

CONTEXT PROFILE

 GERMANY



FARMER

Dirk Hanken



INNOVATION

Agrivoltaics on grassland



[Video](#)



MAIN DOMAIN OF THE INNOVATION

Animal management



SOIL TYPE

Peat



FINANCE/INVESTMENT

Mid



AGROCLIMATIC AREA

Atlantic central



MANAGEMENT

Pasture dairy



MARKET

Global



CLIMATE

Moderate rainfall



TECHNICAL

Difficult



SOCIAL

Full-time farmer

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Case Study: DE_13	Agroclimatic Zone								
Item (Key Innovation Elements)	Alpine	Atlantic Central	Atlantic North	Atlantic South	Boreal	Continental North	Continental South	Mediterranean North	Mediterranean South
Individual solar panels in grazing paddocks to produce energy and provide shelter for the animals	++	++	++	++	++	++	++	++	++

+++ Strong transferability
 ++ Slightly limited transferability
 + Very limited transferability
 × Generic information/not relevant

Implementation Gaps

- Area should be suitable for both solar panels and grazing

Research Gaps

- Interaction between cow behaviour in relation to the grazing system (how many times grazing and how many cows), the management of solar panels, grass and cows, and the potential damage to grass and soil
- How to deal with excess of local dung and urine patches under the solar panels
- Economic effects

Suggestions to Adapt

- Choose the right location, depending on the type of soil, to limit soil damages

COST-BENEFIT ANALYSIS

INVESTMENT COSTS

Total initial investment costs at start up:	not applicable/not known
• Initial authorisation costs (e.g. sanitary, veterinary, etc.)	not applicable/not known
• Initial advisory costs	not applicable/not known
• Initial buildings and machineries	not applicable/not known
• Initial certification costs	not applicable/not known
• Initial working capital (personal qualification, marketing and promotion, etc.)	not applicable/not known

ON-GOING COSTS

On-going advisory costs	not applicable/not known
On-going certification costs	not applicable/not known
On-going buildings and machinery costs	not applicable/not known
On-going working capital	not applicable/not known

BENEFITS RELATIVE TO ORIGINAL SYSTEM

◦ Economic

Reduction in energy consumption (electricity; fuel consumption)	high
Reduction in input use (fertilizers; pesticides; feed) etc.	none or low
Payback period	not applicable/not known
Product value added	mid
Additional farm income through agroecological/agri-environmental payment schemes	not applicable/not known

◦ Environmental

Animal feed self-sufficiency increase	not applicable/not known
Biodiversity increase	not applicable/not known
Improved nitrogen cycling	not applicable/not known
Soil regeneration	not applicable/not known
Animal health and welfare improvement	not applicable/not known

◦ Social

Workload reduction	not applicable/not known
Engagement of young generation	not applicable/not known

Literature

English

- <https://solargrazing.org/>
- https://solargrazing.org/wp-content/uploads/2023/01/v12i1-2022-2023-1-Guarino_Swanson.pdf