

## **ABSTRACT**

The integration of solar energy into a water purification system, aiming to enhance sustainability and efficiency. By leveraging photovoltaic technology, the system harnesses solar power to drive water treatment processes, reducing reliance on conventional energy sources.

The research investigates the synergies between solar energy utilization and water purification methods, evaluating the environmental and economic benefits. The Results indicate a promising approach for developing eco-friendly water treatment solutions, addressing both energy and water challenges concurrently.

Through the utilization of advanced materials and technologies, such as high-Efficiency solar panels and innovative water treatment modules.