



SolarPower
Europe



Agrisolar: win-wins for farmers and photovoltaics

ENRD Thematic Group on European Green Deal
in Rural Areas

Third meeting - Webinar

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Sheep herding
among PV panels
(Credit: Bay Wa r.e.)

Agrisolar

General term for combination between Sustainable Agricultural Concept (SAC) and solar photovoltaics

SAC implies starting the project with **agronomical, environmental, and socioeconomical analysis**

SAC ⇔ Crop / Breed / Facility ⇔ Agrisolar solution

Examples:

- Deployment of solar on barn roofs
- Herding of sheep within solar park
- Using solar panels to provide shade for poultry
- Powering agricultural machinery with solar PV

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Agri-PV shades in raspberry farm
(Credit: Bay Wa r.e.)

Agri-PV

Agrisolar with photon sharing between crops and PV

Photon sharing refers to **the management of sunlight that is captured by crops and the pv panels.**

Agri-PV allows the **dual-use of farmland to improve resource efficiency**, enable synergies to **increase productivity of certain crops and PV panels**, and **protect crops** against pests and climate events.

Examples:

- PV serving as shading for berries, viticulture, and arboriculture
- Greenhouses used for arboriculture, gardening, horticulture
- Adapted ground mounted systems to co-locate grain production

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Agrisolar business models

Business model	Function			
	Providing land	Agricultural management	Providing the PV system	Operating the PV system
1. Base case	Farm			
2. External land ownership	Land owners	Farm		
3. External PV investment	Farm		PV investor	Farm
4. Cultivation and operation only	Land owners	Farm	PV investor	Farm
5. Cultivation only	Land owners	Farm	PV investor	PV operator

Source: [Fraunhofer ISE \(2020\) Agrivoltaics: opportunities for agriculture and the energy transition. A guideline for Germany](#)

Agrisolar barns in Corsica

Amarenco, Independent Power Producer

3000 Corsican low-income farmers unable to invest in fodder storage space

Agricultural produce had to be shipped to mainland France, increasing costs.

Corsica promoting solar PV to diversify energy mix through rooftop Feed-in-Tariff

Barn designed to provide storage, funded by the rooftop PV system

Empowered farmers, increased food, agriculture, and energy independence for Corsica



Agrisolar Barns (Credit: Amarenco)

Agri-PV protecting French wine

Sun'Agri, French Agri-PV R&D consortium formed by INRAE, CEA, and Sun'R

Dynamic Agri-PV system over a Grenache Noir vineyard planted in 2001 in Piolenc, in south-eastern France.

Lowered irrigation needs and increased the grape growth.

- 20% increase in grape weight
- 13% increase in anthocyanin
- 15% increase in acidity

Nidoleres Estate: 4.5 hectares of new vineyards planted in combination with Agri-PV installation



Nidoleres Estate (Credit: Sun'Agri)



Piolenc vineyard (Credit: Sun'Agri)

AGRI-PV: HOW SOLAR ENABLES THE CLEAN ENERGY TRANSITION IN RURAL AREAS

BRIEFING PAPER / SEPTEMBER 2020

Executive summary

Reaching the ambitious objectives of the European Green Deal will require a profound shift in the EU's agricultural and energy sectors. Agricultural photovoltaics ("Agri-PV") offers an innovative, efficient, and cost-effective solution to simultaneously promote sustainable agriculture and the clean energy transition. Agri-PV reduces land competition between solar and agriculture under conditions that guarantee the efficiency, sustainability, and viability of both activities. By combining agricultural infrastructure with solar, the EU can make rural communities more competitive and sustainable.

Solar, as the most scalable and cost-effective clean energy technology, empowers farmers to be at the heart of the European Green Deal and the post-COVID green recovery. Agri-PV supports the transition to a sustainable food supply and ecosystem, channeling new investments in solar capacities, and supporting the objectives of the Common Agricultural Policy and of the Farm to Fork Strategy. As a disruptive set of technologies, innovative Agri-PV solutions can drive the modernisation of the EU's food system and increase its resilience to climate change. Finally, thanks to its high land-use efficiency, Agri-PV is particularly suited to boost the clean energy transition in land-scarce regions, such as EU islands.

The potential for Agri-PV in the EU is immense: if Agri-PV were deployed on only 1% of Europe's arable land, its technical capacity would be over 700 GW. Tapping into this potential would place the European solar industry at the forefront of global solar innovation. The sector is already emerging in Europe, with certain Member States actively supporting its development, and this has triggered strong interest from emerging countries faced with the challenge of droughts and climate-related transformations. It is time for a coordinated effort to boost the development of Agri-PV across Europe.

To kick-start the Agri-PV sector in Europe, the EU and its Member States should:

POLICY RECOMMENDATIONS:

1. Integrate a "European Agri-PV strategy" within the future Common Agricultural Policy
2. Develop Agri-PV regulatory frameworks and prioritise investments into solar within Common Agricultural Policy Strategic Plans
3. Mainstream Agri-PV within the implementation of the Farm to Fork Strategy
4. Support Agri-PV research through dedicated calls in Horizon Europe
5. Integrate Agri-PV within climate change adaptation strategies
6. Incentivise the use of Agri-PV in EU islands' decarbonisation strategies

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Find out more in our briefing paper

- ➔ Introduction to Agrisolar
- ➔ Synergies between Agrisolar and the future Common Agricultural Policy, Farm to Fork Strategy, EU Adaptation Strategy, and Clean Energy for EU Islands Initiative
- ➔ Six recommendations to kick-start Agrisolar in the EU

Work in Progress

SolarPower Europe Agrisolar Best Practices Guidelines

- Aim to **incentivize best quality Agrisolar projects** and installations across Europe and the world.
- **Define the key actions required from all parties** involved in project development to maximise the sustainability of Agrisolar projects, from an agronomical, ecological and financial perspective.
- **Definition of Sustainable Agricultural concept**, and how to integrate it within EPC and O&M stages of the Agrisolar project.
- Recommendations to **streamline planning and permitting procedures** and **outline of key business models**

Peer review period in March / April

Do not hesitate to get in touch if you would like to be involved



Thanks for listening

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