GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO-2763
ANSWERED ON 17/12/2025

INCLUSION OF NUCLEAR ENERGY

2763. SHRI DHAVAL LAXMANBHAI PATEL

Will the PRIME MINISTER be pleased to state :-

(a) the manner in which the inclusion of nuclear energy in country's energy mix is expected to strengthen long-term energy security; and
(b) the manner in which nuclear energy is likely to contribute to achieving India's Net Zero target by 2070?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH)

(a) Nuclear Energy has a huge potential to ensure long term energy security. With a view to optimally utilise limited uranium reserves and large thorium reserves in the country, the Department of Atomic Energy has adopted a three stage nuclear power programme, based on a closed nuclear fuel cycle, for generation of nuclear power and for achieving long term energy security. The three stage nuclear power programme, which is to be implemented sequentially, aims to multiply the domestically available fissile resources through the use of natural Uranium in Pressurised Heavy Water Reactors (first stage), followed by use of Plutonium obtained from the spent fuel of Pressurised Heavy Water Reactors in Fast Breeder Reactors, in the second stage. Large scale use of Thorium will subsequently follow making use of Uranium-233 that will be bred in Fast Breeder Reactors, when adequate nuclear installed capacity in the country has been built. Accordingly, the utilisation of Thorium as a practically inexhaustible energy source has been contemplated during the third stage of the Indian nuclear programme, which can be reached in future. The first stage of nuclear power programme comprising indigenous Pressurised Heavy Water Reactors (PHWRs) is in industrial domain. A Prototype Fast Breeder Reactor (PFBR) under the second stage is being commissioned by Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI) at Kalpakkam, Tamil Nadu.

(b) Nuclear power is a clean, base load source of electricity available 24X7. The lifecycle emissions of nuclear power are comparable to those of renewables like hydro and wind. Thus, nuclear energy will contribute significantly in India's clean energy transition towards Net Zero by 2070.

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