar spoke to Mint about steps being undertaken for India's energy transition, a hybrid energy model and the prudent need for better subsidy targeting.

Edited excerpts

**India recently saw a coal crisis. Are we out of the woods? Also, is the government trying to build 58 million tonnes (mt) of coal stock by end June?**

Yes, the Centre is trying to have coal inventories of 58 mt by end June. On what happened, I think there are lot of details available in public domain. I will only say that the problem arose mainly because of two reasons: the coal supply could not revive in the manner it normally used to every year after September because of prolonged monsoons. Number two, there was comparatively larger consumption of domestic coal because prices of imported coal rose. And that is the way that power system functions because there is a merit order dispatch, and the lesser cost plants are dispatched first. So the two things combined were broadly the main reasons.

Now, this 58 mt is the norm which the power ministry has set after a lot of consideration because if you have to secure India's power supply and there are always some uncertainties in fuel supply because of international prices, monsoons, operational disruptions, somewhere some land acquisition problem and some law-and-order issues in mines somewhere. So, we feel that is the knob which we will build up with stock.

But since our consumption is rising, so, meeting that demand along with high import prices, and also the need to send more coal to plants to build up stocks; these three things put together is a challenge and which I think the government and all concerned players--the power ministry, coal ministry and railways--are putting their best foot forward.

**Some state power generation companies have complained that they got sub-standard fuel from Coal India Ltd's subsidiaries at the time of shortage.**

The states have been raising it in meetings. They have also been writing to us. We have passed on those feedback to coal ministry. Coal India Ltd has FSAs (fuel supply agreements) with these power plants/gencos (generation companies) in which there are given methods on how to handle quality aspect. And coal sampling is done at the loading point, it is tested and if any parties aggrieved by the result of the testing, there is also a system of referee sample which is

sent to another lab. And whatever is established then the action is taken accordingly. And finally, if the quality is found wanting, then there is a system of credit note.

We have taken one step that PFC (Power Finance Corp.) has empanelled one independent agency which is a third party for coal sampling. Currently, CIMFR (CSIR-Central Institute of Mining and Fuel Research) does it. So, there was an agreement between the coal ministry and ministry of power that there was a need to have more third-party agencies so that procurers have choices. So, in the selection process one agency has been selected. PFC has been asked to empanel more agencies.

But coal ministry is also monitoring quality.

### **Given the third pandemic wave, have you seen the electricity demand slipping?**

No. Over the last 2-3 days, demand has outstripped last year's consumption. It is already touching 199-190 GW. So, demand is not affected. Even coal consumption is high and peak demand is higher than the last year. So, no slippage.

### **With energy transition being the underlying theme for a lot of your initiatives, are you looking at a hybrid energy model wherein wind, solar and thermal will be cross-subsidized and cross-utilized?**

The model is very simple. One part is of course energy efficiency and energy conservation, which will keep our per capita emissions under control.

That is the overarching objective. So, one part is the energy conservation and energy efficiency in which India has done quite well and we want to deepen it through PAT (Perform Achieve and Trade), standards and labelling, MSMEs, then electric vehicles.

Basically, there are two themes. One is we increase the share of electrification and that is a trend worldwide. India stands at around 18% of the energy through electricity and we're targeting around 27% by 2030, and going forward it may be about even 35% by 2040-45. So, electrification will increase because it is always easy to use renewable sources through electricity.

The second part is reducing emissions per unit of energy and per unit of electricity. So, in the energy the first part is electricity and non-electricity. Like if you are doing electric vehicles then you are shifting from fossil fuel to electricity. You will avoid diesel and petrol and will come to electricity. At the same time your electricity is getting greener.

And the other part is non-electricity wherein maximum usage is done other than transport by hard to abate sectors such as cement, steel, fertilizers, etc.

For electricity, peak load needs and projections of the grid have been done by several studies. One emerging trend is that our peak energy will be 325 gigawatts (GW) in 2030 and our total installed capacity is projected to be 817 GW.

Projections suggest that more than 500GW will be from non-fossil sources. The target announced by the Prime Minister will be met and is expected to be exceeded. It will be an interplay between making a power plant which will be with us for 30-40 years running at a low PLF (plant load factor) or creating some storage capacity because peak load doesn't come for 24 hours a day for all 12 months. The peak load may come for 50 hours-100 hours. So that can be met through storage and PSP (pump storage plants). There are several combinations.

So, for the electricity part we have done a modelling and we are working on it, which will get refined as we go forward. It will depend on at what rate the cost of battery decreases, at what rate solar and wind power generation can happen. It will have to be fine-tuned. With solar, wind and storage plants coming online within two years, that's the reason why the risk is not high.

**So, will you be blending the electricity sources together in the sense that tariffs will be averaged out?**

It's not so. If I talk about tariff, there are two concepts: one is must run station. The atomic energy stations can't be varied much given the base load they provide. Also, wind and solar can't be backed down as it is a bad thing. In the grid, based on some principles, these are must-run plants while the ones fuelled by coal, lignite and gas are run flexibly. When other sources come, they get reduced. We will run them less, but there is a technical limitation that you can't run power plant below 55%. In such a scenario, storage comes handy for excess generation. Suppose a power plant needs to be run at 40%, with the balance demand being met by solar power. So, the balance slice can be stored in battery storage or pump storage and we can use that in the evening when we require.

Electricity tariff is determined by contracts. Whatever contracts you have. You have long term PPAs (power purchase agreements), you have power exchanges, you have done medium term purchases. Some forward electricity contracts will also come wherein CERC (Central Electricity Regulatory Commission) is bringing them for a year from the present 11 days one. So, power procurement cost for the utility will depend on its contracts and the fuel prices. There is no national pooling on that. The commercials are settled on the basis of your contracts.

When we plan for the system, we plan for the least cost. That is the basic principle of the model. The sharing of the cost happens on the basis of the contracts. So, the tariff pooling doesn't happen. The core is that the government modulates its policies and its regulation so that your energy mix remains optimum. If we have to promote battery storage so in the initial two years we can give them some concessions, tax breaks, VGF (viability gap funding). When the technology matures then the support gets removed. The government's intervention is also limited. What the government will do for energy transition is to support feasible and new technologies initially and then it will be an interplay of various technologies in the market. This will be the broad contour.

Cross subsidies are a legacy in Indian system. In other countries, industrial and commercial consumers are charged less because it takes less cost to serve them. We have opposite here because there is a limit of cross-subsidy. Cross subsidy will be there to a certain limit and will be phased out slowly. This is the challenge before policymakers and media also to convince the states, political executives, officers and regulators that a prudent policy is to bring down cross subsidies per unit, attract more industrial consumers so that your overall cost subsidy amount is optimized. If you keep a high cross subsidy amount, the new industrial load will not come to grid. They will set up captives or they will go to open access.

It is prudent that we reduce cross-subsidy in per unit tariff and attract new industrial load. We will be going forward with increasing electrification. With new electric vehicles, new industrial units and new data centers coming up, if the discom is able to supply them from the grid by keeping their tariff moderate it will be a win-win for both, as industries won't have to invest in captive power generation units and will remain competitive. If you get more of industrial and commercial load, then your payment is good because they are good pay masters and they also give you cross subsidy. So, you have the ability to keep the tariff for domestic and agriculture consumers also low.

The second part is the subsidy part where it is the question of targeting because no state has an

infinite fiscal space. Going forward, the government will insist in many places such as in the new scheme (power distribution company reform scheme), as well as in our additional prudential norms that you will to pay the subsidy you commit. If you don't pay then you won't get a government grant, additional borrowings or loans from PFC and REC. Your rating will come down and your interest will go up. So prudently pay the subsidies you are committing or you will have to bear huge losses. You won't be able to manage as your electricity supply will be stopped by NTPC Ltd if you are unable to make payments. So, it is prudent to target subsidies better. Of the poor households whose consumption is 50 units or 100 units, one should subsidise them. This odd talk of giving free power of 300 units is all bunkum. It is a very-very retrograde step because it is an imprudent management of your fiscal resources. You can do better work. It's a political call.

I will re-emphasise the power procurement strategy of a discom will be very critical for energy transition. The cost of power from wind and solar and all is going to come down. While their stand-alone cost will come down, there balancing cost will be higher. The discom that does better procurement be it a mix of storage, flexible resources and solar and wind will be able to keep its costs low. Its subsidy and cross-subsidy requirement will be that low.

### **When will this hybrid energy model come into play?**

It is in play and is coming now. Currently, our coal based or thermal generation is around 75% annually. It will come down to 55-57% over the next 10 years. So, absolute numbers will go up because our total energy requirement will go up but share of fossil fuel in electricity will start coming down.

### **Going forward, will India go for new coal fuelled power projects?**

I will say, if need be, we will go for. So, if we realize that battery storage is very expensive. Power generation is a delicensed activity. At national level I can say that I require not more than 7,000-8,000 MW. It may also be avoided if we manage it prudently. But coal power plants can be set up by states without taking permission from the Centre. So, my take is that we do broad policy setting, we plan, we assess states, but setting up the new capacities will be decided largely by the states because they are the procurers.

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