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Policy Review: Annotation of the Draft
National Policy for Micro and Mini-Grids,
2016

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POLICY REVIEW: ANNOTATION OF THE DRAFT NATIONAL POLICY FOR MICRO AND MINI-GRIDS, 2016¹

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1. Introduction

Electricity is one of the prime movers in the National economic growth rate, catalyst in generating new skilled manpower and an important indicator to measure poverty alleviation. It is a well-known fact that with higher energy consumption results in higher economic growth, but it also creates a negative impact on our environment through rising anthropogenic pollution. Post Paris Agreement, the big push for renewable energy (RE) came into limelight when countries like India, China, Brazil, and others, took extensive measures to tackle climate change issue. For India, the Nationally Determined Contributions (NDCs) were precisely computed to scale down toxic greenhouse gas (GHG) emission by 35 percent as of National GDP by the year 2030 as per 2005 level and simultaneously made a resolution to expand generation base for non-fossil up to 40 percent by the year 2030 (Srikanth, 2018). In-line with the clean energy transition, which is largely driven by political will, Government of India (GoI) then announced their ambitious capacity addition of 175 GW of RE planned to be completed by March 2022. So, thrust from RE target and upsurge in recent small scale deployment of solar microgrids altogether triggered Ministry of New and Renewable Energy (MNRE) to initiate a policy under efficient regulatory mechanism by issuing “*Draft National Policy for Renewable Energy based Micro and Mini-Grids in 2016*” which was earlier left out from the National Planning Agenda.

Due to its flexible nature, mini/ microgrids gained popularity among private service providers as an evolving business model to cater the Electricity demand of rural/ remote/ inland areas of India. Though provision to Electrify such areas and support local enterprises through RE systems were available in all GoI programmes, yet no such concrete policy level efforts were made till date to support rural livelihoods that solely depended upon reliable and affordable electricity access. Until mini/ microgrid policy saw the daylight, erstwhile RE projects were deployed in an unstructured way without complying any official norms or

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guidelines apart from the technical parameters as designed by MNRE (Alok Kumar et al., 2012; Bollen and Hassan, 2011; CAG, 2015; Graber et al., 2018; MNRE, 2018; Palit and Bandyopadhyay, 2017; Suryad et al., 2017).

Nevertheless, with the rise of renewables and gradual drop in price, there is a picture-perfect opportunity for leapfrogging in-order to cater basic needs of unserved/ underserved areas and improve rural economic growth rate but before that one needs to address policy-level constraints in a sustained manner.

2. Salient Features and Genesis of the Policy

The basic philosophy of this policy is to attain sustainable growth by safeguarding the energy needs of the people residing in the rural, island and/or remote areas through RE solutions. In the year 2016, when the draft policy was released, only 84.52 percent of the population had access to electricity (World Bank, 2019). With United Nation's Agenda 2030 of Sustainable Development Goals (SDGs) and on the backdrop of Paris Agreement (PA) which were commenced in 2015, there GoI was keen on fulfilment of *SDG 7-Affordable and Clean Energy* (UN, 2019). The route towards last mile coverage was conceived through off-grid or decentralized RE systems and planned to be deployed by ESCOs as Rural Energy Service Providers (RESPs) with scope for availing financial benefits from MNRE since grid extension was assessed to be an economically unviable option (MNRE, 2016). So, the release of such concrete National Policy was given high prominence to prove the credibility of the Central Government for complying with PA norms and excelling India's rank in SDG Index ratings.

In view of the policy, following that year GoI launched *Saubhagya Yojana* as a much-needed power sector reform in the year 2017 in view of their Election Manifesto for ensuring reach of Electricity to every households (HHs) with a mix of grid and off-grid power which was planned to be completed by December 2018 over a whopping public expenditure of 234.55 Million USD (PIB, 2017). Though six months passed by, yet 14 million un-connected occupied residential households do not have access to electricity (UDAY, 2019).

So, the definition dilemma of Village to Household Electrification which transformed over the years has unanimously favoured the politics of our country in the form of an unique selling point for wooing the voters during election campaigns by publicizing an area being Electrified for showcasing the much-hyped "Good Governance" simply based upon the notion of "Access" without even pushing for improvement in "Affordability" and "Reliability".

For say,

- i. Average duration of rural power supply in a single day for 10 Indian States are less than 20 hours as on April 2019 with lowest of 14.25 hours in Jammu and Kashmir but on papers all these States are being declared as Electrified (National Power Portal, 2019);
- ii. Issues of disparity in power supply for Urban (17 hours) with respect to Rural areas (12 hours) and over the top with 55 percent un-metered Rural consumers who draws free power, all together puts a big question mark on the financial and operational

performance of State-owned Electricity Distribution Companies (DISCOMs) as per a case study in Uttar Pradesh (CEEW, 2019);

- iii. Even with free electricity connection regime, there are issues of affordability among low income household in terms of high upfront cost which is being reported as major hurdle in Power for All (PFA) scheme as per a case study in Jharkhand (CEEW, 2018).

The Policy has managed to provide some systematic framework for deploying 10,000 Mini/Microgrids across the country with a capacity of 500 MW based upon the target set by MNRE for next 5 years are underlined below (MNRE, 2016): -

- Panchayati Raj institutions and ESCOs will have a major role in the overall management and decision making that were neglected in the earlier programmes of MNRE;
- On the technical front, ESCOs shall focus on deploying large scale mini-grid projects (*that are above 10 kW capacity as per MNRE definition*) for operational efficiency. In case of microgrids (*that are less than 10 kW capacity as per MNRE definition*), it has been suggested to deploy under cluster scale mode. Here, ESCOs must provide a reliable power supply to domestic consumers for a minimum of 8 hours per day. In addition to that, ESCOs must fulfil the supply-demand of 200W per households and must distribute 30 percent of overall load to domestic/ residential and rest to commercial category;
- For administrative clearance, State Government shall provide a single window clearance system for granting consents related to all infrastructure settlements. It was suggested to establish project MIS for effective monitoring of ESCOs operation on a real-time and their progress of Electrification. For instance, if a mini/ microgrid is not operational, in such case SNAs shall transfer ownership to new ESCOs;
- SNAs are bound to publish their financial statements on the public domain for assisting ESCOs to conduct project feasibility assessment in advance. Over the top, there is a provision for ESCOs to avail financial benefits for the initial ten projects with a maximum capacity of 200 kWp. Upon effective completion and fulfilment of the set compliance, local ESCOs may be allowed to commence a few more projects;
- Financial assistance and upfront capital subsidy shall be provided by MNRE with incentives to special category states. It outlined provision in capital subsidy for ESCOs through regional cooperative/ rural banks. Apart from electricity access, ESCOs shall provide additional services like education, training, internet facility, etc. For smooth deployment of the projects, ESCOs must comply with guidelines set by MNRE in providing 24×7 reliable and affordable electricity access to the consumers;

3. Main Policy Gaps

Though the policy has few good points, yet there is lack of substance in the framework which may cause bottleneck in GoI's Nation Transformation Programme that requires some attention.

One central argument of this policy brief is that one hand Government is promoting grid extension through *Saubhagya Yojana* and at the same time they are promoting mini/microgrid projects. Though such provisions are made available on the instances if grid arrives then what would be the next course of action, yet *lack of clarity in area demarcation for*

execution of such projects might affect the ongoing off-grid businesses that are being taken up by local ESCOs since there is no solidity in official notification to sanction any form of survival route;

By removal of distribution license as per EA 2003 might not be lucrative since regulators won't have any control to shield stakeholders' interest. Though it would increase competition and bring in fresh investments, yet in the long run it would eventually become difficult to monitor ESCOs performance. Moreover, there is a provision for single window clearance for smooth deployment of mini/ microgrid projects, yet there is no such clarity on the duty of office bearers and clearance process for execution of such projects. So, there is a *lack of clarity on responsibility of regulators, and process of administrative clearance;*

It is well known that mini/ microgrids projects will be deployed in far-flung areas that are out of grid purview which is mostly poor. In such an instance, it may be difficult for domestic consumers to pay their monthly electricity bills on time until a workable tariff guideline, or any special provision is being designed that supports the sole purpose. So, there is a *lack of clarity on affordability aspect;*

There is a common opinion among our English-speaking Elites that India's Rural Economy is being largely driven by Agricultural activities, but NITI Aayog (2017) study reveals that about two-thirds of Rural income is mostly driven by Non-Agricultural activities where Manufacturing sector plays a sizeable role. Since Energy plays a pivotal role in the nation building process, so inaccessibility of electricity as an Energy source may undermine the competence of Rural HHs and small/ local enterprises to move out of their energy poverty. So, there is a *lack of clarity in livelihood prospect despite the provision in electricity access by mini/ microgrid projects;*

For a niche power sector business like mini/ microgrid, policy should be designed in such a way that it promotes local agencies to take up such projects and do have in-built potential to attract private investors through federal project gap funding with successive tax concession. Segmentation of supply-demand must be done in such a way that it should endorse local livelihood activities with added incentives for business expansion. So, there is a *lack of clarity on viability gap funding (VGF) model for ESCOs and how Central Government will facilitate the process.*

4. Recommendation

To ensure socio-economic development of an unserved/ underserved area whether it is rural/ remote/ island, here mini/ microgrid projects may be deployed in "*Rural Investments and Manufacturing Zones*" (RIMZs) as a new concept in Indian Power Sector. State Government may take necessary action to develop guidelines for formulating RIMZs as a special economic zone for improving productivity of their respective state and in reducing migration. RIMZs as a lucrative model will be able to attract local investments only with the provision of "24×7 reliable and affordable electricity access" for expanding micro-small-medium enterprises (MSMEs), supporting entrepreneurs and creating prospect for local employment.

The following set of recommendation are based upon the existing gaps in addition to the salient features which the Central Government and Policy Makers must consider while finalizing the policy: -

MNRE may facilitate a win-win business model to encourage ESCOs for deploying projects in remote/ rural/ island areas by stating a clear area demarcation between main grid and microgrid projects in-consultation with State Land Records and Power Department. In case, if the grid has arrived or yet to arrive, then DISCOMs may lease out such areas to ESCOs under RIMZs category through competitive bidding mechanism for a duration of three years. Based upon ESCOs performance lease period may be further extended. In such an instance, a tripartite lease agreement may be signed among ESCOs, DISCOMs, and UA by stating clear land demarcation between grids and microgrids;

Unified authority (UA) may provide single window clearance for projects related to land acquisition, environment, Right-of-Way; tax collection; policy for RIMZs, developing forum for grievance redressal mechanism and establishing roadmap for local employment. Regulators under UA framework will execute their responsibilities beyond business regulation by mostly focusing on sustainable growth of RIMZ area by performing the underlined points:

- One Zone One Tariff Policy: formulating in-consultation with stakeholders by excluding the fixed cost which will be solely based upon socio-economic condition of the consumers residing in RIMZs confined area;
- IT enabled distribution and sale of Electricity;
- Develop technical and safety standards for projects- set standards to reduce number of voltage dips and strategy for overload protection;
- Formulate compliance metrics for assessment of ESCOs performance;
- Safeguard consumers from any pass-through caused due to operational and financial inefficiencies of ESCOs;
- Terminate ESCOs licenses if violated as per agreement;
- Authorize initiation of short term PPA (power purchase agreement) for 3 years with DISCOMs after suitable load forecasting and performance analysis to buy surplus power from such ESCOs under RPO (renewable purchase obligation) compliance fixed by MNRE until ESCOs retain their profit;
- Facilitate collateral free soft loans to low-income households/ enterprises/ self-help groups (SHGs) to encourage rural livelihood activities and simultaneously provide upfront capital to ESCOs for setting up their business;
- Facilitate market linkage and set up a digital portal for customer acquisition;
- Rural Enterprise Promotional Policy for businesses operating within RIMZs area based upon a fundamental objective for doubling non-farm income and increasing local employment through industry-driven skill development training.

UA may be constituted under gazette notification for effective regulation of such projects by nominating one retired High Court Judge as Chairman. For office bearers, one

member as Nodal Officer may be nominated from: - RPO Compliance Cell of MNRE, State Electricity Regulatory Commission (SERC), SNAs, DISCOMs, State Power and Land Records Department, District Administration, Zilla Parishad, Gram Panchayat and Regional Rural Banks (RRBs). For area segmentation, SERC may conduct baseline study and submit such reports to DISCOMs for allocation of project area to ESCOs;

Power supply through mini/ microgrid for all category of consumers should be on 24×7 basis as a high priority. For convenience and reducing technical strain, three separate ESCOs may be allowed to operate in the same area for providing power supply for 8 hours a day combining up to 24 hours. In such an instance, related infrastructure, transmission/distribution and O&M cost may be shared between ESCOs which may be adjusted as fixed cost for Commercial and Industrial (C&I), Agricultural category. Need for minimum lifeline support in terms of 200W per HHs per month where 30 percent of overall load demand for domestic category, 50 percent for C&I category and 20 percent for agricultural and other consumer categories. ESCOs should be able to fulfil rural HHs energy demand along with support for usage of modern services like Electricity for Cooking, Electricity for small scale businesses like Sewing/ Embroidery/ Toy, Incense sticks, Candle Making/ Handicrafts/ Blacksmith/ Pottery/ Roti Making/ Milking, etc.

Pre-paid meters for a domestic, agricultural and other categories; smart meters for C&I category may be provided by ESCOs. Metering and wiring installation cost may be adjusted through monthly electricity bills. Consumers may have choice for payment on instalment basis and scope to select which ESCOs should meet their electricity demand in-case of Time-of-Day (ToD) tariff mechanism. ESCOs shall provide minimum consumption support of 5 units per day for Domestic category with zero monthly fixed charges. For promoting rural livelihoods, in case any HHs runs any small-scale business, in such an instance additional 5 units per day may be provided by ESCOs. To avail such benefits, HHs needs to employ at least 1 person from their locality if annual income from their business turns above 730 USD (*considering earning of less than 1.90 USD per day being stated as poverty*). For C&I category, minimum lifeline consumption support of 15 units, 10 units per day for Agricultural and other category of consumers. In-case if the limit crossed, then additional tariff may be levied by ESCOs under a mutual agreement with all consumers in-consultation with the regulator.

Viability gap funding (VGF) model may be initiated where such areas may be allocated to ESCOs through competitive bidding (*where the lowest bidder who decides to generate and distribute power at their lowest tariff rates*) and have full rights to operate till 3 years. In-case of any delay in completion of the project due to natural catastrophes or if grid arrives after tripartite agreement then such ESCOs may be allowed to operate alongside with DISCOMs until they recover their profit of the investment. In such an instance, grid infrastructure may be shared by ESCOs after providing suitable fees to the State Utilities in-consultation with the regulator.

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