

## Special Packages for Arunachal Pradesh and Ladakh, Jammu & Kashmir

**12.1** The Ministry has taken special initiatives to meet energy requirements of border villages in Arunachal Pradesh and Ladakh region of Jammu & Kashmir. These were announced by the Prime Minister in January 2008 and January 2010.

### PROJECT ON ELECTRIFICATION/ ILLUMINATION OF BORDER VILLAGES OF ARUNACHAL PRADESH

**12.2** Arunachal Pradesh has 16 districts with 3862 villages (census 2001). Out of 16 districts, 12 districts have international boundaries. These 12 districts have 3015 villages, of which 1483 villages are un-electrified and need to be electrified. The Prime Minister had announced a package of ₹550 crore, in January 2008, to electrify / illuminate these villages through solar power and small hydro power projects.

**12.3** A plan has been made to electrify/ illuminate 1483 un-electrified villages of border districts of Arunachal Pradesh. 425 villages are being electrified by completing 46 on-going small hydro power projects by the Department of Hydro Power Development (DHPD), Government of Arunachal Pradesh. For these projects a sum of ₹274.42 crore has been provided by the Planning Commission to the State. The balance 1058 villages are being electrified / illuminated from small / micro hydel projects and solar photovoltaic systems with an estimated cost of ₹275.58 crore, which is being provided by MNRE.

**12.4** The implementation of the project started from January 2009 and will be completed by March, 2012. Out of 1058 villages, 726 villages have been illuminated / electrified. These include 523 villages where all house-holds have been provided with solar home lighting systems. Further, work in 107 new micro/ small hydro projects are in progress. The project is being monitored by a Steering committee under the chairmanship of Secretary, MNRE

### LADAKH RENEWABLE ENERGY INITIATIVE

**12.5** The Ladakh Region of Jammu & Kashmir, with its extreme environment, faces enormous energy adversities throughout the year which become even more acute during the winter months. While urban areas, and all defence establishments,

### Box 12.1

#### 523 border villages in Arunachal Pradesh illuminated through solar home lighting systems

Total number of systems installed: 5758

District	No. of villages	No. of SPV systems
Anjaw	186	1930
Kurung-Kumey	79	876
Changlang	14	169
West Siang	33	411
Upper Siang	9	112
Dibang Valley	47	277
Tawang	4	38
West Kameng	16	155
East Kameng	74	1094
Upper Subansiri	61	696
Total	523	5758

- The suppliers have been given 5 years AMC to maintain the systems.
- All individual households have been given training to operate and maintain the systems.
- Service centres have been opened for 10 districts. All households have been given telephone numbers of service centres.
- A district level Monitoring Committee has been constituted under the Chairmanship of DC by the Government of Arunachal Pradesh.

use diesel and kerosene extensively, populations in the remote areas face problems for cooking and heating. Diesel, kerosene and firewood have to be transported from long distances and at huge cost. The issue is not only of energy supply but also of health and livelihoods of rural populations. The region has very good potential for solar energy and hydro power. Sunshine is available for about 300 days in a year and clear skies result in very high value of solar radiation. Considering this, it is felt that renewable energy systems can be effectively installed to meet energy requirements of the region and reduce diesel, kerosene and firewood consumption and address issues of energy, health and livelihoods.

**12.6** The Ministry of New and Renewable Energy has conceived a project entitled 'Ladakh Renewable Energy Initiative' to minimize dependence on diesel in the Ladakh region and meet power requirement through local renewable sources. The approach is to meet power requirements through small / micro hydel and solar photovoltaic power projects /systems and use solar thermal systems for water heating / space heating / cooking requirements. The project also envisages setting up of 10 solar photovoltaic power plants in defence establishments. Such projects would be able to replace use of diesel to a great extent, at least for about 8 months in a year and reduce green house emissions in the region. The project is being implemented in a time bound mission mode of three and a half years with a total cost of ₹473 crore.

**Box 12.2**  
**Salient features of Ladakh Renewable  
Energy Initiative**

- Plants / systems proposed to be installed as part of the project.
- 30 small / micro hydel projects with a total capacity of 23.68 MW and strengthening of transmission network where ever required.
- 70 isolated villages to be electrified through solar power plants of 5–100 kW and providing solar home lighting systems for 2000 dispersed households.
- Small solar power plants to 120 institutions like health centers, religious institutions, education institutions / schools etc.
- About ten 100 KW solar power plants in defence establishments to meet the day load requirements and demonstrate reduction in use of diesel
- 12,000 solar water heating systems covering about 20% of potential users.
- 10000 nos. solar dish cookers, 25 nos. steam cooking systems and 1000 solar dryers.
- 5500 nos domestic green houses for BPL families and 500 nos. commercial green houses. These will substantially increase local vegetable production.



*40 kWp SPV Power Plant at Yurbaltak Kargil,  
Jammu & Kashmir*

**12.7** Ladakh Renewable Energy Development Agency (LREDA) and Kargil Renewable Energy Development Agency (KREDA) are implementing the project in Leh and Kargil respectively. Various activities in the project have already started. Survey of sites for small / micro hydel projects is underway. Orders for supply of solar photovoltaic power plants and other systems have been placed. The major work in the project would be undertaken in the next working season, starting from May 2011.