



Press Release

Using Solar Energy for Water Pumping

Ramallah – April 29, 2025

Ramallah — The **Palestinian Hydrology Group (PHG)** has completed an evaluation study of several solar energy projects used for water pumping in the West Bank. The study assessed the economic and environmental feasibility of these projects, as well as the potential challenges and drawbacks they may face.

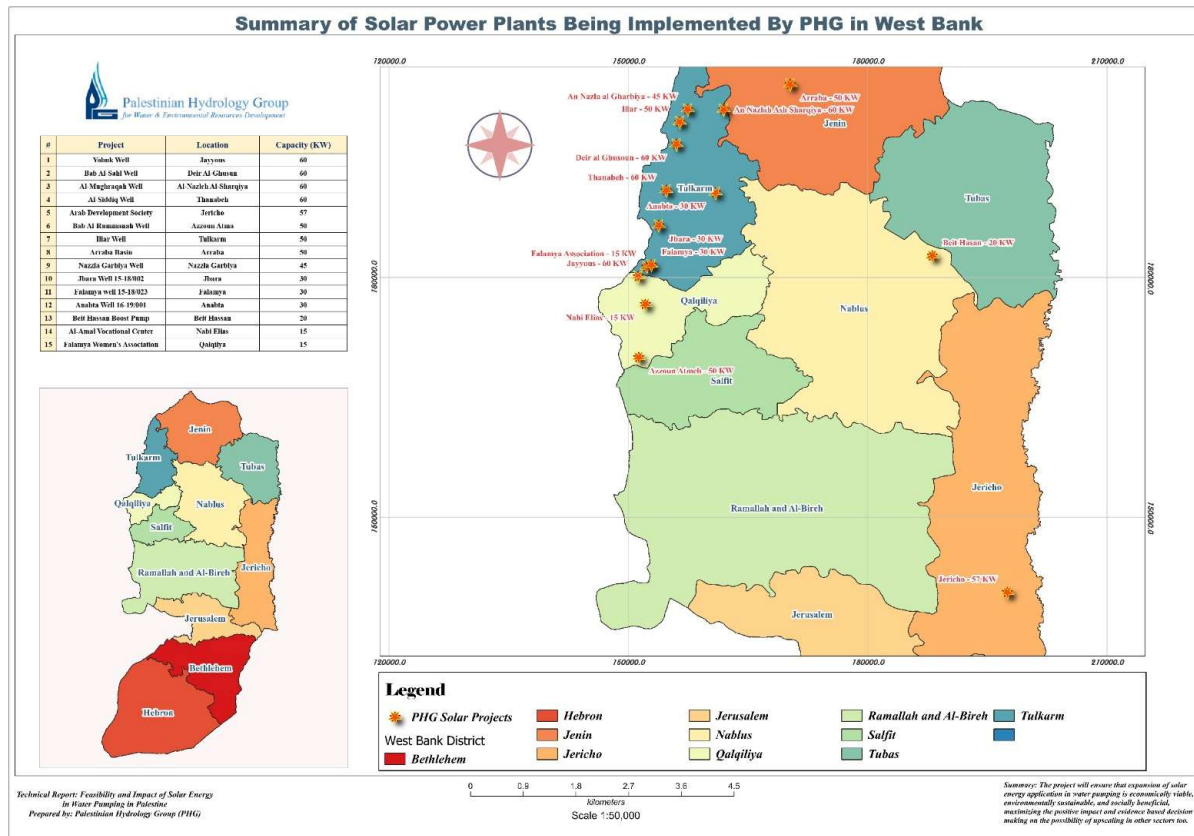
The study concluded that one of the main challenges facing the use of solar energy in general — and for water pumping in particular — is the limited capacity of public electricity grids to absorb additional electrical loads. It also highlighted the absence of energy storage options, the lack of use of modern technologies such as **smart inverters**, the absence of a fair pricing system for calculating the value of electricity produced from solar energy, and the lack of suitable financing mechanisms for renewable energy projects. Together, these factors pose real obstacles to expanding the use of solar energy applications in Palestine.



On the other hand, the study found that all solar energy projects related to water pumping are economically viable, with an average return on investment of about **30%** and a payback period of only around **three years**. In addition, solar energy is considered an environmentally friendly and sustainable

source, helping to reduce pollution and lower carbon dioxide emissions. The study concluded that the total production of the evaluated stations amounts to approximately **1,129 megawatt-hours annually**, contributing to a reduction of about **655 tons of CO₂-equivalent emissions each year**.

Furthermore, self-produced energy helps enhance energy independence and reduce reliance on electricity purchased from the Israeli company, with the study estimating annual electricity bill savings at approximately **686,528 NIS**.



The study highlighted several key recommendations, including the need to restructure policies related to licensing energy projects, adjust the renewable energy tariff system, and develop incentive-based financing mechanisms for these projects. It also recommended the development of a monitoring system to oversee water pumping projects using solar energy, ensuring they do not increase pumping or deplete available water resources. Finally, the study recommended upgrading public electricity grids, installing smart devices, and expanding energy storage options.

As a result of this study, a special **maintenance guide** for solar stations has been prepared, along with an **informational brochure** highlighting the features of these projects and the challenges they face.