



Stone Fruits And berries thriving in agronomy powered by photovoltaics (**PV**)

Programme: CO-DEVELOP-AG-SH-HE

Grant Agreement: CODEVELOP-AG-SH-
HE/0823/0118

Duration: 2/5/2024 – 1/5/2026

Coordinator: IQ3SOLAR LTD

Funding Agency: Research and Innovation
Foundation of Cyprus (RIF)

Consortium

iQ3SOLAR

Photovoltaics made smarter



Cyprus
University of
Technology



Eletoyia
Photovoltaics



UNIVERSITÀ
POLITECNICA
DELLE MARCHE



About FarmPV

The replacement of conventional energy sources such as oil and gas by renewable ones such as photovoltaics (PV) promises to bring inexpensive, abundant, and clean, non-polluting energy to society. With limited energy resources but plenty of sun, Cyprus is rapidly deploying PV parks that produce energy for the grid. However, suitable land is becoming scarce and expensive, while the convert of farmland to PV parks is no longer desirable (or allowed). Finding ways to use the land for energy while preserving and even enhancing the ability of the land for food production is ideal.

FarmPV will explore agro photovoltaics (agroPV) technologies towards enhanced production volumes of added-value commodities such as raspberry and sweet cherry fruits (RCF) to meet the local demand for Cyprus in a sustainable, economical, and scalable way.

Objectives

1. Innovative Fruit Production System (IFPS):

Through PV and agricultural landscape fusion: Incorporate solar energy and exploit it to adapt the climate and to protect against weather extremes.

2. PV system design aiming at the optimal integration of photovoltaic (PV) systems in stone fruit and berry cultivation. Develop systems for monitoring and autonomous operation.

3. Energy management system (EMS): Put all the software (PV monitoring, precision irrigation/cleaning of panels under one umbrella for easy and efficient operation by the end user (farmer in this case).

4. Monitoring the quality and yield of the fruit: evaluate fruit quality and yield efficiency of the different production systems: (1) AgroPV and pearl shading net, (2) pearl shading net and (3) without any shading or protection.



Implementation Plan

WP1 Project Management (IQ3)

WP2 Dissemination and Exploitation (IQ3)

WP3: Crop development
Cycle using smart farming
(CUT)

WP4: Agro-Innovations with
Adaptive Transparent PV
(Eletoyia)

WP5: FarmPV Implementation and Dynamic Control BCF (MBP)

Impact

Expected Economical Benefits: FarmPV will pioneer agrovoltatics system for improved fruit production and quality, while respecting environmental, economical and scientific concerns. It will combine farming, scientific financial and industrial efforts in order to accelerate the ecosystem of agroPV in Cyprus

Food and energy security: A small island country like Cyprus with no energy resources (other than the sun and wind) and with limited agricultural production is particularly vulnerable to energy and food supply crisis. FarmPV is putting Cyprus to the path of energy and food independence that ultimately improves the economy and brings stability to the country.

Expected environmental impact: The expected environmental impact of integrating advanced photovoltaic (PV) systems with berry cultivation in the project is multifaceted: **1. Dual land-use and land-transformation**, while taking into account community acceptance and ecosystem balance. **2. Carbon Footprint Reduction:** As a clean and renewable source of energy, solar power doesn't release pollutants into the atmosphere, contributing to a reduction in the overall carbon footprint of the agricultural operations



Contact Person:

Dr Charalambos Anastassiou

IQ3SOLAR LTD

ca@iq3solar.com

Connect with us



www.iq3solar.com/farmpv



@FarmPVproject



@FarmPV



@iq3solar



Acknowledgement



**Funded by the
European Union**
NextGenerationEU



Republic of Cyprus



RESEARCH
& INNOVATION
FOUNDATION

The project CODEVELOP-AG-SH-HE/0823/0118 is funded by the European Union NextGenerationEU instrument, through the Research and Innovation Foundation of Cyprus.