

Draft National Policy on Renewable Energy based Mini/Micro grids - 2016

HIGHLIGHTS

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| ISSUED BY | Ministry of New and Renewable Energy |
| ISSUED ON | 1st June 2016 |
| ELIGIBILITY | <p>The generator of a mini grid can be powered by RE sources such as solar, biomass, wind, small hydro or other notified sources and can have diesel-based generator as a backup. Hybrid systems using a combination of resources like those that of solar-wind, solar-biomass, solar-hydro etc. can also be deployed to improve system reliability and for back up</p> <p>A combination of AC & DC in mini-grids is also possible. DC Micro grids are recommended where loads are closely located.</p> <p>The recommended levels are</p> <p>DC Micro grids :</p> <p>(i) 24 V DC up to 1 kWp (ii) 72 V DC above 1 kWp to 10 kWp</p> <p>AC Micro grids :</p> <p>(i) 220 V single phase up to 10 kWp (ii) 440 V 3 Phase beyond 10 kWp</p> |
| TARIFF | <p>Tariff may be set as follows:</p> <p>(i) Where no subsidy or grid connectivity is provided-As per market (ii) Where subsidy is provided-With concurrence of defined State government authority (iii) Where grid is connected-SERC</p> <p>It should however follow the following principals:</p> <ul style="list-style-type: none"> • Should be transparently set. • Should be fixed for atleast one year to avoid frequent changes. • Should not give more than 16% return on equity if it is a business venture • Should cover cost of battery replacement • Money collected should displayed prominently in the village for everyone information |

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| COSTS, REVENUE SOURCE | <p>The cost structure of a mini grid project will have Fixed Costs and Variable Costs. Possible revenue sources for mini grids are fee for connections, sale of electricity, and through grants/ subsidies, if available</p> |
| IMPLEMENTATING PARTNERS | <p>The Ministry will implement the mini grid programme through multiple partners: State Nodal Agencies (SNA), Public Sector Organizations (Ex: SECI), Rural Energy Service Providers (RESPs), Financial Institutions (NABARD/ IREDA/ RRB/ Commercial banks), Panchayats</p> |
| IMPLEMENTATION | <p>The SNAs may choose to implement mini grids through any mechanism including but not limited to the tendering route, and should closely collaborate with State governments and/or the DISCOM to identify such projects.</p> <p>To fast-track the process, ESCOs are empaneled as Rural Energy Service Providers (RESPs)-installer, owner, operator and service supplier-to implement mini grid projects, and envisages RESPs to be one of the predominant vehicles for implementation. RESPs can directly identify and implement project by themselves.</p> <p>The involvement of the State Government and/ or DISCOMs in the SNA route for implementation makes the process straightforward hence making project identification more certain, and the development and execution easier.</p> <p>While on the other hand for private implementing agencies, they themselves arrange for land, right-of-way permissions, seek local government and community consent, and deal with other aspects. Following measures should be considered for easing project development activities,</p> <ul style="list-style-type: none"> • A single window support channel like a special RE mini-grid promotion cell may be instituted for this purpose. • A record of a sector's progress is crucial for informing infrastructure planning and investments in to the State • States may consider classifying regions/ areas based on their priority for electrification; means (grid, off-grid or both); and or based on the type of government programme. |

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| <p>PERFORMANCE AND TECHNICAL STANDARDS</p> | <p>Service Performance norms</p> <ul style="list-style-type: none"> • Provide connection to all willing domestic consumers within its vicinity on a priority basis, and • Provide supply to all domestic consumers for a minimum period of 8 hours if demanded so, during the critical hours of the day • Deploy a minimum capacity of the project to domestic loads (if there is a demand) as stipulated under the applicable Central or State policy and programme. • While 8 hours minimum supply is to be ensured, effort should be to supply 24x7. <p>All components and sub systems shall conform to the technical requirements and quality standards specified by the Ministry</p> <p>the DISCOMs are mandated to size the PDN based on a pre-approved load known as the sanctioned demand CEA’s regulations of 2015 - Measures relating to Safety and Electric Supply - can be adopted/ adapted to ensure safety</p> <p>The concerned State authorities (Electricity Board/ Distribution Licensee/ DISCOM/SERC) and or CEA may define minimum technical norms for the construction of PDN (poles, cables, JBs, service connections etc.) for mini grids, which will eventually help in standardizing the safety conditions for mini grids.</p> <p>The existing CEA regulation of 2013 - Technical Standards for Connectivity of the Distributed Generation Resources - can guide the interconnection of a mini grid with the DISCOM grid</p> |
| <p>COEXISTENCE OF MINI GRIDS AND DISTRIBUTION COMPANY</p> | <p>A policy framework to facilitate the coexistence of mini grids with the DISCOM grid is as follows:</p> <p>For both the entry situations - Areas where the DISCOM grid pre-exists Or Areas where the DISCOM grid is yet to arrive - the ESCO will be allowed to:</p> <ul style="list-style-type: none"> • “Open Market”: Continue supplying to its consumers and exist in parallel with DISCOM grid, or • Continue to supply to its consumers and sell excess or unsold electricity to DISCOM grid at the interconnection point and draw power from mini grid if required, or • Supply all electricity generated to the DISCOM grid at the interconnection point <p>The ESCO:</p> <ul style="list-style-type: none"> • Will be allowed to work in and migrate to an operating option of its choice • Will abide by the tariff norms as prescribed under the existing policy or programme of the State • Will be allowed to charge a tariff mutually determined with the consumers, if operating in an open market option • May be offered to undertake the role of a Distribution Franchisee, wherever feasible |

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| EXIT OPTIONS | <ul style="list-style-type: none"> • The interested ESCO will be technically required to convey the exit option to the SERC, and intimate the concerned SNA as well as DISCOM. The SNA can play a crucial enabling role by administering the overall exit process. • Where the DISCOM grid arrives later, the DISCOM may preferably choose to use the Public Distribution Network (PDN) of the ESCO if it conforms to the standards by paying appropriate charges or the ESCO is offered to sell the PDN to the DISCOM. • Where the mini grid opts to sell power to the DISCOM grid, the project should be compensated in accordance with the National Tariff policy. Such instances of asset sale, exchange of power (through condition of PPA and FA), and aspects such as wheeling, interconnectivity etc. fall under the technical purview of the SERC. The SERC will be required to develop a regulatory framework for enabling implementation. • Where mini grids connect with the DISCOM grid to sell surplus power, the ESCO will have to enter into a Power Purchase Agreement (PPA) with the Distribution Company. In the instance of a franchisee arrangement, the Distribution Company will have to enter into a Franchisee Agreement with the ESCO. |
| INCENTIVES | <p>The Ministry shall continue to provide the upfront capital subsidy it offers for deploying mini grid projects under its various programmes.</p> <p>A State may consider providing additional incentives over and above the existing central financial assistance for projects, under their policy</p> |

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| Link | http://mnre.gov.in |
| References | http://mnre.gov.in/file-manager/UserFiles/draft-national-Mini_Micro-Grid-Policy.pdf |