

Report on PV farms on farmland

Thursday 27 August 2009, by [quattrolibri](#)

Well, at least, that was the question asked to us, which we've tried to answer in the attached [report](#) (in French – [contact us](#) if you want to find out the key findings, in English).



Installing PhotoVoltaïc farms (PV farms) on the ground is an industrial-grade option to fight climate change and is nearing grid parity in some countries (Spain, Germany). The choice of land matters.

Here comes the pecking order.

First comes industrial land, particularly factory roofs, large car parks (including storage areas).

Then comes polluted land, where human presence should be limited until de-pollution measures have been completed (phytoremediation is one way of addressing the issue).

Then comes desertic land, with the major drawback of being distant from the consumption centres (therefore likely to generate significant losses due to the transmission).

Our criteria are geared towards deploying PV farms on large chunks of land, to ease down the installation costs, and to target areas which are next to consumption centres.

Then, what do we do when a PV farm is primarily... a farm?

The obvious risk would be to have PV farms add to the already long and pressing list of factors which cut down arable land. We now know the impact of diverting land away from its productive use (cf agro-fuels, cf urban development...).

We found out that the worst case scenario, in France, would occur if ALL the PV farms expected by 2020 to achieve the targeted emissions cuts were to be installed on arable land. That would only cut arable land by less than half a percent and should be weighed up against the pressure of urban development (several orders of magnitude larger than the worst case PV farm scenario).

So, considering that the risk was moderate if not marginal, we then devised several

use cases for this report, all based around a joint use of land for PV production AND agriculture / environmental protection :

case 1: sheep grazing under / next to the PV panels



(image courtesy of SolarServer)

case 2: greenhouses nested under / between the PV panels

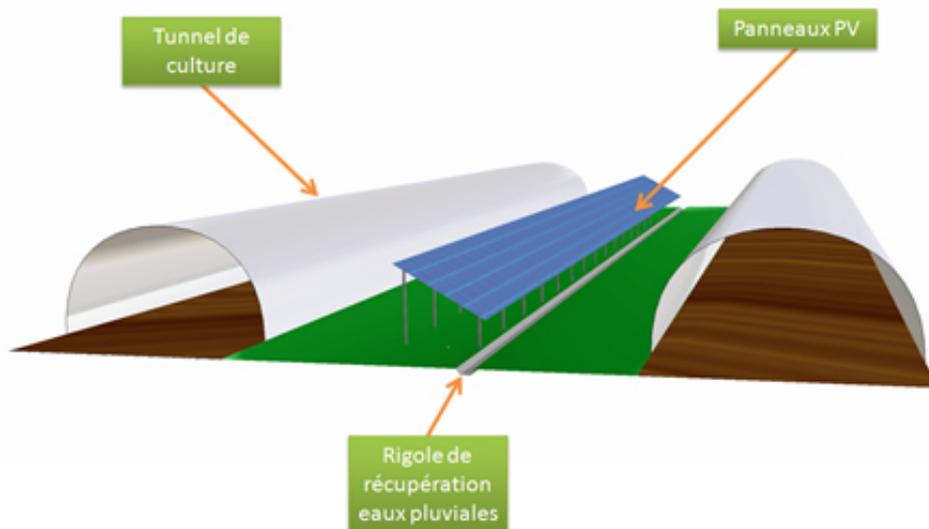


Illustration – coexistence d’une serre et de panneaux photovoltaïques

(c) Quattrolibri 2009

case 3: bee hives nested under the PV panels, with the rest of the surface used for wildflowers (and biodiversity)

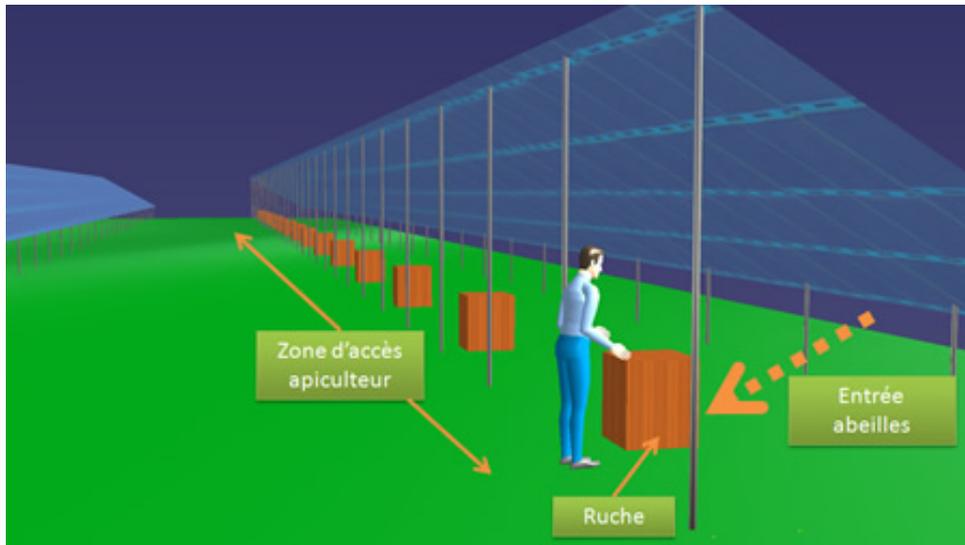


Illustration – installation de ruches sous des panneaux photovoltaïques.
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We then briefly suggest other options.

Comments welcome. The report has been picked up by [HESPUL](#), thank you very much.

Images 2 and 3 (c) Quattrolibri 2009; please contact us if you want to reuse them.



Attached documents

[PV farms on farmland report](#) (PDF – 5 Mb)