



## **SREP Investment Plan for Nepal**

We thank Nepal for a well prepared Investment Plan.

We welcome a good balance between grid-connected measures to assure energy security and productive use of electricity as well as mini and micro initiatives to ensure access to clean energy and poverty reduction.

We support the endorsement of the SREP Investment Plan for Nepal.

We have the following questions and comments:

1. Could you please explain how the addition of 50 MW of small hydro power (SHP) generating capacity will have a transformational impact on Nepal? We do not quite see this, especially on the background of GoN long-term objective of raising generating capacity from 700 to 4'000 MW within the next 16 years. (The latter objective seems exceedingly ambitious/optimistic to us).
2. It is stated in the IP that the SHP projects selected for SREP support will be those who already have a PPA from NEA and that the latter has already committed to provide transmission access for these project. Does NEA have the financial means or credit commitments from financing institutions to realize these transmission improvements in the time frame foreseen for SREP project development (2012-17)? Who will guarantee NEA?
3. Both components of the IP foresee the funding of revolving credit facilities, to support the local banking sector (for small hydropower projects) or micro-credit institutions in financing loans to project developers or beneficiaries. How are the flow-backs from loan repayment considered in the IP, during the target period (2012-2017) and beyond (i.e. next cycle of investments)?
4. How is the prevailing interest rate for micro credits (14-18% p.a.) justified? We would expect the use of grant and/or interest free capital from SREP to lower these interest rates. Is this foreseen and quantified in the IP?
5. What is the beneficiaries' own contribution to the installation, operation & maintenance of mini/micro energy systems (hydro, solar PV, biogas)? Is this contribution being taken into account in the IP?
6. Is the insolation level in remote areas in Nepal sufficient to guarantee year round efficient operation of solar PV systems?
7. An interesting co-benefit of the biogas cooking stove program is the avoidance of further deforestation. Can this effect be quantified in terms of avoided GHG emissions or is this already included in the figures of the result framework?
8. Mini/micro hydropower applications, for which mini-grids are necessary to distribute the generated electricity, are potentially contributing to employment creation and thus development. These impacts have not been quantified in the IP. Also, the implementation at communal level of such systems requires considerable support to be provided to such communities. Thereby, the buy-in of beneficiaries is generally more difficult to motivate (thus lower) than for systems where individual property rights can be conveyed.

9. Provided favorable climatic conditions (high and regular insolation levels), the use of off-grid solar PV systems is the most cost-efficient way to provide access to electricity to households in remote areas (250 USD/hh vs 533 USD/hh for mini/micro hydro-power plants). As documented in the IP, solar PV is also the only proposed renewable energy technology with sinking prices. Solar PV systems are easy to transport and install in remote areas.

The key development effect in a situation where poverty still prevails is linked to access to electricity in itself, thanks to its impact on education and access to communication technology. Also, the low cost and unshared character of solar home systems should reveal motivating to the beneficiaries to cover a sizeable and increasing share of their installation and maintenance costs.

Productive use should be emphasized by proposing larger systems to small enterprises and use synergies with the electrification of community buildings (schools, administrations).

In order to maximize the transformational impact, the beneficiaries should acquire the systems and pay for them using micro-credit financing with reasonable tenor and interest rates. Such a system seems to be in place for the biogas cooking stove program. We suggest using synergies between the programs to speed-up deployment of off-grid solar systems through micro-credit financing.

In order to be sustainable, the program must foresee local facilities for regular maintenance, repairs and recycling (or disposal) of obsolete equipment. Life cycle considerations should ensure that the most sustainable and environmentally sound solar PV technology is used.

Berne, 4th November 2011