

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR):

(a) and (b) Foreign companies are permitted to set up 100 per cent owned subsidiaries or joint ventures, with Indian partners for financial and/or technical collaboration, in new and renewable energy, including hydrogen energy. Foreign companies can also set up new and renewable energy projects on Build-Own and Operate (BOO) basis.

(c) Hydrogen energy technology is in its nascent stage of development. At present, 23 Research and Development (R&D) projects are under implementation in different institutions across the country. However, in order to prepare a National Hydrogen Energy Road Map for the country and to oversee its implementation, the Ministry of Non-conventional Energy Sources has constituted a National Hydrogen Energy Board comprising representatives from Government, industry, academia, research institutions and experts. The R&D thrust areas are hydrogen production, transport, storage, delivery and its applications in systems/devices in transport, portable and stationary modes.

(d) The 3 competing alternate fuels are, namely, hydrogen, bio-fuels and synthetic fuels. These fuels are still in the development stage. The scientific and technical challenge is to make them and their applications in systems/devices for transport, portable and stationary modes commercially competitive. Alternate fuels, including hydrogen, are expected to play a dominant role sometime in the future.

#### **Assessment of wind energy in Tamil Nadu**

3656. SHRI S. ANBALAGAN: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) whether the Union Government made any assessment of the potentiality of producing electricity by using wind energy in the State of Tamil Nadu; and

(b) if so, the details thereof and the follow up steps taken thereon including the areas of potentiality?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR):

(a) Yes, Sir.

(b) Forty one sites, which could be considered suitable for wind power projects have been identified in the State of Tamil Nadu, with a gross wind

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RAJYA SABHA

potential of 3050 MW. Wind power capacity of 2036 MW has so far been installed in the State. Fiscal and promotional incentives are being provided by the Government. Loans are available for commercial projects from Financial Institutions including Indian Renewable Energy Development Agency (IREDA). The State Government has announced policy for wheeling, banking and buy back of electricity generated from wind.

### **Popularisation of Solar Energy**

3657. SHRI SHAHID SIDDIQUI: Will the Minister of NON-CONVENTIONAL ENERGY SOURCES be pleased to state:

(a) what steps are being taken to popularize solar energy in homes and other establishments;

(b) whether there is any plan to use solar energy in all Government buildings and establishments; if so, the details thereof; if not, the reasons therefor; and

(c) the States where solar energy projects have been successful and which are the States where it had not taken off?

THE MINISTER OF STATE OF THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI VILAS MUTTEMWAR):

(a) The Ministry of Non-Conventional Energy Sources is implementing various programmes for promotion of solar thermal and solar photovoltaic devices and systems such as solar water heaters, solar cookers, solar air heating and steam cooking systems, solar lanterns, solar home lighting systems, solar street lights, SPV power plants and solar buildings. The programmes provide for financial assistance in the form of subsidy and/or soft loans to the users. Financial support is also provided to the State implementing agencies in various States. The Ministry is also providing grants for activities such as training, awareness promotion, market development and demonstration.

(b) A model regulation for making installation of solar assisted water heating systems mandatory in certain categories of buildings such as hotels, hospitals, guest houses, community centres, etc. has been circulated by the Ministry of Urban Development to all States for incorporation by the local bodies in their buildings byelaws. Some Municipal Corporations in Karnataka, Maharashtra, Gujarat, Andhra Pradesh and Tamil Nadu have adopted this measure which will be applicable to both Government and private buildings. Efforts are being made to persuade other States also to take similar action.