



# SustainFARM

## Public Goods Tool

### CASE STUDY: POLAND

#### Location

The Wójcik farm is an organic beef farm located in the Gorice District in Beskid Mountains, South Poland where elevations are between 550-650m a.s.l. and the average annual precipitation is 889 mm. The region is highly attractive from a topographic and touristic point of view, and nearby is the Magura National Park with original fauna and flora.

#### The farm

The 205 ha farm is located in a hilly area with slopes between 0 and 23% (Fig. 1). Most of the agricultural land (66%) is covered by grassland with individual trees and hedges and 25% is forested land in a complex mosaic where more than 200 Limousine beef cows are being grazed. The farm also seasonally rears Mangalitza pigs. Approx. 50% of farmland is owned and 50% is rented. The main products are beef and pork, sold in the local and regional markets. Wood is mostly used on farm for internal consumption that allows for a saving approximately of more than 30% of internal fuel consumption for fuel.



*Figure 1. Aerial view of Wójcik farm, Poland*

## Results

As an extensive livestock farm, Wójcik farm scores highly across nearly all the spurs (Fig. 2) achieving a high score in animal health and welfare management, and agricultural systems diversity. Its lowest score is for the NPK balance; currently the grassland fixes more nitrogen than is exported in meat, thus risking leaching of nitrogen from the farm (Fig. 4). This shows how the SustainFARM PG Tool can highlight areas for improvement. The LER is 2.26 which suggests that more than twice as much land is needed under a monocropping scenario to achieve the same level of production (based on metabolizable energy) as the agroforestry system on the farm. The energy benchmarking shows that the energy use for the cattle is considerably higher than the benchmark (498% of benchmark. N.B. the beef benchmark is based on a wide data range for UK beef and sheep systems, including many upland units, which tend to have a low fuel fossil fuel use per head of livestock). However, over half of the farm energy use is from renewable sources, and the CO<sub>2</sub> balance is -52.4 tonnes CO<sub>2</sub> equivalent per year.

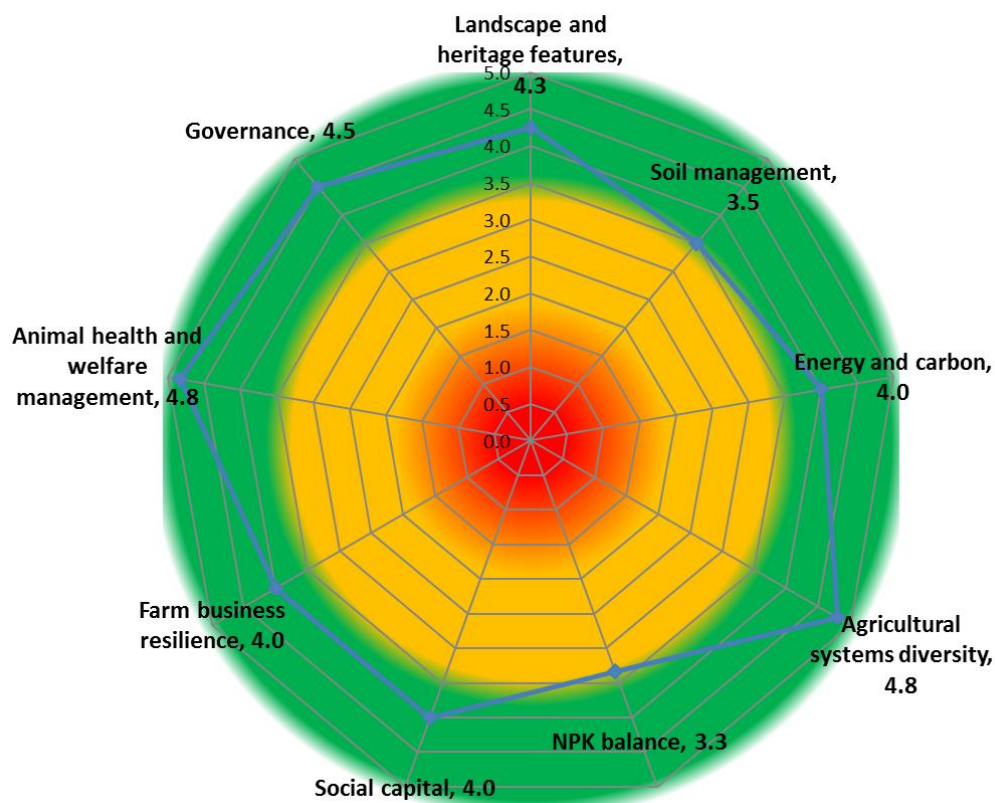


Figure 2. Spur scores for Wójcik farm, Poland



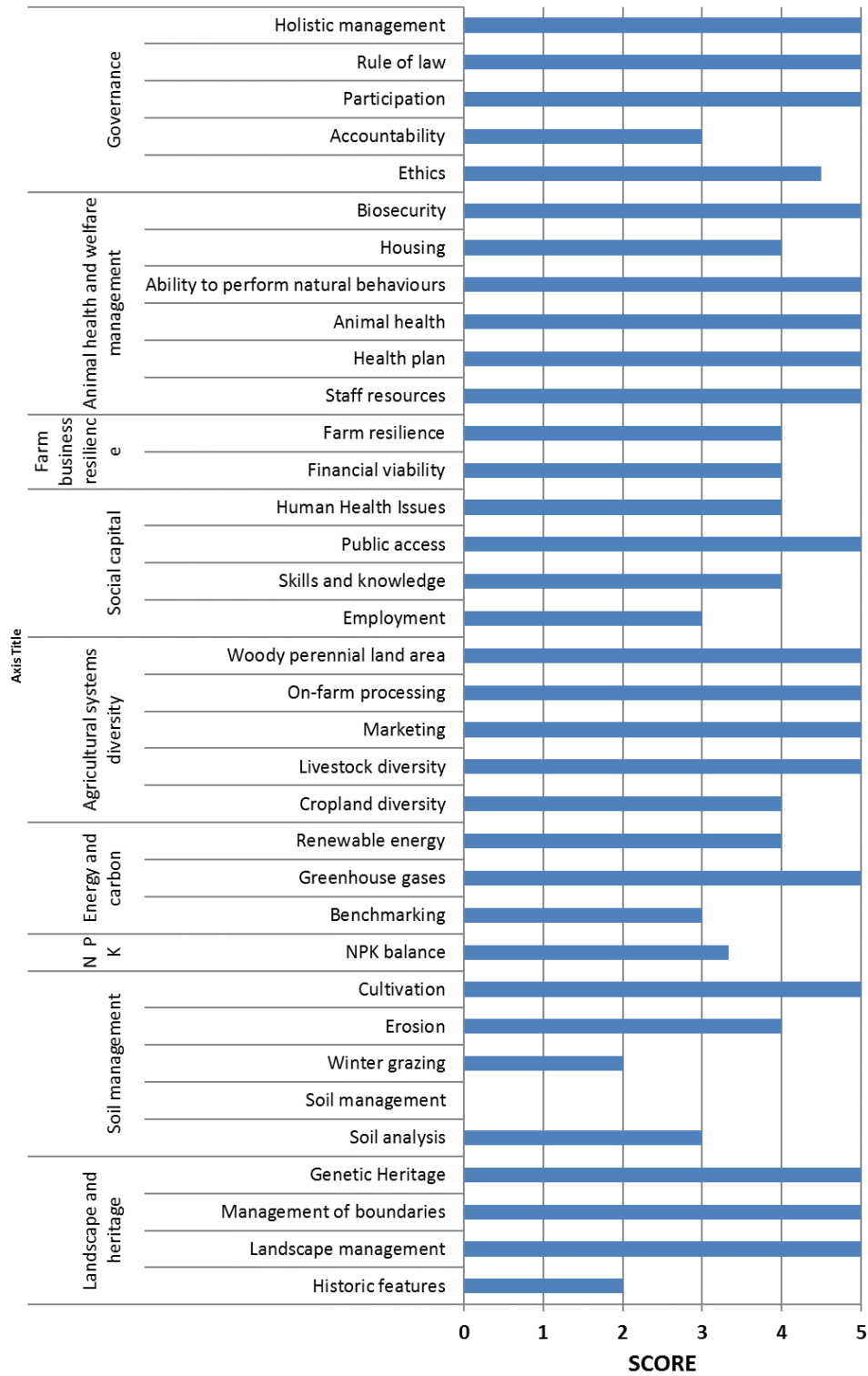


Figure 3. Bar chart showing sub-spur scores for Wójcik farm, Poland

Key assessment criteria		
<b>Land Equivalent Ratio</b>	<b>2.26</b>	
<b>Farm gate NPK balance</b>		
N balance per ha	65	kg
P balance per ha	0	kg
K balance per ha	10	kg
<b>Energy benchmarks (energy use as % of average figures)</b>		
Arable	0%	
Beef & sheep	498%	
Dairy	No dairy	
Pigs	14%	
Poultry - layers	No layers	
Poultry - broilers	No broilers	
Domestic	131%	
Total farm renewable energy	58%	
<b>CO<sub>2</sub> balance</b>	-52.4	tonnes CO <sub>2</sub> equivalent yr
<b>Labour use - ALUs</b>	8.9	<b>Please note:</b> 1 ALU is one full-time employee working 2200 hours per year

Figure 4. Key results for Wójcik farm, Poland

### Acknowledgements

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