

Draft policy document of the Jawaharlal Nehru National Solar Mission, Phase II

Off-grid programmes under the mission

Centre for Science & Environment roundtable discussion
with stakeholders on December 22, 2012 at CSE office,
India Habitat Centre, New Delhi





Presentation Overview

- Reviewing the past
- Overview of the draft policy document
- CSE recommendations & suggestions



Reviewing the programmes of the past

- The MNRE should learn from the past and needs to review the Phase I of National Solar Mission and the Remote Village Electrification Programme.
- CSE reviewed the two programs and the findings are as follows:
 - Capital subsidies have failed to achieve sustainability of the program
 - Poor quality of CFLs and SHS in remote areas with lax monitoring by the government
 - Suppliers have try to gain by reducing costs especially by providing sub-standard panels and not fulfilling maintenance contracts
 - Awareness among beneficiaries about battery replacement and basic SHS maintenance is poor
 - Methodology adopted to accredit companies encourages only large companies
 - The mix of capital and interest subsidies in the national solar mission has promoted the rich



Overview of the draft policy document

- Following programmes (with target) have been mentioned in the draft:
 - Energy access (20,000 villages/hamlets)
 - Off-grid lighting (10 lakh)
 - Solar water pumping (25,000)
 - Telecom towers (25,000)
 - Solar water heating (15-20 cities with solar water heating – targeting about 8 million sq. m collector area)
 - Solar Cookers (50,000 installations including 100 institutions)
 - Industrial Process heat applications (400 systems with 250 sq.m each)



Overview of the draft policy document

- Programmes mentioned in the draft for off-grid

Energy Access Scheme:

- The scheme supercedes the Remote Village Electrification Programme
- It now includes areas that are grid connected with less than 6 hours of electricity
- Focus given to mini-grids under the program with a 90 percent subsidy
- The MNRE specifies that each household would be allocated a two to five light points (9 W each) and one to three sockets
- *Target: 20000 villages/ hamlets/ dalit bastis*



Overview of the draft policy document

Off-grid solar lighting:

- This would support projects on mini-grids up to 500 kW with special support for solar lanterns, solar home lighting systems and power plants upto 3 kWp

“Phase II would focus on ease of flow of subsidies with major contribution of capital subsidy schemes instead of interest subsidy schemes”

- *Target: 10 lakh off-grid lighting systems*



Overview of the draft policy document

- Strategies indicated in the draft for implementation
 - Benchmarking of costs: Phase II will continue this with annual reduction
 - Procurement through bidding: The bidding process is expected to identify cheaper products for the programmes on off-grid
 - Expansion of service network with the help of private players
 - Development of standards for solar products



Overview of the draft policy document

- New concepts:
 - Development of the star rating systems according to product quality
 - Expansion of testing facilities to check product standard and star rating
 - Online disbursement of subsidies
 - IT enabled monitoring systems



What is missing in the draft

- There is a lack of clarity in the draft. Targets have been set for different off-grid products while the strategies (funding, implementation method etc) only talk for the Energy Access scheme and Off-grid lighting. The extent of financial support for the other schemes has also not been mentioned.
- There is no analysis done on the first phase of the mission nor the remote village electrification programme. This could have enabled the MNRE to move away from capital subsidy.



Off-grid lighting: What it should be?

- The following programmes could help in keeping the off-grid programmes clear and distinct:
 - Programme on mini-grids for rural and remote areas
 - Off-grid lighting program (solar lanterns, home lights, street lights) for rural areas
 - Off-grid applications for urban centres (mini-grids, solar lanterns, street lights, and any other solar application)
 - Off-grid programme for industries (mini-grids for captive power production, heating and cooling applications etc.)
 - Off-grid solar water pumping programme for rural areas
- The programmes need to be distinguished according to the targeted beneficiaries rather than technology



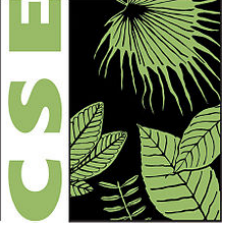
Financing the mini-grid programme

- **Capital costs:** The project developer should bring in equity amounting to 20 per cent of the entire capital cost. The rest (80 per cent) would be financed through soft loans at a 5 per cent interest rate.
- **Tariff structure:** This would be divided into two segments – a basic household level contribution and generation based incentive (GBI). If the households require more electricity than the prescribed minimum need for electrification (1 unit per household), they should be charged at the conventional electricity tariff for the extra units. The difference between the generation cost and the amount collected from households would be the GBI that the project developer could be eligible for. This amount could come from the National Clean Energy Fund passed on through the distribution companies at the local level.
- **Loads:** Households should be given load as per their demand, say 2 light points (9W each) and socket (40W) in any combination, on a flat rate basis. The households should have the option to increase their consumption, given their purchasing power.



Implementation of the off-grid programmes

- Focus should be on interest-based subsidies. There is no need for capital subsidies if the down payment is marginalized.
- Priority should be given to remote villages, which are farthest away from the tail end of the grid.
- The MNRE need not specify the technical details of required for each household. The end user should have the option to choose according to his purchasing power, and his requirement.
- Banks need to be incentivised in order to participate in the program for disbursing interest based subsidies.



Other recommendations

- Create a strict monitoring framework and penalize partners who fail in their maintenance
- Need for promoting social entrepreneurship at least in Phase II
- Systems rating could be done according to performance. However, practitioners like manufacturers, system integrators and technical suppliers need to be involved in the process



