

GREENHOUSES IN FRANCE

PRESENTATION OF THE SECTOR

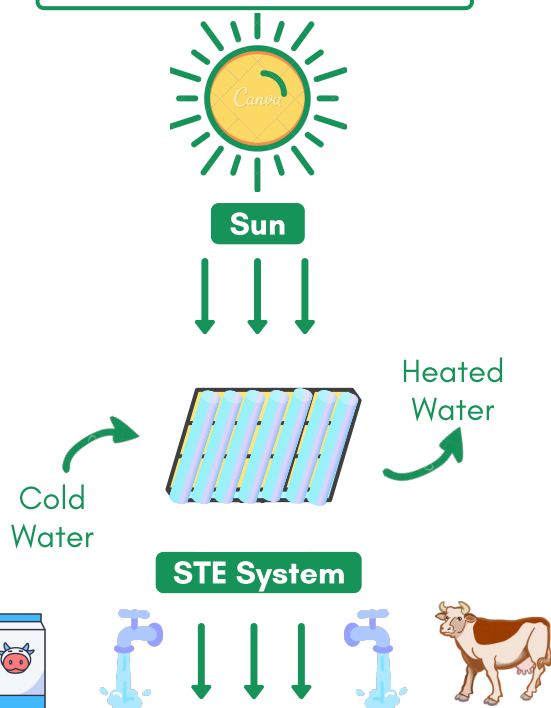
Distribution:

- **Share of Total Production:**
 - West (32%)
 - Normandy (14.2%)
- **Livestock:**
 - 62000 farms in total
 - 3000 holdings with on-farm processing (IDELE)
 - "Bienvenue à la Ferme" network: 1084 farms selling dairy products
 - In average, 59 cows/farm

Total Herd (in 2019): 3.6 Millions

Milk Production (in 2017):
23 Millions of tons

MODELISATION OF FUNCTIONING



Heated Water cleans Milking Parlours & Milk Storage + serves for milk transformation

ENERGY NEEDS

Average Energy Consumption:

- **Total needs:** 884kWh/year/cow (12% operating costs)
- **Cleaning:** 120 kWh/year/cow (14% of total consumption)
- **Milk Processing:** 254kWh/year/litre of milk
- **Water Supply:** 200-500 L/day

Potential for Solar Thermal Energy (STE)

Hot Water in Dairy farms:

- Daily needs & 2nd Electric Consumption
- Regular without depending on seasonality

Relevant Cases: 3 000 holdings with On-Farm Processing

- Farm processing at least **300000 L milk/year** (production of **50 cows**)
- Extra hot water requirements due to milk thermisation

=> **1L of hot water for 1L of milk**

Example: GAEC Arc-En-Ciel

- 70 cows producing 350000 L/y
- 300000 L at 50-70° for cheese
- 254 kWh/L Milk => 76200 kWh/y