

CLIMATE & RENEWABLE ENERGY

PINE FLAT HYDROPOWER: "Unit 4"



ISSUE: Funding is needed to support the addition of a fourth hydroelectric generating unit at the Pine Flat Powerhouse to expand renewable energy sources in California's Central Valley.

OVERVIEW: We are dedicated to improving reliability of the electrical grid in the Valley by adding local generation capacity. The Jeff L. Taylor Pine Flat Power Plant has continued to provide a reliable carbon-free supply of energy since 1984, and with the addition of Unit 4 will provide a renewable supply of energy for California's future growth.

HOW IT WORKS: The Unit 4 turbine-generator would be used to capture the otherwise unused energy (water flow) currently released through an existing Turbine Bypass System that maintains environmentally sustainable flows into the lower Kings River. Unit 4 would be used when releases through the Bypass are too low for the operational range of the existing three units.



CLEAN

Hydropower is fueled by running water, making it a **clean** energy source.



RENEWABLE

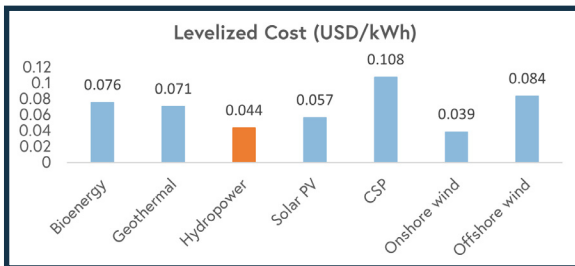
Hydropower is generated using the water cycle, making it a **renewable** energy source.



FLEXIBLE

Hydropower generates immediate power to the grid, making it a **flexible** energy source.

RENEWABLE ENERGY PORTFOLIO



Source: IRENA (2021), Renewable Power Generation
 October 2020, Renewable Energy Agency

"Hydropower offers the lowest levelized cost [maintenance, operations, fuel costs] of electricity across all major fossil fuel and renewable energy sources...but like any major power generating source, significant up-front costs remain, and the right mix of tax and other policy incentives will foster growth of this reliable, cost-effective and clean resource" (National Hydropower Association, Affordable).

UNIT 4 PROJECT NEED & STATUS

APPROVED FUNDING NEED: \$28 million

TIMELINE: January 2022 - April 2027

STATUS: Powerhouse design: 60% complete, Generator and Turbine engineering: 100% completed. Construction is scheduled to start late Fall 2025. FERC licensing process is complete. The Engineering, Procurement, Construction (EPC) contract has been awarded to Syblon Reid, the Unit Equipment and Controls contract has been awarded to Gugler Water Turbines GmbH, and Stantec Consulting Inc serves as the Owner's Engineer.

UNIT 4 IMPROVES AND EXPANDS RELIABILITY OF CLEAN & RENEWABLE ENERGY

- The smaller Unit 4 will capture water flows available at the power plant during low-level flows. Existing units need high flows to generate power, meaning low-level flows are not currently utilized for energy generation.
- The annual energy generation supports Renewable Portfolio Standard needs of key CA water infrastructure conveyance projects
- At 4.5 MW capacity it is considered renewable energy in California
- No environmental or recreation impacts expected
- No change to existing water hydraulics

