

Overview :

Nuclear Power Sector In India

Classification of Nuclear Segments :

Power Generation

- NPCIL (Nuclear Power Corporation of India Limited)

Nuclear Research

- BARC (Bhabha Atomic Research Center)
- IGCAR (Indira Gandhi Center for Atomic Research)

Reprocessing

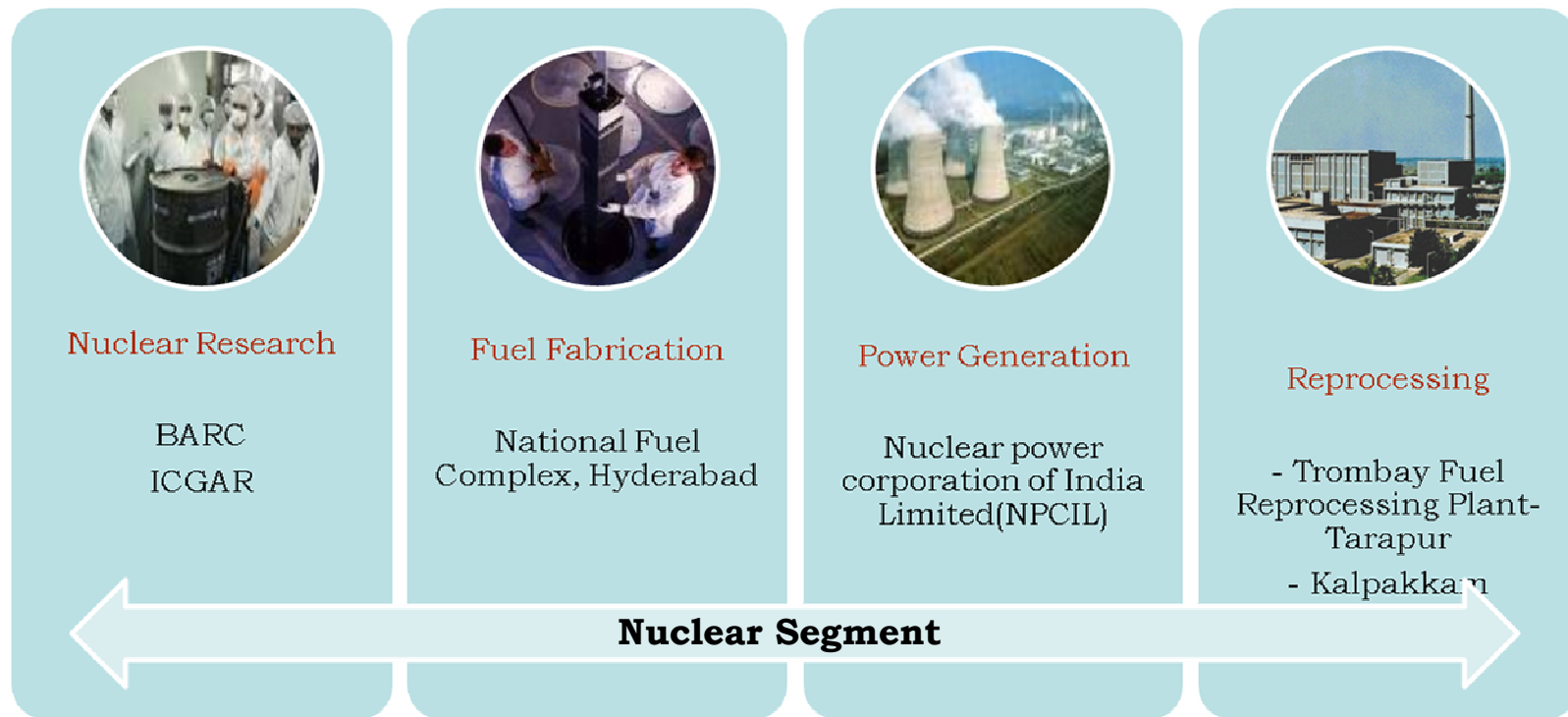
- Trombay Fuel Reprocessing Plant
- Tarapur Atomic Power Plant
- Kalpakkam Atomic Power Plant

Fuel Fabrication

- National Fuel Complex, Hyderabad
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End User Under Nuclear Sector

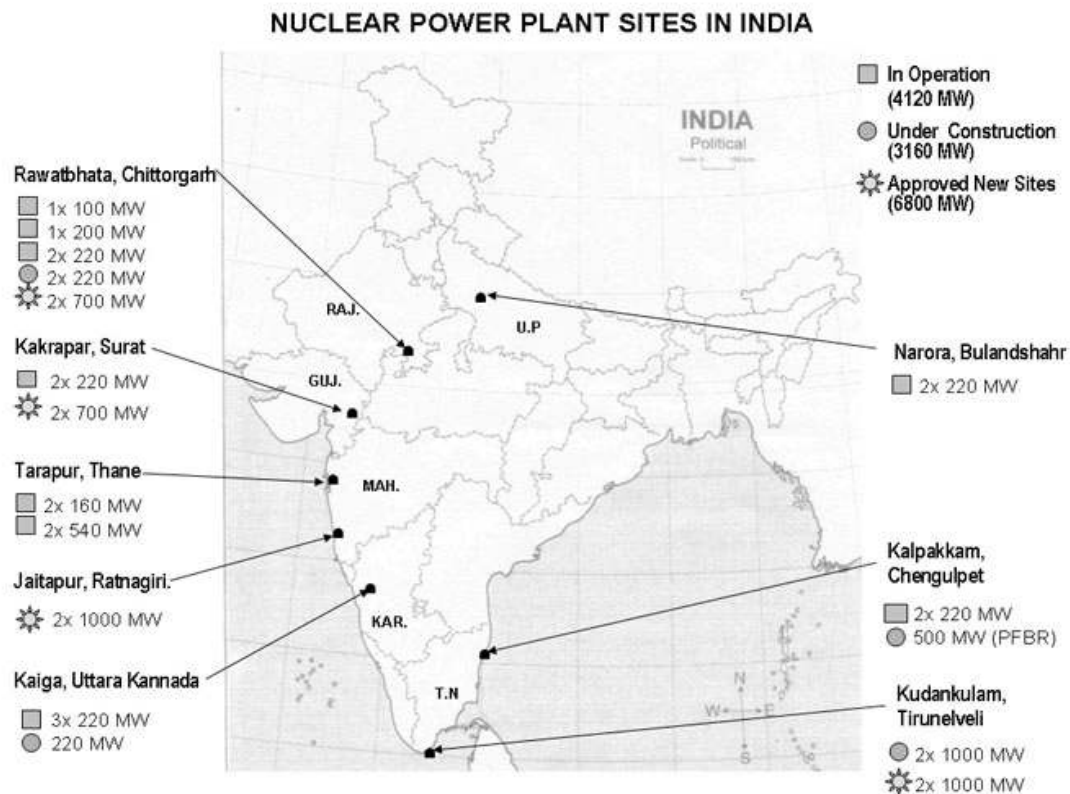
Nuclear segment can be broadly classified in to four category



Note : All nuclear segment's plants are regulated by government body "Atomic Energy Regulatory Board".

Nuclear power sector in India

Nuclear Power Corporation of India Limited (NPCIL) : It is a Public Sector Enterprise under the administrative control of the Department of Atomic Energy (DAE), Government of India. The company was registered as a Public Limited Company under the Companies Act, 1956 in September 1987 with the objective of operating the atomic power stations and implementing the



Major nuclear power plants in India

Types of nuclear reactors in various plants

India has 17 nuclear power plants at 6 location in operation generating 4,120 MW :

Unit location	Type	Capacity (in MW)
TAPS-1 Tarapur, Maharashtra	BWR	160
TAPS-2 Tarapur, Maharashtra	BWR	160
RAPS-1 Rawatbhata, Rajasthan	PHWR	100
RAPS-2 Rawatbhata, Rajasthan	PHWR	200
MAPS-1 Kalpakkam, Tamilnadu	PHWR	220
MAPS-2 Kalpakkam, Tamilnadu	PHWR	220
NAPS-1 Narora, Uttar Pradesh	PHWR	220
NAPS-2 Narora, Uttar Pradesh	PHWR	220
KAPS-1 Kakrapar, Gujrat	PHWR	220
KAPS-2 Kakrapar, Gujrat	PHWR	220
KAIGA-2 Kaiga, Karnataka	PHWR	220
RAPS-3 Rawatbhata, Rajasthan	PHWR	220
KAIGA-1 Kaiga, Karnataka	PHWR	220
RAPS-4 Rawatbhata, Rajasthan	PHWR	220
TAPS-3 Tarapur, Maharashtra	PHWR	540
TAPS-4 Tarapur, Maharashtra	PHWR	540
KAIGA-3 Kaiga, Karnataka	PHWR	220

Plant location	Capacity (in MW)
Tarapur , Maharashtra	1,400
Rawatbhata, Rajasthan	740
Kalpakkam, Tamilnadu	440
Narora, Uttar Pradesh	440
Kakrapar, Gujrat	440
Kaiga, Karnataka	660

Nuclear Energy Product (in %)

Upcoming projects

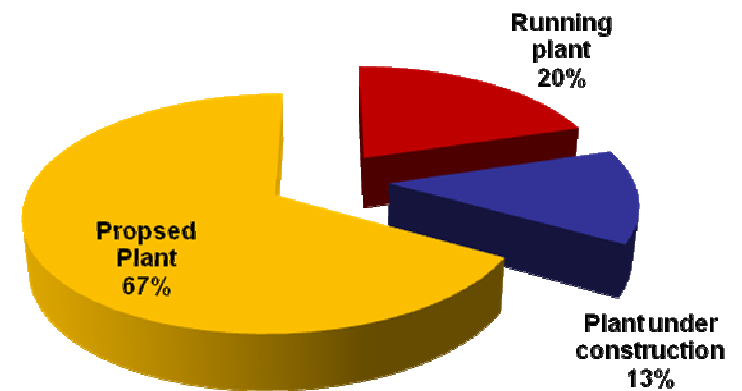
Plant under construction

Unit Location	Type	Capacity (in MW)
KAIGA-4 Kaiga, Karnataka	PHWR	220
RAPS-5 Rawatbhata, Rajasthan	PHWR	220
RAPS-6 Rawatbhata, Rajasthan	PHWR	220
KKNPP-1 Kudankulam, Tamil Nadu	LWR	1,000
KKNPP-2 Kudankulam, Tamil Nadu	LWR	1,000

Proposed new plant

Unit Location	Type	Capacity (in MW)
KAPS-3 & 4 Kakrapar, Gujarat	PHWR	1,400
RAPS-7 & 8 Rawatbhata, Rajasthan	PHWR	1,400
NAPS-5 & 6 Narora, Uttar Pradesh	PHWR	1,400
NAPS-6 & 7 Narora, Uttar Pradesh	PHWR	1,400
KKNPP-3 & 4 Kudankulam, Tamil Nadu	LWR	2,000
KKNPP-5 & 6 Kudankulam, Tamil Nadu	LWR	2,000
Jaitapur-1 & 2	LWR	2,000
LWRs 11 & 12	LWR	2,000

Running & upcoming project



Note :

BWR - Boiling Water Reactor

PHWR - Pressure Heavy Water Reactor

PWR - Pressure Water Reactor

LWR - Light Water Reactor

Estimated growth of nuclear energy plant in India

India's resource of nuclear power is expected to witness a sharp rise as the country will obtain 25% of its power from atomic energy by 2030 :

Year	Total Capacity (in MW)
2010	4,720
2011	6,720
2012	7,220
2013	7,220
2014	9,920
2015	11,320
2016	14,020
2017	14,020
2018	20,020

Growth driver of nuclear energy in India :

- Implementation of indigence technology
 - Indo-US civilian nuclear deal
 - Due to global increase the price of oil & gas, nuclear energy will be become cheaper than coal
 - Huge power energy demand - supply gap
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