

GOVERNMENT OF INDIA  
MINISTRY OF NEW AND RENEWABLE ENERGY  
RAJYA SABHA  
UNSTARRED QUESTION NO. 1911  
ANSWERED ON 16.12.2025

**NATIONAL POLICY ON GEOTHERMAL ENERGY AND THE STATUS OF THE PILOT  
PROJECTS**

1911. SHRI DEEPAK PRAKASH

Will the MINISTER OF NEW & RENEWABLE ENERGY be pleased to state:

- (a) the main objectives and key features of the recently notified National Geothermal Energy Policy, 2025;
- (b) the measures proposed to promote research, innovation and adoption of global best practices for the development of geothermal energy in the country
- (c) the potential applications identified for geothermal energy; and
- (d) the details of the approved pilot projects for assessing geothermal potential, the current progress thereof?

**ANSWER**

**THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER**

**(SHRI SHRIPAD YESSO NAIK)**

- (a) The National Policy on Geothermal Energy aims to establish geothermal energy as a major pillar of India's renewable mix by enabling systematic exploration, development and deployment of geothermal resources. It focuses on improving research, drilling, reservoir management and promoting direct-use applications and Ground Source Heat Pumps (GSHPs). The Policy provides a clear regulatory framework, encourages private-public participation, repurposing of abandoned oil & gas wells, creation of a national geothermal data repository, and development of pilot projects and Centres of Excellence.
- (b) The Ministry of New and Renewable Energy (MNRE) is implementing a "Renewable Energy Research and Technology Development Programme (RE-RTD)" through various research institutions and industry to develop indigenous technologies and manufacturing for widespread applications of new and renewable energy including Geothermal Energy in efficient and cost-effective manner in the country.

To promote research, innovation and adoption of global best practices in geothermal energy, a Stakeholder Consultation Meeting was held on 12.11.2025 to deliberate on the implementation of the National Policy of Geothermal Energy.

(c) Potential applications of Geothermal Energy are as follows: -

- **Electricity generation** using high-temperature geothermal resources through binary, flash, or dry-steam power plants.
- **Direct-use applications** such as district heating, greenhouse heating, aquaculture, industrial process heat, drying, and cooling via absorption chillers.
- **Ground Source Heat Pumps (GSHPs)** for space heating/cooling in buildings, offering high efficiency and year-round temperature control.

(d) The details of approved projects are placed at **Annexure-I**

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**Annexure-I referred to in reply of parts (d) of the Rajya Sabha Unstarred Question No. 1911 to be answered on 16.12.2025**

<b>Sl. No.</b>	<b>Project Title</b>	<b>Organization</b>	<b>Total Project cost</b>	<b>Progress</b>
1	Pilot Integrated Commercial Geothermal Energy of 450 KWH by retrofitting unproductive oil and gas wells: Rageshwari Gas field, Barmer, Rajasthan	Indian Institute Of Technology (IIT) Madras	Rs. 15,45,00,000/-	Fieldwork was carried out and a baseline data package was compiled, including historical production records, geological models, and the current condition of oil and gas wells. .
2	Harnessing of geothermal energy from Arunachal Himalaya	Centre for Earth Sciences and Himalayan Studies, Arunachal Pradesh	Rs. 6,62,77,768/-	Fieldwork was carried out at five geothermal sites in Tawang district: Damteng, Grengkhar, Mago, Thingbu, and Tsechu. Watersamples for geochemical analysis collected from all potential geothermal sites in the Tawang district.
3	Design and Development of Geo Thermal Cooling for Air Conditioning System in 20x20x10 ft Room	Osmania University, Hyderabad	Rs 9,30,960/-	Modelling work being carried out using MATLAB and monthly data is being recorded systematically.
4	A Pilot Project on Study and Testing of Shallow Geothermal Energy Potential in India	Indian Institute of Technology (IIT), Delhi	Rs 1,38,24,000/-	An analytical model is in the process of being developed to evaluate the thermal performance of BHE (Borehole Heat Exchangers) shallow geothermal systems.
5	Demonstration of power generation using integrated Solar-Geothermal energies	Pandit Deendayal Energy University, Gandhinagar, Gujarat	Rs. 2,11,40,000/-	Three wells (U01, U02, U03) drilled to ~330 m depth are producing Geothermal fluid at 70–80 °C, generating 50–90 kW of electricity.