- Wide publicity on the use and utility of renewable energy through electronic and print media, etc.

Grid integration of renewable energy projects

1970. SHRI THOMAS SANGMA: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether renewable energy poses particular technical and managerial challenges for grid integration;

(b) if so, the details thereof; and

(c) the steps taken by Government to address each of such challenges and facilitate grid integration of renewable energy projects in the country and the progress thereof, State-wise?

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH): (a) and (b) The main technical problems faced with grid integration of renewable power (i) grid-synchronization limitations on account of intermittent nature of supply, (ii) limitations of existing transmission capacity, and (iii) ability of renewable power generating plant to cope with sudden short-term drops in grid voltage, as can be caused by short-circuits.

(c) Most of the above problems can be overcome significantly with the use of digital technology and development of smart grids coupled with general expansion of grid capacity. This technology is applicable mainly for conventional power sector but can be useful for efficient integration of renewable power into the grid by alleviating the cited problems. The Government has set up a task force to develop the same. The Central Electricity Regulatory Commission has also commissioned a study.

Electrification of remote villages

1971. SHRI RAGHUNANDAN SHARMA: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the generation of power in Megawatts from the projects operating under Jawaharlal Nehru National Solar Mission, project-wise;

(b) whether Government proposes to electrify remote villages of the country through solar power;

(c) if so, the targets set for villages and by when it would be completed, State-wise;

(d) whether the remote rural areas of Madhya Pradesh would also be included in this scheme; and

(e) if so, the details about the areas to be included?

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH): (a) Under the Jawaharlal Nehru National Solar Mission (JNNSM), Government has sanctioned 802 MW capacity of grid connected solar power projects, based on solar photovoltaic (PV) and thermal technologies. The project developers have been given a time of 12 months to commission the PV projects and 28 months for the solar thermal projects.

(b) to (e) The Ministry is implementing Remote Village Electrification Programme for providing financial support for lighting /basic electrification using renewable energy sources including solar energy, in those remote unelectrified census villages in various States including Madhya Pradesh where grid extension is not found feasible by the State Governments and hence are not covered under the Rajiv Gandhi Gramin Vidyutikaran Yojana. Support has been provided for covering 558 villages in 24 districts of MP. State-wise targets are not set under the programme and the projects are sanctioned on case-to-case basis after proposals are submitted by the State Implementing Agencies as per the guidelines of the scheme. Coverage of such villages is dependent on the State Governments short listing them and submitting proposals for support under the programme.

PSUs using wind energy

1972. SHRI AVINASH RAI KHANNA: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the details of PSUs using wind energy;

(b) how much power they have saved; and

(c) the details of steps Government is taking to promote the use of non-conventional energy sources?

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH): (a) and (b) As reported by the Indian Wind Turbine Manufacturers Association, the central and state PSUs have so far established 770.5 MW wind power projects in the country. The details are given in Statement (*See* below).

(c) To promote the use of non-conventional energy sources, the Government has taken several steps. These include the following:

- Fiscal and financial incentives, such as, capital/interest subsidy, accelerated depreciation, nil/concessional excise and customs duties;
- Preferential tariff for grid interactive renewable power in most potential States following the provisions made under the National Electricity Policy 2005 and National Tariff Policy 2006;
- Directives under Electricity Act 2003 to all States for fixing a minimum percentage for purchase of electricity from renewable energy sources taking into account local factors.