

# Presentation of LPV's work on Agri-PV, Agri-PV news and Objectives for 2022



## Summary:

1 The work of LPV on Agri-PV

2 The news on Agri-PV

3 *LPV's Objectives for 2022*

## Some numbers on Agri-PV

- ▶ LPV has noted that the agricultural sector already produces **15% of photovoltaic energy**.
- ▶ 50,000 of the 437,000 farms are equipped with such installations.
- ▶ The Energy Transition law has set the objective of **quadrupling the development of photovoltaic electricity production in France by 2028**.
- ▶ The development of Agri-PV would contribute to the achievement of these objectives.

# The work of LPV on Agri-PV

An approach preserving the challenges of Agriculture

- ▶ LPV has an approach guided by the search for the collective interest while preserving agriculture
- ▶ A positive vision of the subject: Agri-PV contributes to the energy transition as long as it respects the conditions of agricultural production.
- ▶ A legal framework is necessary to facilitate the analysis of the services concerned (instructive services, chambers of agriculture, dedicated commissions ex: CDPENAF).
- ▶ Interdisciplinary reflection with elected officials, state services, agricultural and energy unions, scientists and technicians, chambers of agriculture, experts (lawyers, financiers, consultants)
- ▶ The LPV guide is an operational work that does not claim to be exhaustive or technical: it complements the work carried out by ADEME with specialized consultants.

# Challenges of the French Agriculture

PURCHASING POWER OF FARMERS: Agri-PV can provide additional income for farmers while respecting the cultivation or breeding fundamentals.

RESISTANCE TO LAND ARTIFICIALIZATION: It is important to ensure that Agri-PV projects do not technically cause a land artificialization.

ADAPTATION TO CLIMATE CHANGE: Agri-PV must contribute to the adaptation of agriculture to climate change.

BIODIVERSITY PROTECTION & DEVELOPMENT: Agrivoltaic projects must be exemplary in terms of biodiversity preservation.

ANIMAL WELFARE: Agrivoltaic projects will have to take into account the animal welfare.

## Definition of Agri-PV

- ▶ **Coupling of solar and agricultural productions on the same land** by which the first one can bring to the second one the conservation of its specific economic value (agricultural) from a reference state validated by an approved expert.
  - ▶ Specific economic value: an indicator could be the net margin of the whole farm or the agricultural yield.
  - ▶ Reference state: the initial state of the farm (i.e. before the installation of the solar panels) used as a basis for comparison.

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# The work of LPV on Agri-PV

## Illustration of Agri-PV



Source: ETF News

# 1 The work of LPV on Agri-PV

## Projects class categories

- ▶ A gradation in the impact of the project on the specific economic value can be determined. LPV has classified projects as having a **positive or zero impact (class 1)**, an **acceptable impact (class 2)**, or a **non-acceptable impact (class 3)**:
  - ▶ **Class 1:** so-called synergistic projects in which the photovoltaic system favors the agricultural system by maintaining or improving agricultural production. From legal point of view (provisions of the French Planning Code), these projects could be considered as compatible with the agricultural exploitation.
  - ▶ **Class 2:** Balanced projects in which the photovoltaic system degrades the agricultural production of the parcel in an acceptable proportion ( $< \text{ or } = X\%$ ), while demonstrating an equivalent contribution of agricultural economic value at the scale of the farm. From legal point of view (provisions of the French Planning Code), these projects could be considered as compatible with the agricultural exploitation.
  - ▶ **Class 3:** Unbalanced projects in which the photovoltaic system degrades the agricultural production at the plot level in an unacceptable proportion ( $> X\%$ ), they are disqualified from Agri-PV. From legal point of view (provisions of the French Planning Code), these projects could be considered as not compatible with the agricultural exploitation.



## Other main principles

- ▶ **Eligibility of all agricultural production sectors**: it is imperative to **not exclude any agricultural sector** on the grounds that it has not yet developed its own Agri-PV model.
- ▶ **Territorial dimension**: it is important to ensure that Agri-PV projects are of a **reasonable size** and do not cover parcels larger than the average farm size in the department.

# RECOMMANDATIONS



# 1 The work of LPV on Agri-PV

## Common Agricultural Policy aids

The European regulation allows farmers to benefit from Common Agricultural Policy aids in the case of a non-agricultural use of land under certain conditions.

The transposition of the regulation into French law is very restrictive. The national regulation provides that this occasional non-agricultural use **must be limited in time with a maximum duration of 15 consecutive days.**

This 15-day period does not allow the specificities of Agri-PV to be taken into account.

LPV recommends a **modification of the national regulation** to allow farmers to benefit from the Common Agricultural Policy aids even when they develop Agri-PV.

## Best Practices Institute

It is necessary for LPV that an **observatory** will be established to collect exhaustive data on Agri-PV in France.

The vocation of this observatory will be mainly to offer a **complete vision of the agrivoltaic projects** and to **list the good practices**.

## Urbanism

- ▶ LPV recommends that the land covered by Agri-PV projects should not be classified as artificial land and consequently such land must **remained classified in Zone A** (i.e. agricultural zone within the meaning of the French planning code).
- ▶ LPV also recommends that **the regulation provides for an exception for Agri-PV projects to the Mountain and Littoral laws** limiting the construction only in the continuity of the existing constructions as it already exists for the wind farm constructions on the littoral areas.

## Improving the instruction of Agri-PV projects

- ▶ **Preliminary Agricultural Study**: LPV recommends to extend the preliminary agricultural study even for the small Agri-PV projects (i.e. less than 5 ha) to avoid the potential risk of agricultural land consumption by an agrivoltaic installation.
- ▶ LPV recommends to involve the local authorities on the instruction of the agrivoltaic project in coordination with the competent local services (chambers of agriculture, Agri-EnR and CDPENAF).
- ▶ LPV considers that the determination of an evaluation grid (e.g. ADEME with local adaptation) or a certification reference system could facilitate the examination of projects.

## Electricity selling price support mechanisms (French state)

- ▶ To meet the objectives of the energy transition, it is necessary to **increase the unit power of agrivoltaic installations from 3 to 5 MWp** in the calls for tender of the CRE innovation. The development of Agri-PV will require higher volumes in the CRE Innovation tenders.
- ▶ The specificity of Agri-PV will have to be **taken into account in the existing aid schemes**: open window for small projects, access to agricultural land for conventional CRE tenders. In addition, a bonus for agronomic relevance to favor class 1 projects could be implemented as well as penalties for poor design project.

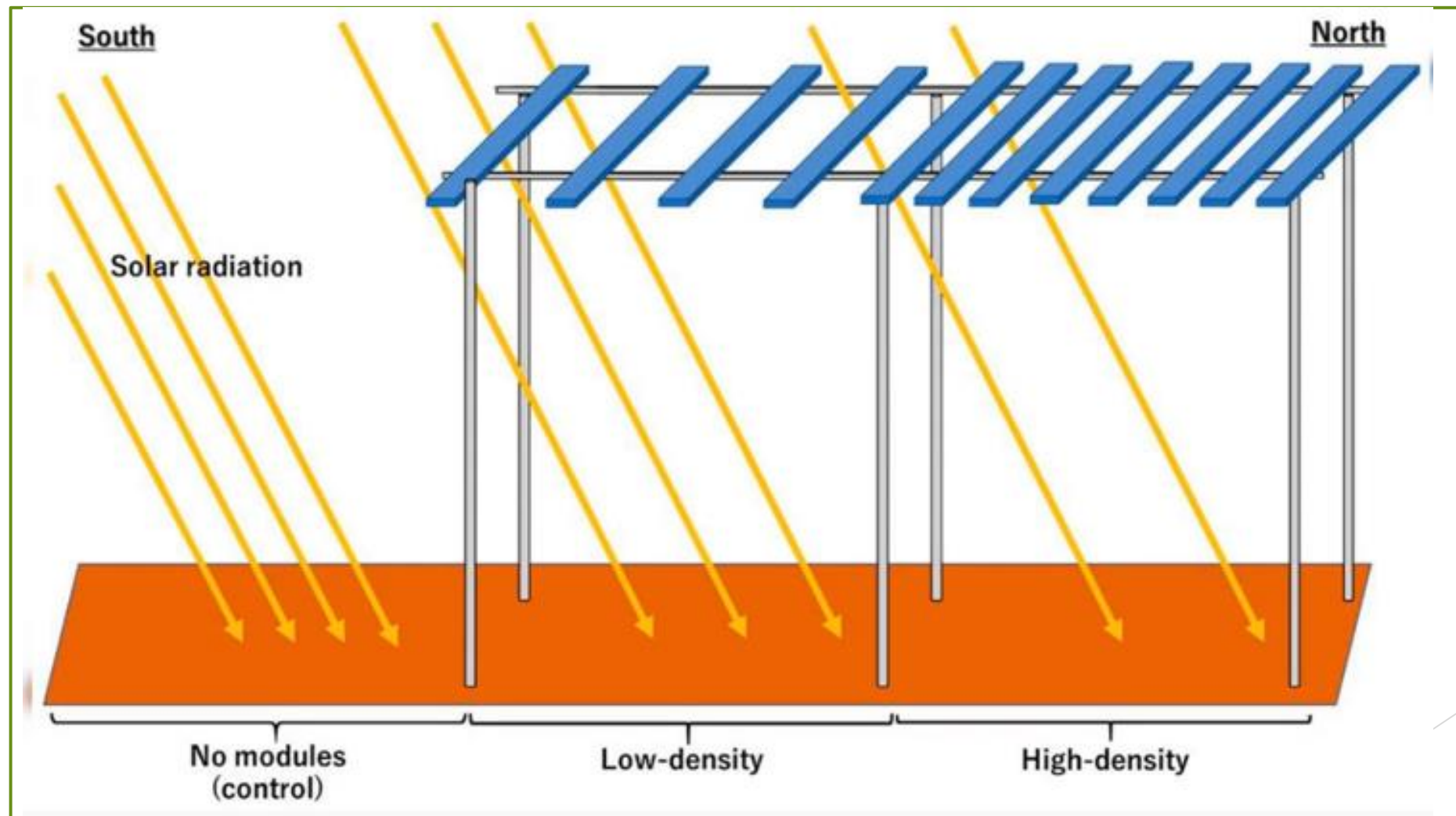
## Project design

- ▶ **Designing the PV to be compatible with agricultural activity and to protect crops**
  - ❖ For example: elevation of the photovoltaic panels above the crops to let pass the agricultural machines, panels with artificial intelligence which are oriented differently according to the weather, protection against the bad weather, the hail, the frost etc. They allow to shade the plant in case of strong heat.
- ▶ **Adapting to animal welfare:** we refer to the IDELE guide (institute for ruminant farming and breeding in France): management of the plant cover for a satisfactory fodder resource, zootechnics & animal welfare, ergonomics & simplification of the farmer's work, additional equipment (feeding, watering, restraint, ...).
- ▶ It is up to the **public authorities to define the acceptable level of degradation of agricultural production:** a difference in treatment (building permit requirements, support mechanisms) will have to be made between class 1 projects that preserve agriculture and class 2 projects that degrade it to an acceptable degree.





## Project design



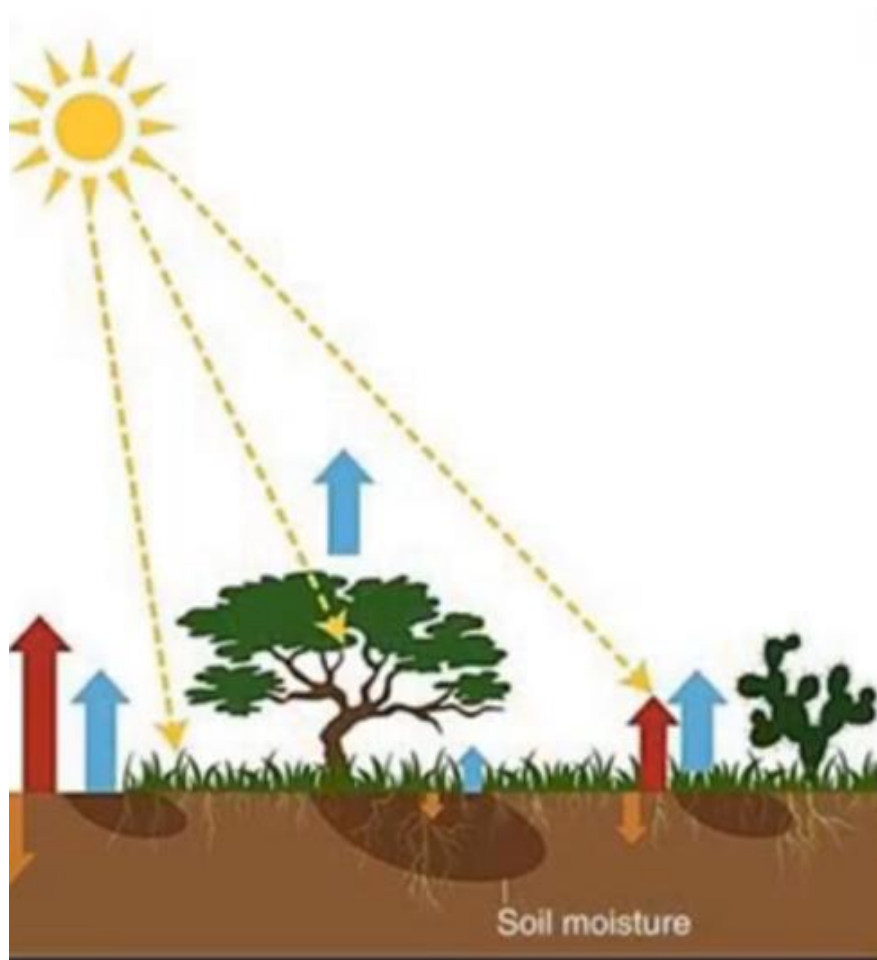
Source: ETF News

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# The work of LPV on Agri-PV

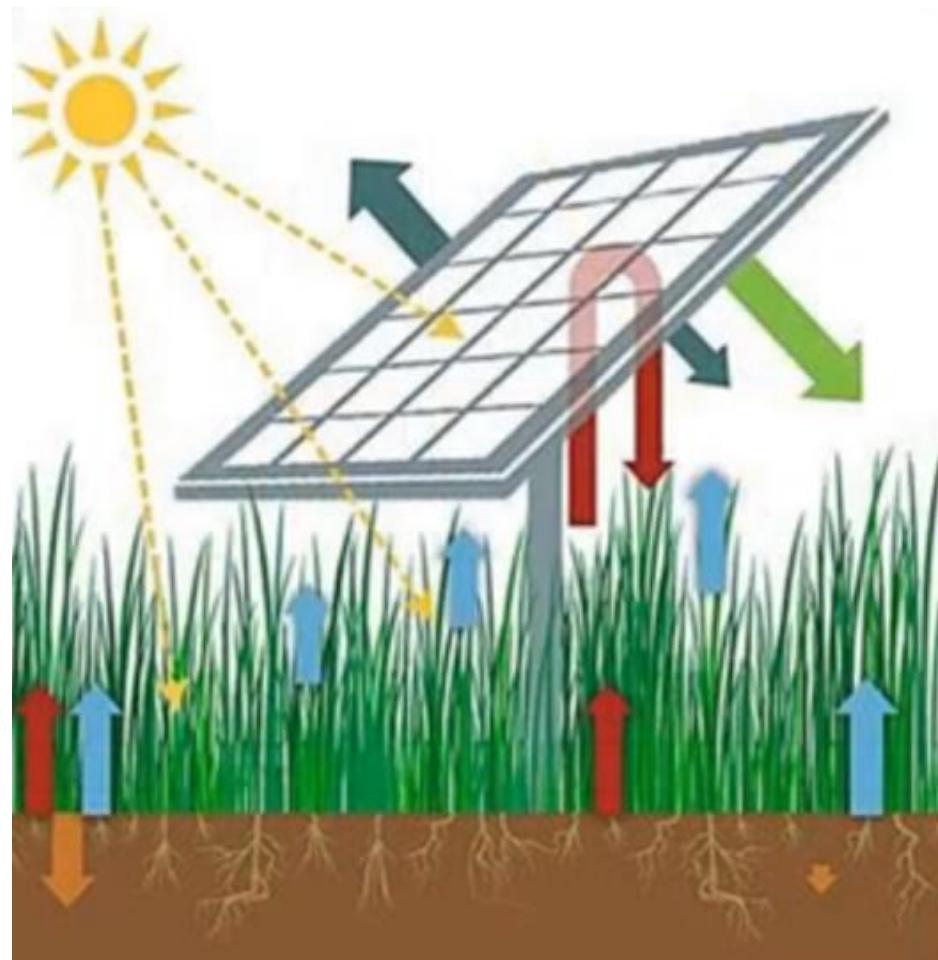
## Project design

### Agriculture without PV



Source: ETF News

### Agri-PV



Source: ETF News



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# The work of LPV on Agri-PV

## Project design



Source: Cemater Website

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# The work of LPV on Agri-PV

## Project design



Source: *Eco Solution Energie Website*



## Structuring of projects

- ▶ **Rent control is strongly recommended** to control the current land pressure and avoid any speculation harmful to the agricultural profession (risk of eviction in the long term).
  - Proposals could be formulated by a rent observatory attached to the observatory of good practices and control would be ensured by the State services.
  
- ▶ **Financing:** The agrivoltaic projects are still regarded as carriers of a risk by the financiers because of their innovative character and the lack of consolidated returns of experience. In return, they must benefit from **security mechanisms** such as tariff support and proportionate and progressive penalties in case of unsatisfactory results.
  
- ▶ **Incomes generated by the agrivoltaic project:**
  - The farmer must be able to be a **shareholder of the SPV** as well as the territorial public actors to facilitate the democratization and social acceptability of Agri-PV.
  - It is necessary to have a **fair distribution of the income** of the agrivoltaic project between the owner, the operator and the local agriculture (creation of a fund dedicated to the local agriculture).



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## News

- January: Proposal of resolution of the French Senate tending to the development of Agri-PV in France - Proposal of the Senators Mr. Jean-François LONGEO and Jean-Pierre MOGA

The resolution indicates that it would be appropriate to:

- include a definition of Agri-PV in the energy code;
- remove agrivoltaic projects from the CRE's "innovative solar" calls for tenders in order to create a dedicated family within the calls for tenders;
- modify national regulations so that farmers who develop Agri-PV can benefit from the aids of the European Common Agricultural Policy;
- consider a uniform regulatory framework that favors agricultural compensation practices.



### News

- **February**: Publication of the conclusions of the flash mission of the National Assembly led by the deputies Mrs. Sandrine le Feur and Mr. Jean-marie Sermier.
- The main proposals of the National Assembly are as follows:
  - **Definition of Agri-PV**: coexistence of significant electrical production and significant agricultural production on the same land.
  - **Creation of an observatory of Agri-PV**: sharing of good practices, census of projects that can be qualified as Agri-PV.
  - **To make evolve framework of the calls for tender of the CRE** except innovation to make them more accessible to more agrivoltaic projects.
  - **Common Agricultural Policy aids**: modify national regulations so that farmers who develop Agri-PV can benefit from the aids of the European Common Agricultural Policy.





### News

- **Land speculation**: neither diverting agricultural land from its vocation of food production nor distorting the core business of the farmer.
- **Facilitate the administrative process**: complexity of the process to be followed in order to carry out a project: the regulations must be simplified.
- **Improve social acceptability**: equitable sharing of revenues generated by the project, inclusion of farmers in the capital of the SPV. When the revenues are consequential: they could contribute to the financing of a special appropriation account "Agricultural and rural development" that contributes to the financing of national organizations with agricultural and rural vocation.

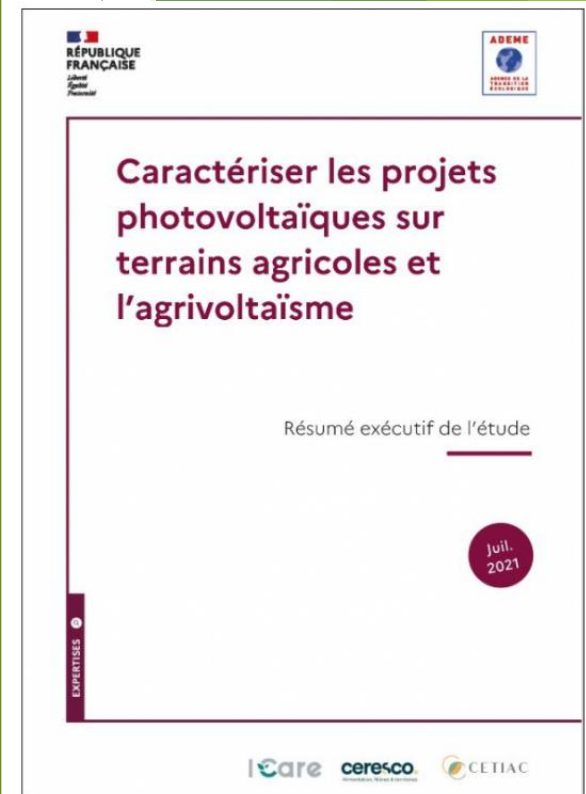


## News

- April :
  1. LPV gave a conference to present its "guide of good practices in Agri-PV" in an event gathering the actors of the energy and agricultural transition:
    - La Plateforme Verte presented 15 recommendations for an Agri-PV preserving the agricultural activity.
    - The conference was attended by the FNSEA, representatives of Chambers of Agriculture, INRAE, Solar Power Europe, Enerplan, SER and Afnor etc.
  2. ADEME publication: ADEME has carried out national study with the aim of drawing up a state of the art of knowledge on the subject and helping stakeholders to assess the relevance of the various types of photovoltaic projects on agricultural land.

## ADEME's recommendations

- ▶ **Definition of Agri-PV**: The photovoltaic installation must provide a service in response to an agricultural problem:
  - ❖ service of adaptation to climate change,
  - ❖ service of improvement of the animal welfare,
  - ❖ agronomic service for crop needs.
- ▶ **Encourage and promote the implementation of "agrivoltaic" projects** and projects of potential interest to agriculture.
- ▶ **Continue to increase knowledge** (especially agronomic knowledge) of projects that combine agricultural production and photovoltaic production
- ▶ **Capitalize on current and future experience feedback** in order to enable continuous improvement of these projects and their practices.
- ▶ **To support farmers and guarantee the vocation and sustainability of agricultural activity** in all photovoltaic projects on agricultural land.
- ▶ **To propose ways to follow concerning the authorization and instruction** of photovoltaic projects on agricultural land.



## News

- **May:** modification of the characteristic of the CRE call for tenders "AO PPE2 PV Sol" allowing a support mechanism for photovoltaic projects on agricultural land.
- The CRE indicates that it welcomes the expansion of the scope of the call for tenders, given the energy transition objectives and "the need to make land available to achieve these objectives".
- It considers that opening up the possibility of applying for "classic" tenders (i.e. not specifically dedicated to innovative technologies) to installations on agricultural land "must not go hand in hand with the imposition of excessive constraints on project developers".



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# 3 LPV's Objectives for 2022

- **Ensure good practices in the sector for full acceptability:**
  - Creation of the Best Practices Institute
  - Monitoring by the local authorities
  - Certification of the projects complying to standards: Afnor, others?
- **Promote the Agri-PV to the new government:**
  - Modification of the national regulation to facilitate the instruction of agrivoltaic project.
- **Specify modalities of rent control and fair distribution of income from agrivoltaics** (owner, operator, territorial agriculture)
- **Public aids:** it is necessary to modify the national regulation about the aids of the European Common Agricultural Policy to allow farmers to continue to receive this aid when they develop an agrivoltaic project.
- **Promote Agri-PV to the local authorities** in order to encourage the development of Agri-PV projects.