



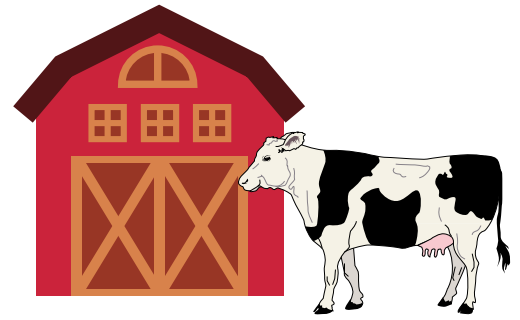
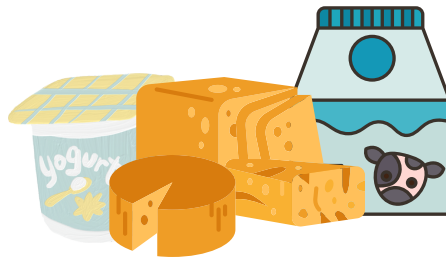
DAIRY FARMS IN THE NETHERLANDS

PRESENTATION OF THE SECTOR



Distribution:

- Share of Total Production:
 - 5% of total global dairy trade
 - cf. top-5 largest exporter
- Livestock:
 - 17000 dairy companies in total
 - 4% share of global cheese trade
 - 15 Billions kg of processed milk & 881 Millions Kg of cheese
 - In average, 150 cows/farm



- **Total Herd (in 2019):** 1.6 Millions Cows & 0.4 Millions Goats
- **Milk Production (in 2017):** 835 Millions of tons

ENERGY NEEDS

Average Energy Consumption:



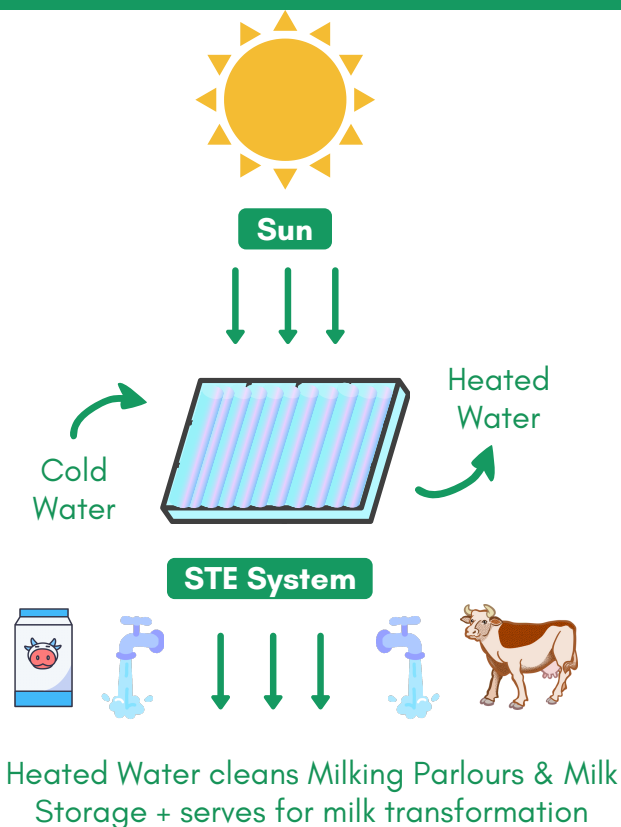
- **Total needs:** 884kWh/year/cow (12% operating costs)
- **Milk Processing:** 254 kWh/litre of milk



- **Cleaning:** 120 kWh/year/cow (14% of total consumption)
- **Water Supply:** 600 L/day



MODELISATION OF FUNCTIONING



POTENTIAL FOR SOLAR THERMAL ENERGY (STE)

Hot Water in Dairy farms:

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

Relevant Cases:

- 2200 holdings, especially those with On-Farm Processing
- Farm processing at least 49 117 L milk/year (production of at least 150 cows) and 18% is processed
- Extra hot water requirements due to milk thermisation

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

Example: Typical Dutch Dairy Farm

- 150 cows producing 49 117 L/y
- 8 841 L at 50-70° for cheese
- 254 kWh/L Milk => 2 245614 kWh/y