

**WRAP Exams · wrapexams.com**

Prelims PYQ, Mains model answers, and copy evaluation. Write to the desk for this paper, a doubt, or the AI waitlist.

**ask@wrapexams.com · +91 85951 84903 · wrapexams.com**

Q16

**With growing energy needs should India keep on expanding its nuclear energy programme? Discuss the facts and fears associated with nuclear energy. (250 Words, 15 Marks).**

UPSC Civil Services Mains 2018 · GS III · 15 marks · Infrastructure

Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

**Core demand of the question**

- Discuss whether India should keep expanding nuclear power as energy demand grows
- Set out facts that support expansion and fears that limit it, then a balanced recommendation

**Revision summary**

Nuclear offers low-carbon baseload and a thorium-based three-stage path after the NSG waiver eased fuel isolation.

**NPCIL's** operating record is a fact that supports careful expansion.

Fears are accident risk after Fukushima, waste, high capital cost, liability, and local consent.

Nuclear should grow as a limited share beside renewables and efficiency, not as the whole answer.

Safety culture, an independent regulator, and honest waste plans are the conditions for any extra megawatt.

**Flow diagram**

Rising power demand -> Nuclear baseload  
Thorium 3-stage NSG fuel -> Nuclear baseload  
Fukushima waste cost consent -> Limits delay  
Nuclear baseload -> Mix with solar storage efficiency  
Limits delay -> Mix with solar storage efficiency

**Conclusion**

- Publish emergency plans and waste routes in plain language; secrecy feeds fear more than spent fuel does.
- Pair every nuclear rupee with **renewable and efficiency** rupees so the grid is not waiting for one delayed reactor.
- Settle liability and indigenous supply so projects do not stall for a decade.
- Keep **IAEA-grade** safety culture and an empowered regulator at arm's length from the promoter.

Growing energy need is a fact; nuclear can supply clean baseload and use India's thorium science. Fears of accident, waste, cost, and consent are also facts, not only rumours. India should expand nuclear slowly, safely, and as one slice of the mix, not as a blank cheque against coal and solar.

## Facts & figures

### Three-stage programme

Homi Bhabha's path: PHWRs on natural uranium, fast breeders, then thorium-based reactors using India's beach-sand resource.

### NPCIL

Nuclear Power Corporation of India Limited, the public operator of commercial nuclear stations.

### NSG waiver, 2008

Nuclear Suppliers Group exception that allowed civil nuclear trade with India outside the NPT-full-scope mould.

### Civil Liability for Nuclear Damage Act, 2010

Indian law on operator liability and supplier-related provisions that foreign vendors still treat as a project risk.

### AERB

Atomic Energy Regulatory Board, the current safety regulator; a fully independent statutory regulator has long been recommended.

---

WRAP Exams · Write. Read. Analyse. Practice. · <https://wrapexams.com/upsc/mains-answers/gs-3/2018/with-growing-energy-needs-should-india-keep-on-expanding-its-nuclear-energy-programme-discuss-the-facts-and-fears-associated-with-nuclear-energy-250-words-15-marks/> · [ask@wrapexams.com](mailto:ask@wrapexams.com) · [wrapexams.com](https://wrapexams.com)