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Agrophotovoltaik: Crowdfunding project explores double use of agricultural land

Vienna, 18.11.2015 - **How and under what conditions can agricultural land can be simultaneously used for organic farming and the production of energy by photovoltaic? This question will be explored scientifically in a three-year project by an ambitious team including energy advisor and energy farmer, Patrick Wagenhofer. For financing of the project, a crowdfunding campaign is being launched this week via the internet platform Indiegogo.**

Over an area in southern Burgenland, a photovoltaic system is to be built under which salad, rye and potatoes will be grown. Through a reduction in the number of photovoltaic modules, plenty of light should reach the plants whilst a higher substructure will allow the management of the area with tractors.

Alongside the projects initiator Patrick Wagenhofer, the team includes the German Fraunhofer Institute for Solar Energy Systems ISE, a two professors from the University of agricultural sciences in Vienna, a Permaculture expert and an organic farmer. Through the project, they aim to find out which crops are best suitable for AgroPV, and what impact this method of cultivation has on the yield.

Financing via Crowdfunding

This private research project is to be financed via the crowdfunding platform Indiegogo (www.indiegogo.com/at/agropv). The campaign which starts this week aims to raise \$1 million USD to build a system with around 400 kWp of power. \$500,000 is at the lower limit for the implementation of the project at a reduced scale.

Why agro photovoltaic?

The double use of fertile land for growing food as well as for the production of electricity is intended to provide an important contribution to the energy revolution.

A much stronger expansion of photovoltaics is necessary to fully realise the energy revolution. Often there are inadequate available areas of roofing for the establishment of a decentralised energy system, for example, structural reasons or in rural regions with smaller populations. To produce sufficient power for E-devices, E-mobility and heating using heat pumps, open spaces must therefore be used for the construction of photovoltaic systems. The PV system is offers the plants good protection from excessive sun exposure, dehydration and climate change increasing extreme weather events, such as hail and storm. Periods of increased temperatures just like last summer will be less destructive on the crops. The installation of highly efficient irrigation system is also possible thanks to the PV systems substructure which in turn ensures good yields are maintained. Therefore, the AgroPV is also an important development for already dry regions such as North Africa and the Middle East.

Open spaces vs. PV roofs

The use of agricultural land for photovoltaic systems is being controversially discussed - the so-called fuel or food discussion, which raises the question whether it makes sense to use agricultural land for energy instead of food production.

AgroPV solves exactly this dilemma because both electricity and food can be produced on the same agricultural land - and probably without any loss of earnings.

Produce electricity or food? Both is possible!

If you were to only produce energy crops for the production of biodiesel instead of electricity and food in this area, then obviously the area for food would be lost. The yield from one hectare of energy crops translates to driving about 30,000 km in a car. The same yield with AgropV equates to around 60,000 km and additionally produces a normal yield of food!

In addition, you should consider the following facts:

- In Austria, 22 ha of agricultural land is lost every day by the smallest towns to the re-designation of roads, supermarkets and shopping malls. (Source: Hagelversicherung)
- In Austria, up to 157,000 tons of edible food is thrown away each year. (Source: wien.gv.at)
- “In Vienna, that amount of bread (as returned goods) which can supply the second largest city in Austria, Grazis, is destroyed daily.” (Source: film "We feed the World", by Erwin Wagenhofer)

Mag. Patrick Wagenhofer, MSc studied commercial sciences at the WU Vienna and has started his professional career as an investment fund manager. After some in-between steps and since 2008, he began to be interested in energy generally through the topic of peak oil. He graduated from a master's course in environmental management and wrote in his thesis about a change in energy policy concept for a larger municipality in Lower Austria. He currently works as energy consultant, model region manager, certified passive house consultant and energy farmer. The realisation of the energy revolution to save our climate drives him every day.

Links

<http://www.agropv.at>

<https://www.indiegogo.com/at/agropv> <https://www.facebook.com/agropv>

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