

# UPSC

Candidate must adhere to the word limit specified in the question.  
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Specimen Booklet

इस हासिए  
में केवल  
प्रश्न संख्या  
लिखें।

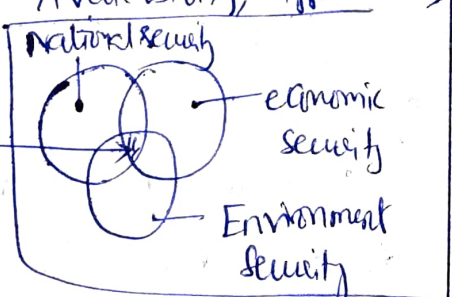
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question  
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उम्मीदवारों को  
इस हासिए में  
नहीं लिखना  
चाहिए।  
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2. Explain various risks needed to be mitigated effectively for robust energy security in the country.

4 A's of Energy Security is Availability, Affordability, Accessibility and Acceptability.

Why Energy security?



1. India - imports 85-90% fossil fuels for energy needs
2. Geopolitical tensions - leading to ↑ crude oil prices, causing Imported Inflation
3. Need for clean energy - but supply chain disruption due to COVID, Ukraine war
4. Hence need for Indigenous clean energy Industry. For this mineral supply chain must be secured.

### Challenges

1. Resources are abundant in geographically tension areas & less EODB countries.
2. competitor china securing mineral through BRI eg: DR Congo
3. Less Offtake agreement, compared to other countries.

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## Step taken

KABIL - Indian government establishment to secure <sup>mineral</sup> supply

## Way ahead

### CEEW recommendations

#### Preparatory stage

1. Identify mineral needs of domestic industry through taskforce.
2. Perspective planning - targets for indigenisation.
3. Ind Technology mix with respect to for Indigenous mineral

#### Intervention

1. KABIL + Industry - track supply side developments in global markets for getting idea about the mineral needs
2. private also involved for sourcing minerals

#### Pre-emptive offtake agreement

KABIL can sign offtake Agreement in case of low investment. Scenario to secure future market.

#### Investment

KA Government invest in equity (+) ~~to~~ private investment to reduce investment risk.

#### Technology

Solid Ion batteries require less mineral. So incentive PLI on such technologies

Need to innovate multiverts like recycling to reduce International outsourcing as several geopolitical tensions are underway. To secure our supply chain, Indigenous Industry will suffice.