

Velimalai Pumped Storage Hydro Electric Project

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Velimalai Pumped Storage Hydro Electric Project Latest News

The 1,100 MW Velimalai Pumped Storage Hydroelectric Project in the Kanniyakumari district has been granted Terms of Reference (ToR) clearance by the Union Ministry of Environment, Forest, and Climate Change recently.

About Velimalai Pumped Storage Hydro Electric Project

- It is an **1100 MW** pumped hydropower storage plant to be developed at Vellimalai in the **Kanyakumari district of Tamil Nadu**.
- This is the **first project in Tamil Nadu** to be developed under the **public-private partnership model** on a **build-own-operate-transfer basis** in accordance with Section 63 of the Electricity Act.
- The project, **planned as a closed-loop off-river system**, is aimed at strengthening peak power management in the State and enabling round-the-clock integration of renewable energy.
- The project will comprise an **underground powerhouse** comprising **four units of 275 MW each**.
- **Two new off-river reservoirs** will be built.
 - The upper reservoir will have a gross storage capacity of 4.39 million cubic metres.

- The lower reservoir, upstream of the existing Mambazhathuraiyar dam, will have a gross storage capacity of 4.91 million cubic metres.
- The project is **designed to pump** about 3.94 million cubic metres of **water to the upper reservoir** over 6.94 hours **during off-peak periods**.
- **Electricity generation** is planned for **six hours a day using stored water**, with peak annual energy generation estimated at 2,080.55 million KWh.
- As a **closed-loop off-river project**, both **reservoirs will be artificially created** and will **not be located on perennial rivers or streams**.
 - **Water will circulate** between the two reservoirs **in a controlled cycle with minimal reliance on natural inflows**.

Source: NIE

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