AGRO-PHOTOVOLTAICS: A SUSTAINABLE SYNERGY BETWEEN FOOD PRODUCTION AND RENEWABLE ENERGY GENERATION

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Agro-Photovoltaics (APV) is an innovative approach that combines the production of food crops with the generation of solar energy. APV has been shown to increase land productivity, particularly in dry and arid regions, where water efficiency is improved through the use of PV panels. In addition to improving water productivity, crops grown in APV systems also benefit from reduced solar radiation, resulting in better crop yields. APV implementation can also generate additional income through energy production, improving the profitability of agricultural operations, while also contributing to rural electrification as part of decentralized energy systems.

This paper provides an overview of the benefits of APV systems for sustainable food and energy production, drawing on research from various countries. We discuss the potential for APV to improve land productivity, enhance water efficiency, and provide additional income for farmers. We also highlight the importance of conducting further research to investigate the feasibility of APV implementation in Hungary.

Overall, APV offers a promising solution to promote sustainable food and energy production, while also supporting rural development. However, before its implementation in Hungary, further studies are needed to evaluate its potential in local agro-ecological conditions, assess its economic viability, and investigate the social and environmental impacts. These studies could provide a solid foundation for policy makers and investors to support the development of APV in Hungary.