Hydrokinetic Turbine Technology

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- **Context:** The Tripura government has identified **10 river sites** (including the Feni, Manu, and Dhalai rivers) to generate **185 MW** of power. This is part of a strategy to meet the state's rising demand, projected to reach 650 MW by 2031.
- **Technology Breakdown:** Unlike traditional hydropower which uses **potential energy** (water falling from a height/head created by dams), hydrokinetic turbines harness the **kinetic energy** of moving water.
- **Zero-Head System:** It requires no dams, barrages, or diversion weirs.
- **Environmental Edge:** Since it doesn't require large-scale civil structures, it has a minimal footprint on aquatic ecosystems and does not displace local communities.
- **Significance:** It provides a continuous (24x7) renewable energy source, unlike solar or wind which are intermittent. For hilly or river-rich states like Tripura, it offers a way to utilize natural water flow without the environmental baggage of mega-dams.