MINISTERSTVO ZEMĚDĚLSTVÍ

Regulation for Agriphotovoltaics in the Czech Republic

Ing. Vlastimil Zedek

Director of Department of the Environment and Organic Farming

Ministry of Agriculture of the Czech Republic

Discussion seminar

Mission Solar CEE Region 2024: How important is solar technology in achieving 2030 goals?

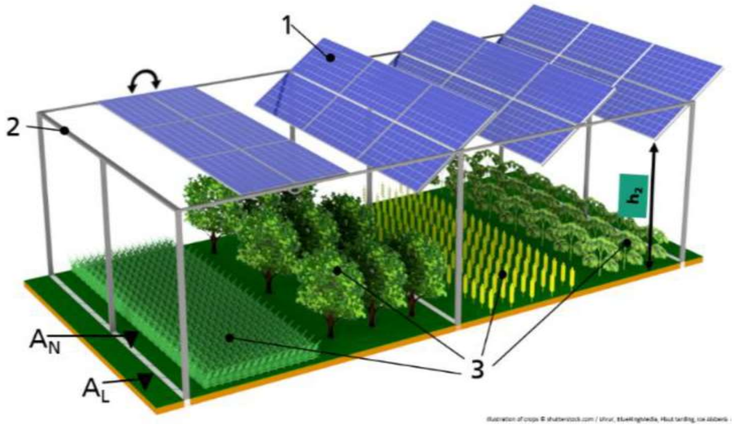
12. 11. 2024, Prague

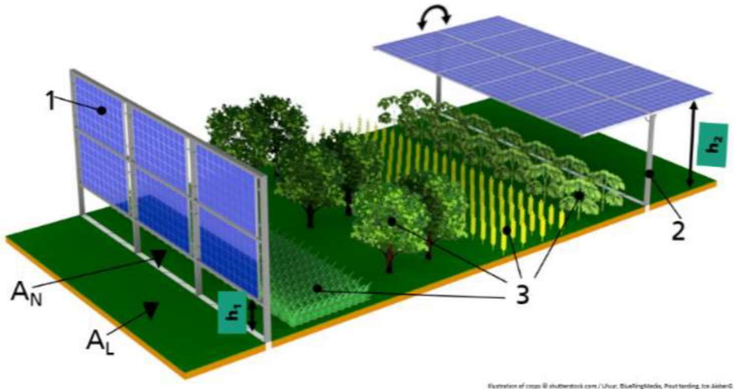
Legislation Process

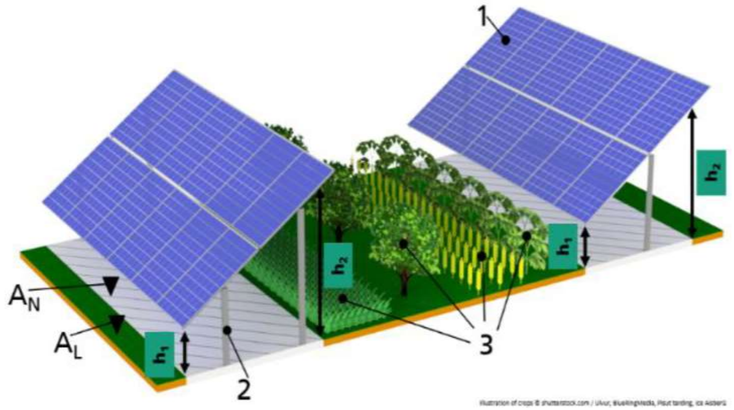
- Legislative framework on agrovoltaics is almost complete.
- New agenda, long process.
- We needed to identify firstly what legislation would be affected and which authorities will have a role in the amendment process.
- Ministry of the Environment, Ministry of Agriculture, Ministry of Regional Development and Ministry of Industry and Trade.
- 3 years of discussions and acquiring new knowledge.

Are we in compliance with direct payments when designing new legislation?

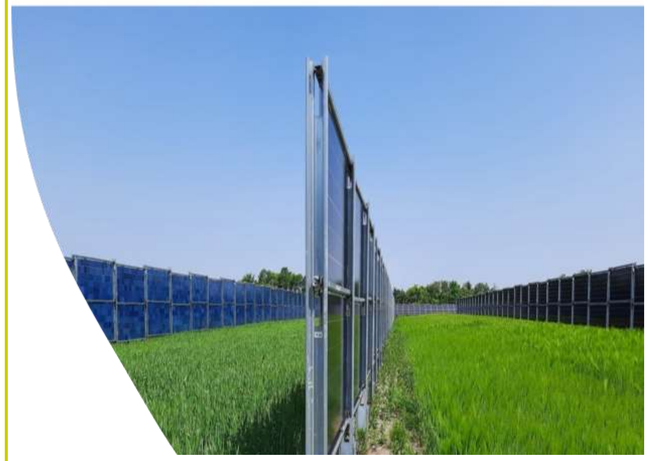
- **Regulation (EU) 2021/2115 of establishing rules on support for CAP Strategic Plans**
- MS should determine conditions to agricultural holdings that would enable diversification of incomes.
- Eligible hectares under direct payments can be hectares used **also** for non-agriculture activities, e.g. solar energy production, afforestation, agriculture land put aside, etc.
- European Commission - eligible hectare means firstly agriculture production and then solar electricity production, but on the same piece of land.







Act No. 334/1992 on the protection of the agricultural soil fund



- If constructions, buildings, roads, power plants including photovoltaic systems are built, the agricultural land needs to be taken out of the soil fund (registry).

- So, in case of agrivoltaics, the change of the law was needed as we needed the opposite - the land where the project is carried out needs to remain a part of the agricultural soil fund. The amendment came into force as **Act No. 183/2024 Coll.** in May 2024.

- **§ 8a - definition**

  - Agrovoltaic plant means an energy device for converting solar energy into electricity that meets the conditions set out in the implementing regulation and that is located on agricultural land under the **Act No. 252/1997 Coll. on Agriculture.**
  - Eligible is only the type of crop set out in the **implementing regulation**.
  - A device that is an essential part of the agrovoltaic plant is considered to be part of it even though it is not located directly on the block of land under the Act on Agriculture.

Act No. 334/1992 on the protection of the agricultural soil fund

Who can obtain a permit to build agrivoltaics?

- Owner of the land or person who has the rights to use it (i.e. not anyone, aiming at farmers to use this opportunity).

Who issues the permit?

- It is the municipal authority or regional authority responsible for the protection of agricultural soil. It takes into account additionally issued permits according to **Building Act No. 283/2021 Coll.**, possibly also **Act on Nature Protection No. 114/1992 Coll.**, and also **Energy Act No. 458/2000 Coll.**

How is it with area payments under the CAP?

- The area with APV is fully eligible for payments, except for technical elements larger than 4 m^2 - marked in LPIS as ineligible for area-based agricultural payments.

Is the land used for agrivoltaics forever?

- It could be, however any application for permit needs to contain the recultivation plan, so that after using the land for energy production it is adjusted back just for agriculture.
- If the agrivoltaic system no longer meets the specified conditions, its operation must be terminated, and recultivation of the land must take place.

Implementing regulation to Act No. 334/1992 on the protection of the agricultural soil fund:

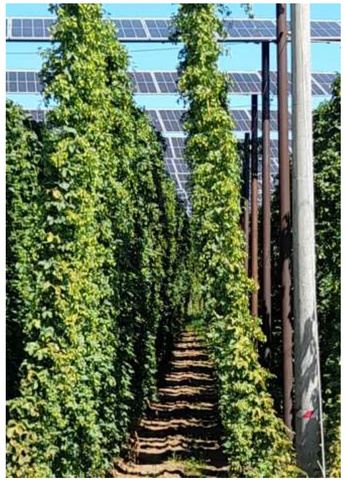
Agrivoltaics will be permitted only with selected crops.

The crops themselves are defined in **government regulation No. 307/2014 Coll., on determining the details of land use registration according to user relations**.

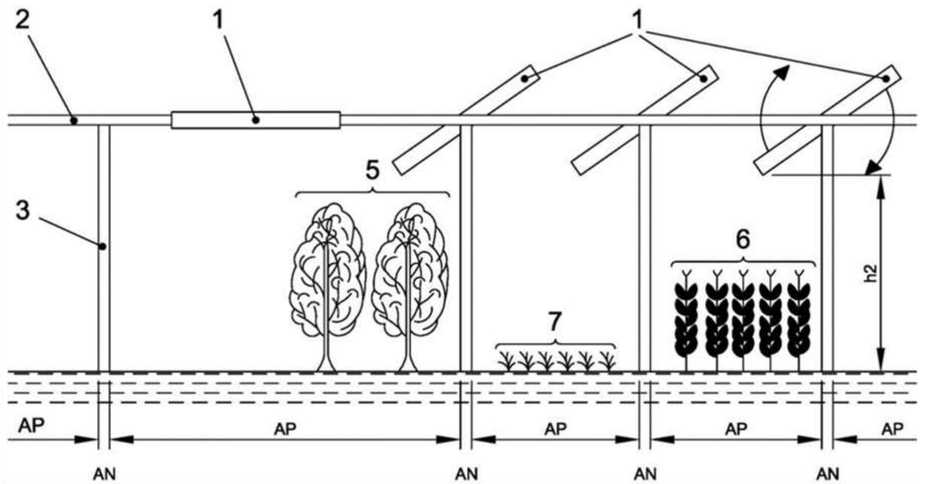
We are aware that most crops are generally suitable for agrivoltaic systems, though yields may vary due to shading.

Highly shade-tolerant crops, such as leafy vegetables (e.g., lettuce), forage species (grass/clover mix), various fruits, e.g. apples, berries, and specialized crops (e.g., wild garlic, asparagus, hops), are especially suitable.

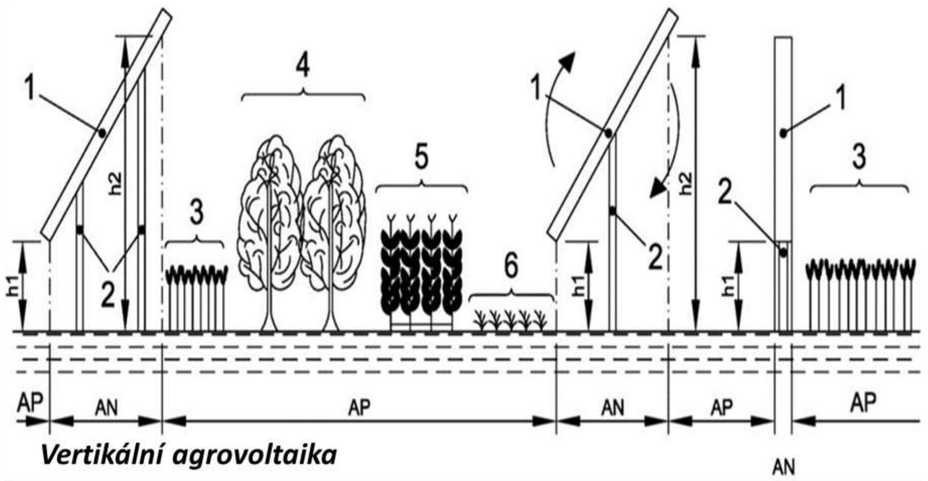
	Area (ha) - LPIS 31. 10. 2024
vineyard	15 132,91 ha
hop gardens	5 103,19 ha
orchard	12 142,17 ha
nursery crop	2 100,91 ha
area with containers	142,90 ha
area with truffles	1,39 ha



Implementing regulation to Act No. 334/1992 on the protection of the agricultural soil fund:



Horizontální agrovoltaika



Vertikální agrovoltaika

Horizontal APV

- The panels need to be minimally at the height of **210 cm** above the surface level and must allow normal movement of agriculture machinery.
- The total area of soil taken for construction itself is maximally **5 %**, that means at least **95 %** is left for agriculture production.

Vertical APV

- The agriculturally usable area must constitute at least **80 %** of the total area, which means that the area of soil taken for construction itself is maximally **20 %**.
- The spacing between rows must allow for activities necessary to ensure agricultural production. **The ratio** of the width of the rows and height of the modules **must not be less than 3**.

Benefits of APV

- **Efficient land use**

APV enables the simultaneous use of land for both food production and energy generation.

- **Dual income for farmers**

Farmers can generate income both from crop sales and from the production and sale of electricity, which enhances their economic stability.

- **Protection of crops from extreme conditions**

Solar panels can provide shade and protection against extreme weather conditions, such as excessive sunlight, wind, or hail, which can enhance the growth of crops.

- **Improvement of microclimate**

Solar panels can help maintain more stable temperature and humidity beneath them, which can be beneficial for the growth of certain plant species.

- **Reduction of water evaporation**

The shading provided by solar panels can reduce water evaporation from the soil.

Barriers to APV

- **Initial costs**

The installation of solar panels and necessary infrastructure can be financially demanding, which may pose a significant barrier for small farmers.

- **Farm management complexity**

The combination of agricultural activities and solar panel maintenance requires more expertise and can increase the complexity of farm operations.

- **Potential negative impact on crop growth**

Some crops do not grow well in the shade of solar panels or may have reduced yields due to decreased sunlight.

- **Maintenance and accessibility**

It is essential to ensure accessibility for panel maintenance as well as for agricultural activities.

- **Aesthetics and public acceptance**

The installation of solar panels can alter the landscape and thus be perceived negatively by the public.

Conclusions

1) New legislation will enable the development of new type of RES. Unlike conventional solar power plants, APV will not require the removal of land from the registry of agricultural soil fund.

2) The principle of APV is dual use of one piece of land, i.e. agricultural activity alongside the electricity production. This approach allows farmers to diversify their income and obtain their own electricity source for self-consumption.

3) If the APV concept proves successful and experience gained is positive, we will consider expanding APV to other crops.

4) APV support will be financed through the Modernization Fund, which is under the remit of the Ministry of the Environment and the State Environmental Fund.

5) APV, in combination with digitalized agriculture, offers farmers new opportunities in their operations.

MINISTERSTVO ZEMĚDĚLSTVÍ

Thank you for your attention

Ing. Vlastimil Zedek

tel.: +420 221 812 892

email: vlastimil.zedek@mze.gov.cz