UPPER BHAVANI PROJECT: GEOGRAPHY

NEWS: Environment ministry panel grants preliminary nod to pumped hydropower project in eco-sensitive Nilgiris

WHAT'S IN THE NEWS?

1. Project Overview

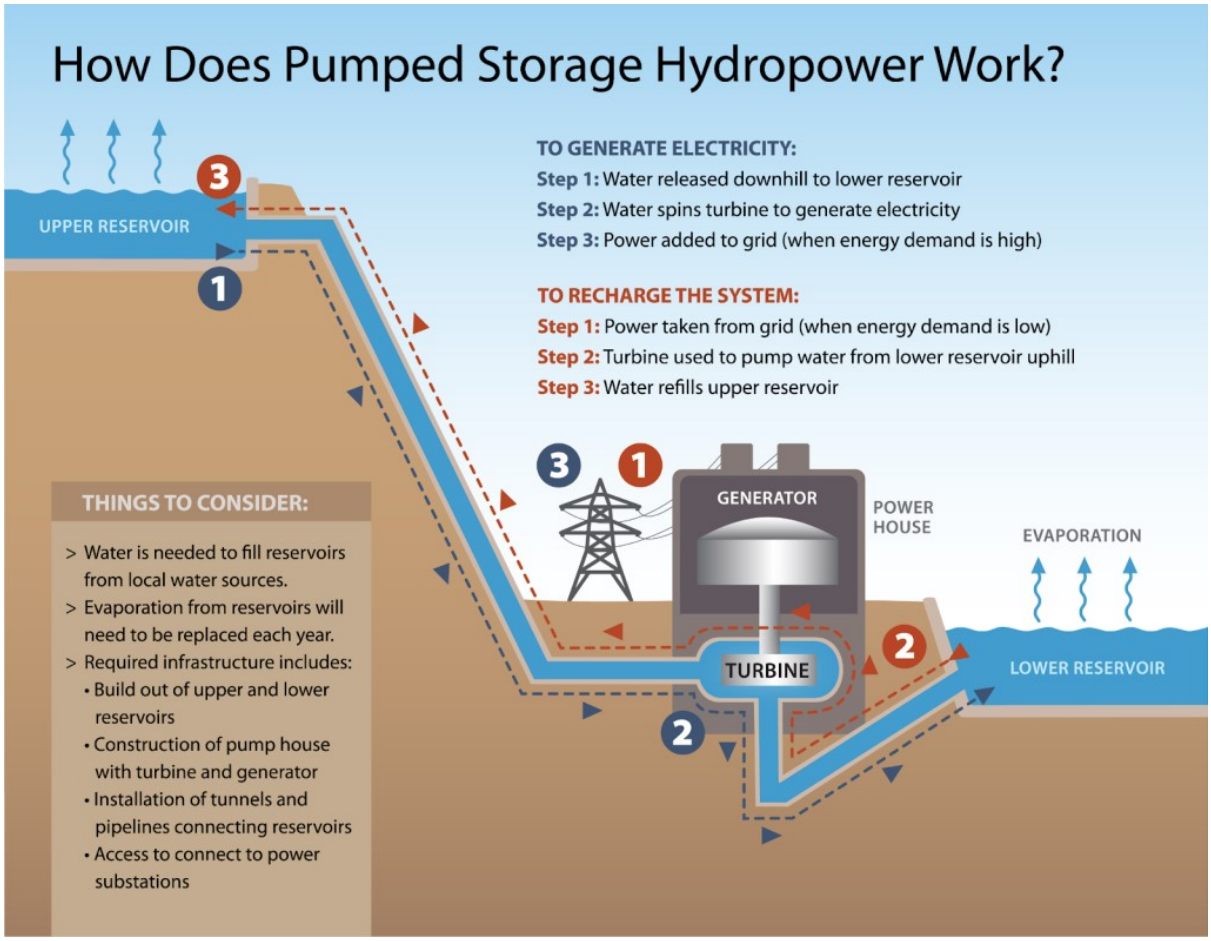
- The Expert Appraisal Committee (EAC) of the Ministry of Environment, Forest and Climate Change (MoEFCC) has granted Terms of Reference (ToR) for an Environmental Impact Assessment (EIA) of the proposed 1000 MW Upper Bhavani Pumped Storage Project.
- The project is being developed by NTPC Tamil Nadu Energy Company Ltd.

2. Location and Environmental Sensitivity

- The project is located in Nilgiris, Tamil Nadu, near Upper Bhavani Dam and Avalanche-Emerald reservoirs.
- It lies within 1 km of the ecologically sensitive Mukurthi National Park, part of the Western Ghats, a UNESCO World Heritage Site and biodiversity hotspot.
- The region includes Shola forests, which are home to several endemic and endangered species.

3. Revised Proposal and Ecological Safeguards

- Initially, concerns were raised due to the project's potential impact on fragile ecosystems.
- In response, the project developers submitted a revised layout:
    - Major infrastructure, including the water conductor system, will be constructed underground to reduce surface-level disruption.
    - The layout avoids the highly sensitive Shola forests.
    - No displacement of local communities is involved.



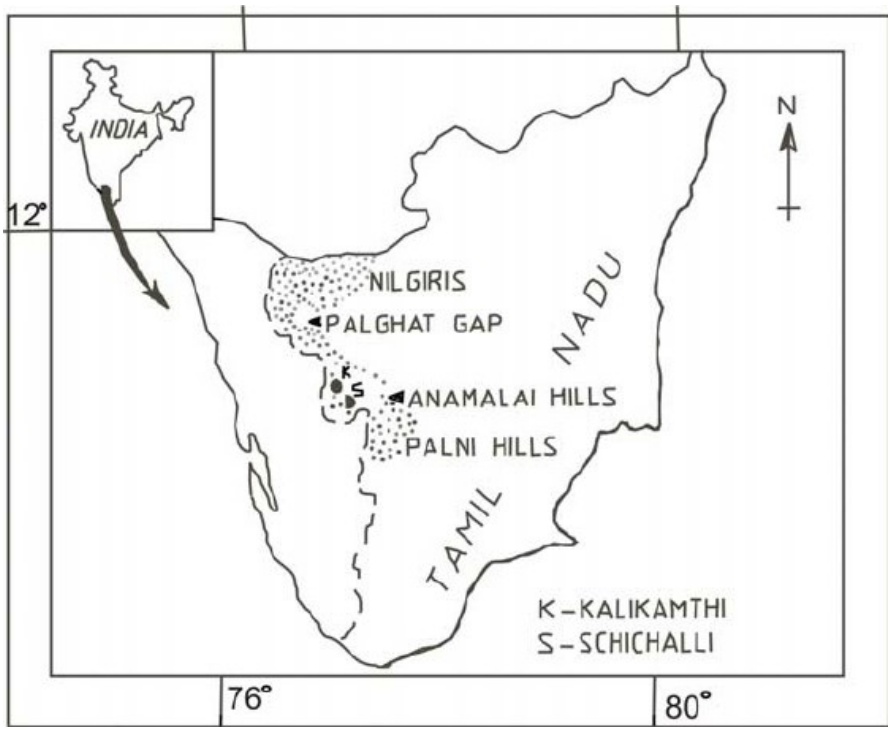
4. Pumped Storage Hydropower: How It Works

- A pumped storage hydropower project operates on a closed-loop system involving two reservoirs at different elevations.
- During off-peak hours, water is pumped from a lower to an upper reservoir using surplus grid electricity.
- During peak electricity demand, water is released from the upper to the lower reservoir, spinning turbines to generate power.
- This mechanism allows energy storage and grid stabilization, especially for variable renewable sources like solar and wind.

5. Benefits and Role in Energy Policy

- These projects support India's non-fossil fuel energy goals under climate commitments.
- Pumped storage is promoted as a clean, efficient energy storage solution and offers flexibility to meet peak power demand.

- Central and state governments encourage such projects to enhance energy security and sustainability.



6. Details on the Bhavani River

- The Bhavani River originates in the Nilgiri Hills (Tamil Nadu), passes through Kerala's Silent Valley National Park, and re-enters Tamil Nadu.
- It is a major right-bank tributary of the Cauvery River, joining it at Kooduthurai, Tamil Nadu.
- The Upper Bhavani Dam, the project site, is situated in Nilgiri district.

7. Environmental Impact Assessment (EIA) Process

- EIA is a legal and scientific tool under the Environment Protection Act, 1986.
- It assesses environmental, social, and economic impacts of proposed projects.
- The EIA process is governed by the EIA Notification 2006, under MoEFCC.
- Steps include:
    - Grant of ToR (Terms of Reference) by the EAC.

- Conduct of a comprehensive EIA study by the project developers.
- Organisation of public hearings to include affected community opinions.
- Site visit by a MoEFCC subcommittee.
- Submission of a final EIA report for evaluation.
- Based on findings, final environmental clearance will be considered.

8. Current Status

- The project has cleared the first stage (ToR approval).
- Next stages include EIA study, public consultation, and final appraisal.
- The success of the project will depend on scientific validation, public acceptance, and regulatory compliance with environmental safeguards.

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