

Solar Thermal Energy in British Agriculture







AIM: presenting the French agricultural domain, it's potential for Solar Thermal Energy (STE) application and its key sectors.



METHOD: summarizing this ambition by highlighting results from interviews, academic and official documents analyses.

Use of Renewable Energy in Agriculture

Share of Renewable Energy: 20%

- <u>Price of energies (2019):</u> Photovoltaic: 0.115€/kWh
 - Electricity: 0.156€/kWh
 - Biomass: highly variable
 - Natural gas: 0.027€/kWh (2018)

National Aids & Legal Framework for STE

- Government incentives have been reduced and some systems are now viable without financial support
- Farmers will consider the adoption of STE as a purely commercial decision with no subsidies involved.

Milk-Fed Calves

KEY SECTORS FOR STE

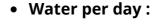
 There are only a few veal producers in the UK therefore it is not a good market sector for STE use because veal production is so limited.

Holding:

Total: 1,85 m with in average 148 cows

Target candidates for STE: water heating based energy

system farms



796,6 L/day (for 175 cows)

o Greenhouses: 2377 ha o Horticulture (plants

and flowers): 14000 ha

Main Energy Used:

Solar energy

Holding:





- Average Direct **Consumption:**
 - o 120 kWh/cow for cleaning
 - o 350 kWh /year/cow for processing

Greenhouse



Holding:

o Total: 10539 farms (2019) o Of which 5451 are breeding sows

Main Energy Used: Electricity & Fuel Oil

• Average Direct Consumption :

Average Direct **Consumption:**

o Greenhouses: 105 kWh/m2/year o Horticulture: 105 kWh/m2/year

Main Energy Used : Electricity & Gas



Recent changes in agricultural policy, which

includes the banning of euthanasia for newly

born and very young calves, may change this.

o 3,49 € per pig produced

o 87€/sow /year based upon 24.8 pigs produced/sow/year)







2 particularly appropriate sectors: Dairy Farms & pig farms

2 other sectors of interest: milk-fed calf farms & horticulture

2 sectors with low potential currently: on-farm milk processing farms & poultry