Projected power generation from solar energy

821. SHRI K. N. BALAGOPAL: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the projected power generation from solar energy during the current Five Year Plan period; and

(b) whether Government has any report regarding the possible annual generation capacity in the country and if so, the State-wise details thereof?

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH): (a) The Government has recently launched Jawaharlal Nehru National Solar Mission aiming at setting up of 20,000 MW grid solar power and 2,000 MW of off-grid solar power by 2022. The Mission would be implemented in three phases.

The Government has approved implementation of the first phase of the Mission with the target to set up 1,100 MW grid connected solar plants including 100 MW of roof top and small solar plants and 200 MW capacity equivalent off-grid solar applications up to year 2012-13.

(b) The annual average generation from grid connected solar power plants is estimated to be 1.6 million units per mega-watt installed capacity. The generation from a solar power plant would depend primarily on the availability of solar radiation at the location of the plant and the technology used. For higher potential locations across various States, where availability of solar radiation is in the range of 2000 kilowatt-hour per square meter per year and above, higher generation would be possible.

Potential of renewable energy

822. SHRI K.V.P. RAMACHANDRA RAO: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the estimated potential of renewable energy in the country;

(b) the extent to which this potential is tapped, so far; and

(c) the future plans in this regard?

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH): (a) A potential of around 90,000 MWeq for energy/power generation from different renewable energy sources (excluding solar) in the country has been estimated which include 48,561 MW from wind, 15,384 MW from small hydro and 26,367 MW from bio-power. The potential for solar energy is estimated for most parts of the country at around 20 MW per square kilometer of open, shadow free area covered with solar collectors.

(b) Around 17,173 MW grid interactive power generation capacity has been installed from these renewable energy sources as on 30.06.2010 throughout the country. This includes, 12,009 MW from wind, 2767 MW from small hydro, 2313 MW from biomass, 72 MW from waste to energy and 12 MW from solar. In addition, around 420 MW off-grid/captive power capacity has been also added from renewable energy sources till 30.06.2010.

(c) A target of 12,229 MW grid interactive renewable power generation capacity addition has been set during the 11th Plan period, against which around 6,917 MW grid interactive renewable power generation capacity has been added during the first three years and three months upto 30.06.2010.

The Government has also approved Jawaharlal Nehru National Solar Mission (JNNSM) to give a major boost to development and deployment of solar energy technologies in the country. The Mission aims at creating an enabling policy framework for deployment of 20,000 MW of solar power, 2000 MW off-grid applications, including 20 million solar lighting systems and 20 million sq. solar thermal collector area by 2022, split over three phases.

Potential of sunshine

823. SHRI K.V.P. RAMACHANDRA RAO: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether it is a fact that the country has a great potential of sunshine;