

Strengthening the Role of TGERC: Policy Space has to be expanded

Note

Government has announced a **Telangana Clean and Green Energy Policy 2024**. This has potential to impact tariffs, merit order dispatch and the energy transition. However, this policy has not been referred to TGERC, I believe, for its comments and deliberations.

I am attaching my comments with this. TGERC may consider including this policy for its impacts and outcomes on the ARR discussions.

TGERC, to facilitate its work, should review the ARR document structure and content. Standardisation of ARR proposals will help in understanding the issues and challenges correctly. **As part of this, it can consider focusing on 3-year thumb rule, Balance sheet and establishing financial principles for ARRs.**

The major regulatory functions of TGERC, like other ERCs, are licensing, setting tariffs, ensuring maintenance of service standards and promoting competition in the sector, and more coming from Electricity Act, 2003. With reference to these functions and without as well, ERCs have been facing several issues in their functioning.

Political interference has adversely affected the quality of regulation. Decisions relating to tariffs and investment have been highly influenced by political interests. A review shows that the regulatory system in this sector lacks independence, accountability, transparency and stakeholder participation. A regulator needs independence from the government to discharge its functions in a free and transparent manner. This is possible, only when TGERC becomes more transparent, accessible and accountable, in its communications, processes and outputs.

There are no **official consultative mechanisms between government and ERC** to issue appropriate policy guidelines. Albeit, there are overlaps in the respective jurisdictions of the government and regulators. For example, ERCs are empowered to fix tariffs for end users but the government has not allowed them to determine tariff at their discretion. **Consultative mechanisms should be put in place.**

An important aspect of regulatory independence is financial independence. Dependence on uncertain budgetary allocations reduces the independence of regulatory bodies. ERCs depend upon state exchequers for funds. The lack of financial independence also leads to problems relating to quality and capacity of personnel. The ceiling on salaries imposed by governments prevents the ERCs from appointing quality personnel. At the same time, financial constraints prevent them from conducting adequate training programmes to enhance the capacity of their staff. **As per Electricity Act, 2003, based on a verification process, TGERC should augment its financial resources, through other means, and not just depend on public exchequer.**

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Policy guidelines require regulatory bodies to adopt transparent and participatory decision making processes. The ERCs provide a platform for consumer participation in the decision making process but due to lack of awareness and inadequate capacity of consumers, public participation has been weak. **TGERC should cause deliberate actions to promote public participation in its regulatory functions.** First and foremost is the language. Telugu language based documents would greatly enhance participation.

Statistical collection, data filing, data sharing and data-based decision-making are essential for integrity, consistency and reliability. ERC process should address the gaps and issues with data, figures and statistics, and establish a **framework that protects purity and punishes impurity.**

Analysis of ERC should be based on the best available scientific, technical, and economic information. To achieve this goal, the TGERC should generally rely on peer-reviewed literature, where available, and provide the source for all original information. In cases of particular complexity or novelty, ERC should consider subjecting its analysis to peer review. In cases in which there is no reliable data or research on relevant issues, TGERC should consider developing the necessary data and research.

Specific suggestions:

1. Revamp Annual Revenue Requirement process to simplify and standardize.
2. DISCOMS and other agencies should upload their ARR business plans, along with excel sheets. This kind of data sharing helps in analyzing, monitoring and providing proper inputs on time.
3. Generating capacity is becoming 'excess' simply because DISCOMS feel market purchases are cheaper. CMD has been quoted in media for saving money by resorting to 'external' purchases. TGERC needs to unravel this.
4. A big contribution is the government subsidy for agriculture into electricity sector. This is based on agricultural consumption. For this reason, proper, verifiable estimation of agricultural consumption is required. Scientific methods can be adopted to improve the estimations of agricultural consumption.
5. Prayas recommendation for setting up an inter-departmental committee to study the causes of DISCOM losses and suggest measures to reduce them over a period of time. SAC can also take a parallel study.
6. In Telangana, quality of supply and resultant accidents need serious focus.

Comments on Telangana Clean and Green Energy Policy 2024

1. It does not assess **how and why clean energy** is required within Telangana. Outlining why this policy is necessary and its intended outcome is a primary step in policy formulation. In the absence of such a background to this policy, a clear, measurable objective of reducing emissions, natural resource conservation and sustainability is missing.
2. This policy is silent on human resources, financial, legal, safety and operational aspects.
3. Overall, this policy has taken the form of a scheme than a policy. It has lot of gaps, because of under-assessment of resources, opportunities, barriers and strategies.
4. There are several factors such as social, economic, environmental, ecological, technological and scientific aspects to this policy. There is no assessment of the interplay between these factors.
5. Each of the alternatives have a different set of challenges – hydrogen remains unproven¹, BESS is expensive, RE has low PLF and day time supply limitations, vehicle fuels have distribution issues, PSP, WTE have environmental issues, etc.
6. This policy is **not SMART** – Specific, Measurable, Achievable, Relevant and Timely – fully, even though traces of these criteria can be found here and there.
7. Telangana has to evolve a policy that aims to provide households, manufacturing and businesses with a secure, sustainable, competitive, and affordable energy supply, with a focus on diversifying energy sources, improving energy efficiency, and promoting research and innovation in low-carbon and clean energy technologies.
8. In fact, Clean and Green energy policy can be a set of policies and regulations to help the transition in Telangana towards a low-carbon economy, including measures to promote energy efficiency, increase the use of renewable energy, and improve the functioning of the internal energy market.
9. There is **no visible and tangible prioritisation** between different sources of energy
10. Biofuels seem to be ignored for whatever reason, not that is good and recommendable. But there are already biofuel units in Telangana.
11. **Land for solar and other RE projects is a major issue.** In the absence of a land use policy, trade-offs between different purposes of land use can be detrimental to environment, ecology and food security.
12. Resources for this policy, especially the investment from both government and private sources has not been quantified.

¹ <https://www.iea.org/reports/the-future-of-hydrogen>

13. Employment potential of this policy needs assessment. Since new technologies are on the anvil, training, skilling and capacity building activities have to be integrated into the policy. Transition includes rehabilitation of job losses as well, which has to be prioritized.
14. Energy use sectors, industries, urban residential and agriculture, need to be integrated into policy objectives
15. Barriers to achieve the targets have not been identified distinctly.

16. Floating solar projects compete with and impede other needs/ environmental services of the water bodies.
17. The economics of roof top solar projects need to be established. Within the solar photovoltaics, **cost of installing the systems at different locations**, farms, wastelands, waterbodies, building tops, etc., can be a determining factor.
18. A regulatory instrument for solar projects, particularly roof top, needs to be developed.
19. Energy transition in this policy is not geared to converting existing convention energy production to RE or clean energy, but rather new capacity addition being focused on RE.

For example, Telangana has a total contracted capacity of 25 GW, out of which thermal is 14 GW. As per the policy, by 2034-35, thermal would be 17 GW, 3 GW above the current capacity. This is not reduction. There is no retirement. On the other hand, overall contracted capacity is envisaged to increase from 25 GW to 66 GW.

20. Emissions from 14 GW coal-based energy (thermal) would increase to 17 GW in the next 10 years. an average coal power plant emits about 1 tonne of CO₂ per megawatt-hour (MWh). This is not clean energy transition, simply because there is no reduction, but increase in coal-based energy.

21. Electricity production is planned to increase to 66 GW, from 25 GW. **Emission potential of the targeted energy capacity** needs assessment and can be one of the parameters of transition to clean energy. Basically, an emission reduction index should be developed to plan and map emissions reduction.
22. This growth of 41 GW in the next 10 years is most probably based on electricity demand assessment. How does this new 41 GW gets integrated into the current electricity usage pattern given the barriers in the form of merit order dispatch, fixed charges, RPOs, etc.?
23. **Impact on aquatic diversity due to Pumped Storage Projects (PSP) and floating RE** needs to be assessed too, given the potential for increase in temperature, habitat destruction, species displacement and altered food webs.

Pumped storage hydropower (PSH) plants can have significant effects on aquatic diversity, both upstream and downstream of the reservoir.

24. Deployment Floating solar panels (FPV) in water bodies raises concerns about **potential impacts on aquatic diversity**. Key impacts include shading and photosynthesis (cascading effects on water quality and aquatic life), water quality changes (reduction in sunlight can alter temperature stratification and oxygen levels,

- impacting aquatic flora and fauna), materials and durability (degrade over time, potentially leaching harmful substances into the water), installation and maintenance (disrupt local water bodies through increased boat traffic, potential leakage of lubricants or fuels, and other mechanical disturbances).
25. This policy needs to come up with an estimated capital expenditure on Renewable energy sources
 26. **Energy finance** discussion is not here. Financial commitments provide authenticity to the government obligations enunciated under this policy.
 27. This policy is mostly tuned towards replacing fuels – **fuel transition** – not energy transition per se. The focus is more on vehicle electrification and transport fuel energy, including hydrogen, BESS, energy charging stations, etc.
 28. A National Energy transition programme has to be worked out in consultation with State governments. A **National Energy Transition Council** may be established to bring about a consultative and shared programme of transition.
 29. This policy needs a **provision of periodic performance review and evaluation** and to ensure linkage with related central government guidelines/ directions. There is a mention of review, but it is couched in vague terms.
 30. Expand the Project Monitoring Committee to include experts from academic and research institutions. Further, this Committee can be transformed into a Telangana Energy Transition Council. This Council can help in interdepartmental coordination and also integrate all aspects of energy transition as policy making body.
 31. A **Stakeholder Committee**, to operate under and guide the Project Monitoring Committee can be helpful.
 32. Telangana needs an **institutional review** towards energy transition. Current governance mechanisms, largely controlled by Department of Energy are inadequate in planning and implementing an Energy Transition programme, across different sectors.
 33. Government should commission studies by academic institutions on each of identified RE energy sources, their potential, economics and feasibility. Without a techno-economic feasibility assessment, providing subsidies in general cannot be construed as SMART programme.
 34. A research component in the policy is a must. This policy does not refer to any prior, parallel research into all related aspects. To cite, establishing minimum requirements or benchmarks for specific behaviors, processes, or outcomes can be possibly through research and development. Technical standards, dovetailed into subsidies and financial components, can be helpful in realizing the envisaged progress.
 35. **Scalability, cost competitiveness, economies of scale, technological advancements, etc.,** are important elements that need to be addressed, when grounding a RE technology. Out of the assessment of these parameters, supportive policies and frameworks to encourage the development and adoption of appropriate RE technologies can emerge.

36. A grievance redressal mechanism needs to be integrated into the institutional structure, given the criticality of subsidies, prioritization, timelines and scheme-led transition.
37. Concepts have not been defined. For example, it does not define clean energy and green energy. There is no information on what distributed RE means, distinct from solar projects.
38. This policy framework is similar, if not exact, to the AP policy. Elements that are distinct to Telangana need to be identified and highlighted.
39. This policy overly simplifies some of the mechanisms enunciated for promoting private investment, such as allocation of water bodies for floating solar voltaics.
40. This policy in fact is a set of existing schemes or approaches or statements made recently. There is nothing new.
41. This policy does not include Roof top solar policy for domestic and commercial consumers. There is no reference to solar energy policy for agriculture.
42. Some of the potential figures for various RE, especially wind energy, is surprising. These figures seem to come out of the blue.
43. This policy does not address the **current 'burdens' on Telangana electricity financial system**, especially in the form of fixed charges, market purchases, loans, debts, project overrun costs, etc., which keep popping up at odd places whenever a policy decision is taken.
44. **Per unit of RE electricity**, or any other forms discussed in this policy, on user sectors like agriculture, manufacturing, transport, residential and commercial, needs to be worked out.
45. Emissions from suggested alternatives such as Waste to Energy are major concern too for environment and economy.

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