Renewable energy projects

2933. SHRI SACHIN RAMESH TENDULKAR: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the number of projects proposed for meeting the renewable energy targets and the total worth of such projects; and

(b) the details of such projects which are termed as non-moving projects due to lack of clearances from other Ministries?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) and (b) A target of 16725 MW of the Grid-Interactive Power has been fixed from various renewable energy sources during 2016-17 which include 12000 MW from solar, 4000 from wind, 500 MW from biomass and 225 MW from small hydro power. The project cost for installation of 16725 MW has been estimated to be about ₹ 1,00,000 crore (at the rate of ₹ 6.00 crore/MW).

No major renewable energy project has been reported as non-moving project due to lack of clearances.

Initiatives on renewable energy capacity

2934. SHRI SACHIN RAMESH TENDULKAR: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) what initiatives the Ministry is taking to achieve its targeted renewable energy capacities and meet committed reduction in emissions;

(b) what is the quantum of projected electricity generation from renewable sources; and

(c) the details of researches the Ministry is undertaking to bring down the cost of generating electricity from renewable sources?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) The initiatives taken by the Government to achieve targeted renewable energy capacities and meet committed reduction in emission in the country include:

- Up-scaling of the target of renewable energy capacity to 175 GW by the year 2022, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power;
- Amendments in the tariff policy for strong enforcement of Renewable Purchase Obligation (RPO) and for providing Renewable Generation Obligation (RGO);

- Setting up of exclusive solar parks;
- Development of power transmission network through Green Energy Corridor project;
- Identification of large Government complexes/buildings for rooftop projects;
- Provision of roof top solar and 10 per cent renewable energy as mandatory under Mission Statement and Guidelines for development of smart cities;
- amendments in building bye-laws for mandatory provision of roof top solar for new construction or higher Floor Area Ratio (FAR);
- Infrastructure status for solar projects;
- Raising tax free solar bonds;
- Making roof top solar a part of housing loan by banks/NHB;
- Incorporating measures in Integrated Power Development Scheme (IPDS) for encouraging distribution companies and making net-metering compulsory; and
- Raising funds from bilateral and international donors as also from the Green Climate Fund to achieve the target and creation of Surya Mitras for installation and maintenance of the solar projects.

(b) As per information of the Central Electricity Authority (CEA), 47.62 BU have been generated from various renewable energy sources during 2016-17 (April to September'16), which is 7.54% of the total energy generation in the country.

(c) The focus areas for R&D are solar energy, wind hybrid systems, biogas, biofuels, hydrogen, fuel cells and related components. R&D projects undertaken have strengthened R&D/academic institutes, industries for furthering RD&D for technology development for commercialization. In solar photovoltaics, the focus has been on indigenous development of solar cells with improved efficiency at par with international level, with cost reduction. Crystalline silicon solar cell of 18% efficiency has been developed at lab scale. R&D efforts are continuing for improvement of efficiency with cost reduction. R&D in solar thermal power provided feedback on operational aspects of the technology for further development. R&D in hybridization of solar and wind is being pursued for ensuring improved energy supply from renewable energy. In addition, R&D efforts are going on for design, development and demonstration of hydrogen and fuel cells for power generation and other uses.

Setting up of bio-gas plants

2935. SHRI T. G. VENKATESH:
DR. PRADEEP KUMAR BALMUCHU:

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state: