

UCIL Plans to Double Uranium Production by 2036

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Why in News?

Recently, the Uranium Corporation of India Limited (UCIL) intends to double domestic uranium production by 2036.

- The expansion will include four greenfield mining projects and the recovery of uranium from copper mine residue beginning in 2029-30.



UCIL PLAN
Expanding Uranium Production for a Stronger Nuclear Future

UCIL PLAN – KEY FEATURES		FOUR GREENFIELD URANIUM PROJECTS		
Feature	Details	Location	State	Key information
Target	Double uranium production by 2036	Rohil	Rajasthan	Proposed mining and processing facility; capacity of 2,500 tonnes of uranium ore/day
Greenfield projects	Four new mining and processing projects	Gogi	Karnataka	Early stage; awaiting precise area demarcation by the State government
Copper residue recovery	Expected to begin in 2029-30	Project 3	Andhra Pradesh	Planned
Partner	Hindustan Copper Limited (HCL)	Project 4	Chhattisgarh	Planned
Major project	Rohil, Rajasthan			
Rohil capacity	2,500 tonnes of uranium ore per day			
Other proposed locations	Gogi (Karnataka), Andhra Pradesh and Chhattisgarh			
Present nuclear capacity	Around 9 GW, as reported in the article			

Greenfield project - A project developed at a new site, rather than by expanding an existing facility.

- Aim** - To strengthen India's domestic uranium supply for its expanding nuclear power programme and promote a circular economy.
- Uranium Recovery from Copper Mine Residue**
 - Uranium Corporation of India Limited (UCIL) will recover uranium from residual

material produced during copper mining operations conducted by Hindustan Copper Limited (HCL).

- HCL will continue its copper mining and extraction activities as usual.
- UCIL will process appropriate residual material to extract uranium, and any remaining waste will be returned to HCL for further management.
- This process is anticipated to reduce overall mining costs, as it eliminates the need for additional mining activities.

- **Significance**

- Enhances energy security by increasing the availability of domestically produced uranium.
- Supports the growth of nuclear power by expanding India's nuclear electricity capacity.
- May reduce reliance on imported uranium.
- Improves economic efficiency by extracting additional value from existing mining waste.
- Promotes environmental benefits by encouraging resource recovery and more efficient use of mineral resources.
- Strengthens strategic autonomy by enhancing domestic capabilities within the nuclear fuel supply chain.

Uranium Corporation of India Limited (UCIL)

- **Established in** - 1967.
- **Headquarters** - Jaduguda, East Singhbhum district, Jharkhand.
- **Administrative control** - Department of Atomic Energy (DAE), Government of India.
- **Nature** - Public Sector Enterprise.
- **Main functions**
 - Underground and opencast uranium mining.
 - Chemical processing of low-grade uranium ores.

India's **Three-Stage** Nuclear Power Programme

1

Stage I: Pressurised Heavy Water Reactors (PHWRs)



Use **natural uranium** as fuel and **produce plutonium** in the spent fuel.



PHWR

2

Stage II: Fast Breeder Reactors (FBRs)



Use **plutonium-based fuel** and are designed to breed additional fissile material, including **uranium-233** from **thorium** through the fuel cycle.



FBR

3

Stage III: Thorium-based reactors



Aim to utilise **thorium-derived uranium-233** as a major fissile fuel source.



Thorium-based reactor

Reference

[The Hindu | UCIL Plans](#)

