

India's Quest for Nuclear Energy

- A 75 YEAR PERSPECTIVE

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Let's make India's nuclear energy quest One of the world's best

India's nuclear quest started under the guidance of scientist Shri Homi Jehangir Bhabha. He was instrumental in formulating the Atomic Energy Act of 1948. The atomic energy commission was formed under the act to provide for the development and control of atomic energy.

Thereafter in the 1950s to secure the country's long term energy independence, India's three-stage nuclear power program was formulated. The Bhabha Atomic Research Centre (BARC) was set up in Trombay. The three stage program envisaged development of nuclear power generation from country's uranium and thorium resources.

The lack of indigenous uranium along with earlier trade bans led India to uniquely develop nuclear fuel cycles to exploit its thorium reserves.

India conducted its first nuclear test on May 18, 1974 calling it a peaceful nuclear explosion (PNE). This took the international community by surprise, which responded by establishing the Nuclear Suppliers Group (NSG) which aims at the non-proliferation of nuclear weapons through the implementation of strict guidelines for nuclear and nuclear-related exports. Then again after 24 years on May 11, 1998, India conducted its second series of nuclear tests. Many nations, including the US, imposed economic sanctions and

technological curbs on India in the aftermath of its nuclear tests in 1998. Those sanctions did not have the desired effect as India's economy had already grown strong enough to withstand the impact of the sanctions.

In a major success for India's nuclear ambitions, the 46-member Nuclear Suppliers Group (NSG) granted it a crucial waiver on September 6, 2008, enabling India to carry out nuclear commerce and ending the 34 years of Isolation which began after the 1974 Pokharan nuclear tests. The decision to grant India a waiver is unprecedented in the history of the NSG since India has neither signed the Nuclear Non-Proliferation Treaty (NPT) nor the Comprehensive Test Ban Treaty (CTBT).

As of 2016, India had signed nuclear agreements with 14 countries. The future of nuclear cooperation for India with various countries is bright, as India tries hard to increase its nuclear power output. India now has 23 operable nuclear reactors and seven nuclear reactors under construction.

Currently, nuclear power is India's 5th largest source of electricity after Coal (61%), Natural Gas (7.6 per cent), Hydroelectric (14%), other renewables (14%) and Nuclear (3.5%). India aims to increase the percentage of nuclear power production in the overall energy supply to 9 per cent by 2026. It is part of India's plan to expand nuclear generation capacity to 63 gigawatts by 2032 from 6.8 gigawatts presently.

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