

On-farm renewable energy production

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Background

Production of on-farm renewable energy was studied in three European study sites, focusing on two specific types of renewable technologies: biogas production through anaerobic digestion in Vysocina Region (the Czech Republic) and Wendland-Elbetal Region (Germany), and wind energy production in Aberdeenshire (Scotland, UK). In all three sites, farmers are the most numerous producers of renewable energy using these technologies.

In all three sites, technology development initially began at least three decades ago, but production on farms only became mainstream in the 2000s, following considerable technological development and government supports. Wind energy has been used on farms for centuries, but was not actively developed for electricity production until the 1980s. Anaerobic digestion was originally developed on farms in the 1950s to address waste management issues. Heat was a byproduct until the 1980s, when it was discovered that field crops could be fed to the digester, increasing energy output.

Policy plays a major role in renewable energy production: up-take on farms clearly follows long-term price supports from the **energy sector**.

- These subsidies are much larger than supports through CAP Pillar 2
- Changes to price supports for solar panels have led to uncertainty over the longevity of price supports for other technologies.
- National grid access is a key barrier

In Germany, on-farm renewable energy production is supported by regional strategies and targets that encourage networking and inter-regional competition.

In the Czech Republic, supports for renewable energy production are being discontinued owing to lack of public support.

In the UK, up-take on farms is region specific, owing to different planning policies. Up-take on farms is increasingly risky, owing to saturation, primarily through large corporate developments.



There is an **urgent need for integrated agri-renewable strategies** at European, national and regional level, in order to ensure long-term sustainability, and capitalize on opportunities for regional and farm-level developments.



Renewable energy production represents a **business opportunity for farms**, technology suppliers and consultancies

- National governments view it as an economic development opportunity.
- Young farmers and new entrants are excluded owing to high investment costs
- Unlike most innovations, the renewable technologies studied have not become cheaper over time as production materials have become more expensive.
- Farmers now face increased competition for production resources – land, field crops and manure – from other commercial actors.

On-farm renewable energy production contributes to **increased intensification of agriculture**, because it tends to be located on large or intensive farms.

Both turbines and digesters are objects of **social protest**; but there is a move toward 'community' renewable energy generation in all three sites, which may increase public tolerance.

- Saturation of anaerobic digestion and on-farm wind appears to be occurring before it has been implemented on the majority of farms.

For further information see: www.farmpath.eu



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