

Submission to Ministry of Power Finds No Economic Rationale for Etalin Hydropower Project Urges the MoP to recommend to the FAC Not to Proceed With Project

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The undersigned, namely Ashwini Chitnis, independent researcher and policy analyst, and Manthan Adhyayan Kendra, have independently carried out an analysis of some key issues related to the economic and financial aspects and tariff of the Etalin Hydropower project, proposed to be built in Arunachal Pradesh in the Dibang valley. This was in the context of the Forest Advisory Committee (FAC) asking certain questions to the Ministry of Power (MoP) on these issues. The analysis finds that there is no economic or financial rationale for the project. The analysis has been submitted to the MoP requesting it to consider this for its response to the FAC. Copies have been forwarded to the FAC as well as the Expert Appraisal Committee (EAC) of the Ministry of Environment, Forests, and Climate Change.

Background

The Forest Advisory Committee (FAC), in its meeting held on 23rd April 2020 discussed the issue of diversion forest land for the proposed 3097 MW Etalin Hydro Electric Project (EHEP) in Dibang valley of Arunachal Pradesh. Before taking a decision, the FAC has posed several questions to the Ministry of Power (MoP) regarding the necessity as well as financial viability of the concerned project, which are paraphrased below:

- Given the six-year delay in starting the project, is it still relevant from the electricity demand-supply planning point of view?
- Considering that a large number of hydropower projects are pending for environment and/or forest clearance, in order to minimise cumulative adverse impacts of these projects, what is the relative priority of it?
- Tariff of the proposed project was high even in 2014 when the proposal was filed, so is it economical now?

In response to the issues raised by the FAC, the undersigned independently carried out an analysis of the said issues and submitted the same to the MoP for their consideration while responding to the FAC. This submission clearly shows that there is no economic or financial rationale for the project, and urges the MoP that it should recommend to the FAC that the project need not be proceeded ahead with.

Summary of Key Findings

Key points highlighted in the submission are given below and the full submission can be downloaded from [this link](#).

1. As suggested by the FAC, in the last 6 years the country's demand supply situation has indeed changed significantly with high level of renewable energy based capacity addition and excess thermal capacity. The proposed project is not mentioned in the latest National Electricity Plan of 2018, which projects the country level demand and supply situation till 2027. Considering this and in the absence of a thorough and scientific demand-supply analysis of the concerned beneficiaries after evaluating all alternatives, the proposed project cannot be considered.

2. As power from the proposed project would be contracted by electricity distribution companies (discoms) of beneficiary states, it is the concerned State Electricity Regulatory Commissions (SERC) that would need to decide the need and prudence of the proposed project. Only pursuant to a clear order in this regard from the respective SERC(s) can any further steps be considered. At present, since the beneficiaries are not known it is not clear if such a process has been undertaken. Even if such process has been undertaken at the time of filing of the proposal, a fresh undertaking from the concerned SERC(s) in light of the delay, increase in costs and change in demand-supply situation, is essential before taking any further steps.
3. As per the CEA quarterly report, as of March 2020 hydropower capacity of 11,975 MW is under construction and on an average these projects have been delayed for about 8 years. The costs of these projects have almost doubled, which in fact is an underestimate, as out of the 11,975 MW latest revised cost estimates for projects with a capacity of 1821 MW is not available. Thus, though hydropower is considered a useful resource for meeting peak demand and managing intermittency of renewable energy sources, excessive costs of new hydropower capacity are rendering it as a non-economical option for these purposes.
4. While new hydropower capacity is getting delayed and is becoming excessively costlier, existing capacity is not being utilised most effectively. As per a study published by the Forum of Load Despatchers India, there is a potential of 4200 MW of additional peaking support from the existing fleet of hydro generation at national level. Such least cost options need to be fully explored before locking-in any new resources.
5. In contrast to the high cost new hydropower capacity, alternatives such as battery system coupled with solar PV or wind are much cheaper and can provide peak support more reliably and with much lesser environmental impacts. A recent study estimates that the prices of solar PV system plus battery storing 25% of the PV energy to be around ₹ 3.94/kWh in 2020, ₹ 3.32/kWh in 2025, and ₹ 2.83/kWh in 2030. This is underscored by the bid discovered by the Solar Energy Corporation of India (SECI) for supply of round the clock power from renewable energy source of 400 MW at a levelized tariff of around ₹ 3.60/kWh and first tariff of just ₹ 2.90/kWh. These tariffs are even cheaper than the levelized tariff of the proposed Etalin project of ₹ 4.32/kWh estimated in 2013. If the delay of 6 years and a legally binding estimate for environmental flows is considered, the levelized tariff of the project would be in the range of ₹ 7 to 9 /kWh. Actual delay in construction and commissioning is likely to be much more and that will significantly add to the already high cost. In addition to this high tariff, depending on the location of load centres of the beneficiaries, another 50-60 paise/kWh will get added on account of transmission charges.
6. Such excessively high tariff also rules out the possibility of selling this generation at market determined prices, though the 2008 Hydro Policy allows projects to sell upto 40% of the total generation on merchant basis.
7. In the past, several capacity addition decisions including those pertaining to large hydropower projects, have been undertaken based on unrealistic cost assumptions that made them seem lucrative. However, when the real costs became apparent, the Discoms and the concerned state governments have been forced to rethink such decisions. In this regard, the recent examples of termination of the high cost Maheshwar hydropower project by Madhya Pradesh government and reluctance of Punjab and Rajasthan Discoms to buy the high cost power generated by Teesta III hydropower project are particularly worth noting.
8. Thus, there is no economic or financial rationale for the Etalin project, and we urge the MoP to recommend that the project should not be proceeded with, and to advice the FAC on the same lines.

9. In spite of such apparent short-comings — excessively high costs, possibility of further delay and cost increase, and severely adverse environmental impacts vis-à-vis alternative sources — if the proposed project is still allowed to be considered further, then it should be done only after undertaking a due public process and making all the relevant documents and underlying assumptions public, and giving people enough time and opportunity to file suggestions and objections on the same.

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