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AquaPV: Regulatory and Environmental Considerations for Floating Photovoltaic Projects Located on Federally Controlled Reservoirs in the United States

New Study Identifies Regulatory Processes for Adding Floating Solar to Federally Controlled Reservoirs in the United States

Developing stand-alone floating solar photovoltaic (FPV) projects and co-located floating solar and hydropower or pumped storage hydropower projects at federally controlled reservoirs in the United States requires navigating various federal, state, and local regulations. This report, [AquaPV: Regulatory and Environmental Considerations for Floating Photovoltaic Projects Located on Federally Controlled Reservoirs in the United States](#), aims to assist developers, policymakers, regulators, and non-governmental organizations by providing detailed analyses of the three main federal

agencies involved in approving floating solar projects at federally controlled reservoirs: the Federal Energy Regulatory Commission, Bureau of Reclamation, and U.S. Army Corps of Engineers. Approvals from these and other regulatory bodies, including Tribal, state, and local authorities, depend on the project's design, location, ownership, environmental impact, and waterbody management. The report outlines the necessary authorizations and regulatory requirements, the roles of the regulatory agencies, and the federal authorization pathways, offering developers guidance to ensure compliance.

Preliminary analysis indicates that FPV systems may provide certain environmental benefits. Recent studies have found that floating systems can reduce evaporative water loss on waterbodies by providing shade and acting as a windbreak across water surfaces.

Although further study is needed, reduced evaporative loss may lead to improved water resource conservation, benefiting areas experiencing drought, like the western United States. However, challenges associated with recreational use and existing dam operations may limit the ability to deploy FPV on reservoirs.

“Floating solar systems could be a viable alternative in areas where ground-mounted solar is impractical, helping to achieve the nation’s solar deployment and decarbonization goals.”

— Aaron Levine, NREL Senior Legal and Regulatory Analyst



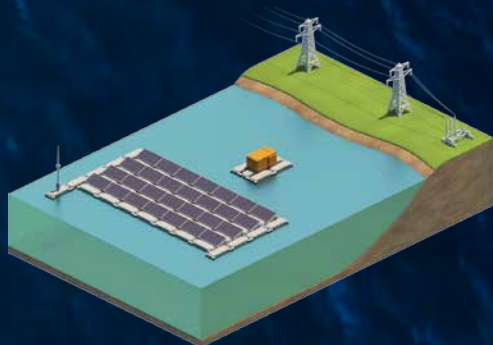


The report examines the permits and authorizations **required by federal laws** for **FPV PROJECTS** at federally controlled reservoirs.

Focusing on the licensing pathways and regulatory requirements for reservoirs licensed by the Federal Energy Regulatory Commission, owned by the Bureau of Reclamation, and owned by the U.S. Army Corps of Engineers.



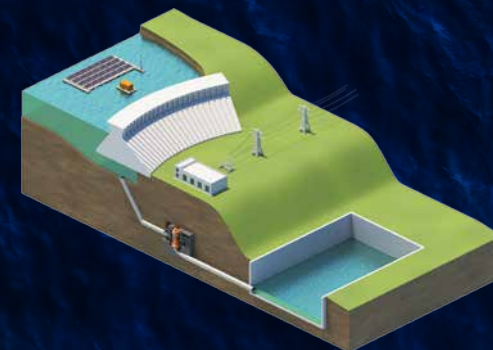
FPV systems may **HELP REDUCE WATER LOSS** from evaporation by **PROVIDING SHADE AND BLOCKING THE WIND**.



FPV system sited on a **NON-POWERED RESERVOIR**

Floating solar systems are promising, especially where ground-mounted solar isn't possible. The report shows how these systems can be placed with new or existing hydroelectric and pumped storage facilities. This helps both types of power generation share infrastructure, cutting costs and boosting energy production.

FPV system sited on a **PUMPED STORAGE HYDROPOWER RESERVOIR**



Scan to read the full report



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