

**Comments on MNRE Draft Off-grid Guidelines OG/Draft/120310
Prayas Energy Group; April 6th 2010**

The primary stated objective in the Jawaharlal Nehru National Solar Mission, under “*the off-grid opportunity*”, is “*lighting homes of the power-deprived poor*”. The mission’s strategy states its two-fold objective as “*To scale up deployment of solar energy and to do this keeping in mind the financial constraints and affordability challenge in a country where large numbers of people still have no access to basic power and are poor and unable to pay for high cost solutions*”. However, we observe that the objective is not being met with the current guidelines. Our comments and suggestions are included below.

Off-grid solar – Less subsidy offered in spite of more need

First, **only 7% of the total committed subsidy is for off-grid solar**, while the rest is for grid-connected solar plants and solar PV manufacturing (See *Need to realign India’s National Solar Mission*, Economic & Political Weekly, Vol 45 No. 12). Second, the **per Watt peak subsidy** (based on normative costs) for **off-grid solar applications is much lower than grid-connected power plants** (See Table below). Off-grid solar applications such as solar home lighting systems, solar pumps for irrigation, streetlights, solar power packs for schools, and solar drinking water supply systems for communities would make a tremendous positive impact on the rural poor and the agriculture sector. Unfortunately, despite the clear advantage that these systems would bring to India’s rural poor, the subsidy offered for off-grid solar applications is much lower than the grid-connected power plants.

Category	Capital cost Per Wp	Subsidy Per Wp	Subsidy portion
Solar grid-connected large power plants	Rs 210	Rs 580	280%
Off-grid solar PV with battery storage	Rs 300 ¹	Rs 90 + 5% interest loans	30% ³
Off-grid solar PV without battery storage	Rs 210 ¹	Rs 90 + 5% interest loans	42% ³
Standalone rural SPV plants	Rs 300-210 ¹	Rs 150 + 5% interest loans	50-70% (90%) ²
Standalone rural solar thermal power plants			60%
Solar water heaters, thermal concentrators etc			30% (40-50%) ²

¹ based on Rs 130/Wp PV module price, installation, commissioning and 5 years AMC
² for special category states – NE, Sikkim, J&K, Himachal and Uttaranchal
³ interest subsidy adds 10 percentage points if interest rate of 14% for 3 years is the norm.

Application-wise norms based on economic models to determine subsidy

We observed that the **rationale for determining each of the subsidy levels is not provided**. The **same amount of per Watt peak subsidy is provided to all the varied off-grid solar applications** whether they are solar lighting systems for the poor, solar pumps for farmers or solar systems for telecom towers owned by profitable corporations. However, different applications have different economic models based on different capital and O&M costs to ensure long-term sustainability and financial viability of the projects. Further, offering the same amount of subsidy level for telecom towers as that for solar home lighting systems and solar pumping systems **fails to take into account the paying capacity of the end user**.

We suggest **establishing norms for determining subsidies for each of the off-grid application categories**, similar to the norms used to determine grid-connected solar plant tariffs. Subsidy levels must be determined depending on normative costs, the end user, their capacity to pay, their alternative options and the government’s responsibility to provide a

service. These norms can be evaluated every year and would form the basis to decide whether subsidy levels need to be reduced or increased (based on remaining need, changing costs and volumes), rather than some fixed annual subsidy reduction rate. We provide a few examples below.

Solar home lighting systems: Today over 70 million people have little or no access to electricity and use kerosene for lighting. The government should decide at what cost to provide lighting/electricity service to the poor by way of solar home lighting systems, either on a Rs/lumen or Rs/kWh. It is the responsibility of the government to ensure that the poor have access to affordable energy, akin to its grid-connected citizens. The quantum of subsidy needed can then be back calculated taking into account the capital cost, O&M and the service providers' expenses.

Solar water pumping systems: These systems avoid extending the grid to farms and most importantly, avoid agricultural pumping loads on the grid and in other cases, save diesel consumption. For this application to grow under the market driven mechanism, the cost of electricity to be provided to the farmer for water pumping should be decided upfront, and the subsidy back-calculated from thereon.

Unless a rational basis for subsidy determination is not established, only a few applications would grow in a market driven policy, while those that offer true benefits to the poor and the agriculture sector will be left behind. It would be **very unfortunate if the telecom companies avail of the major portion of off-grid solar subsidy, while the poor still wait for a clean source of light.**

Set targets and priorities for certain off-grid applications

We suggest the MNRE to **adopt targets and prioritize those off-grid applications that serve the needs of the rural poor.** These applications include solar home lighting systems, village streetlights, rural water distribution systems, solar power packs for Primary Healthcare Centers and schools amongst others. The purpose of setting targets is more for assessing the need for each application and a tool to judge the success of the pull mechanism. This will facilitate monitoring the progress of the off-grid program and help achieve the objective outlined in the National Solar Mission.

Platform for experts to provide policy recommendations

In our conversations with many experts, several unmet needs and suggestions for improvement were put forth. Some of them were a more efficient subsidy disbursal mechanism such as direct transfer to the beneficiary, a robust monitoring and verification program, grievance redressal mechanism and a regulatory framework to oversee the execution of the off-grid program. We strongly suggest **establishing a platform for experts to discuss best practices**, debate over issues to overcome existing bottlenecks and provide effective policy suggestions for ensuring wide spread off-grid solar solutions deployment.

We hope you take cognizance of our recommendations, and find our suggestions useful.

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