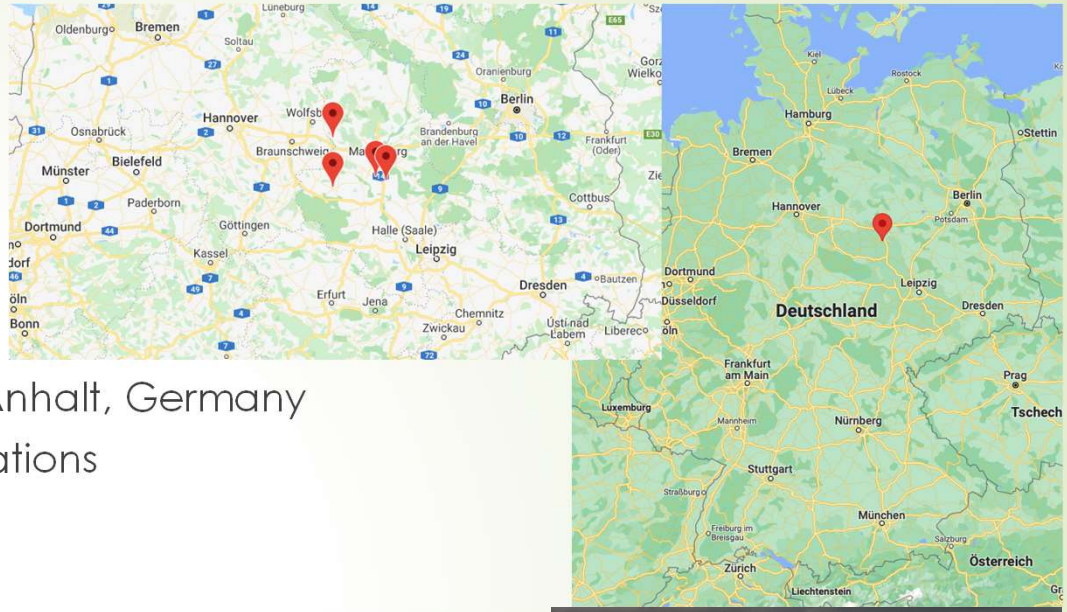
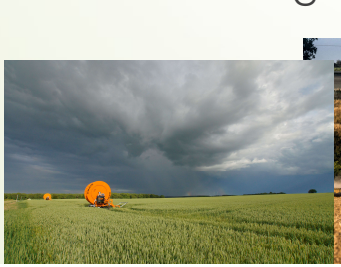
Carbon farming from the perspective of a German farmer

Meine & Claus – agricultural farm in Saxony- Anhalt, Germany

Introduction

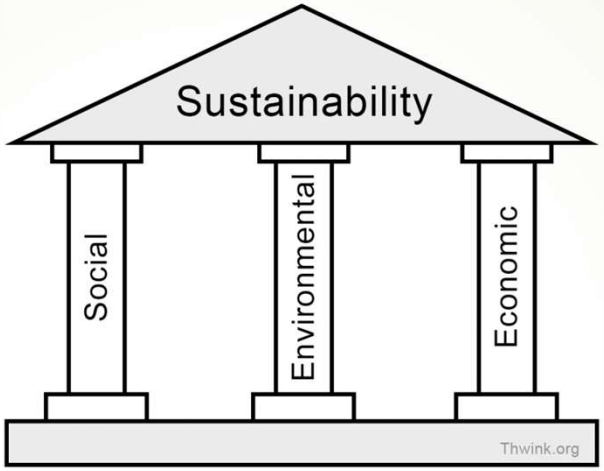


- Conventional agricultural farm in Saxony-Anhalt, Germany
- Cultivate 2,700 hectares on 4 different locations
- Family business with 12 employees
- Cultivation of
  - wheat
  - barley
  - rapeseed
  - sugar beet
  - corn
  - potatoes
- Interested in renewable energies, operating of a biogas plant



MEINE CLAUS

Sustainability?



Sustainability is based on **three** pillars!

Environmantal sustainability: soil management, environmental protection, preserving biodiversity, …

Social sustainability: mental and physical workload, working hours, bureaucracy, …

Economic sustainability: liquidity, profitability and stability

Carbon farming – SWOT Analysis

- Humus build-up
- improvement of soil fertility
- additional income

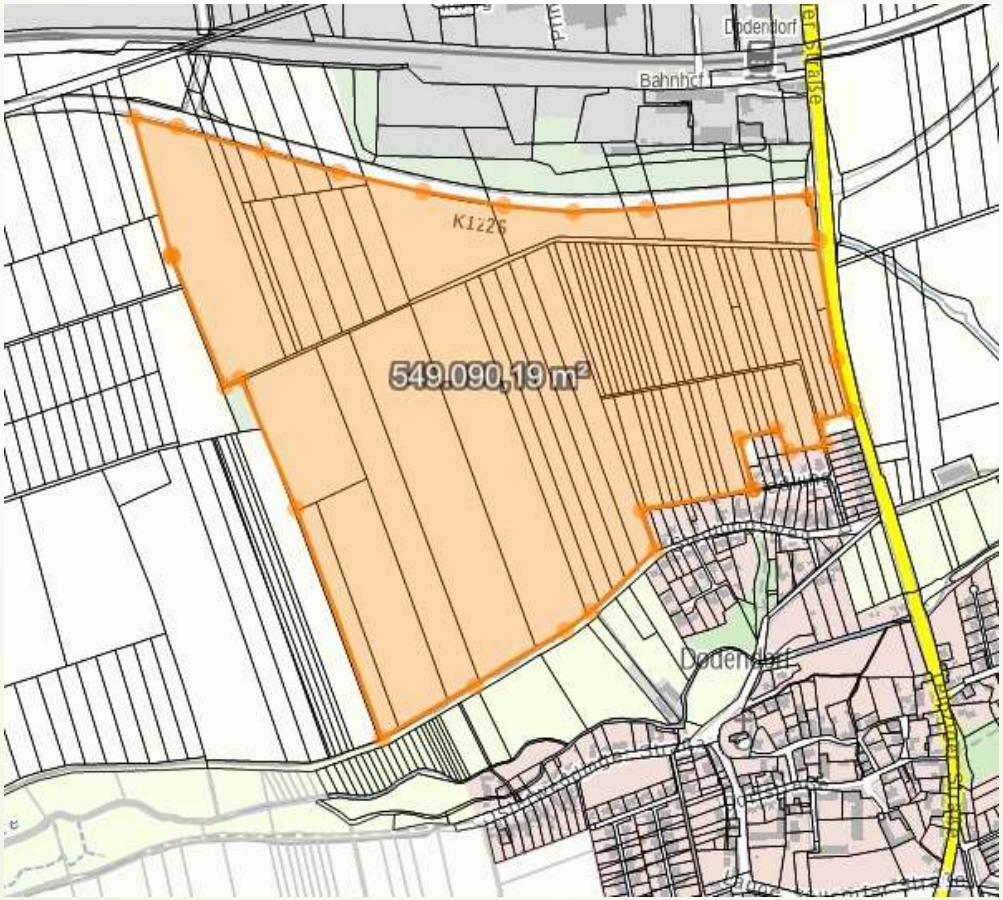
- Implementation must be practical (technology, annual cycle, weather conditions)
- New crops: profitability? Is there an easy good structured market?

- New income for farms
- synergy effects

- Increased bureaucracy
- more costs due to changes in technology
- models that do not work in practice

German agriculture
– Points that need to be considered

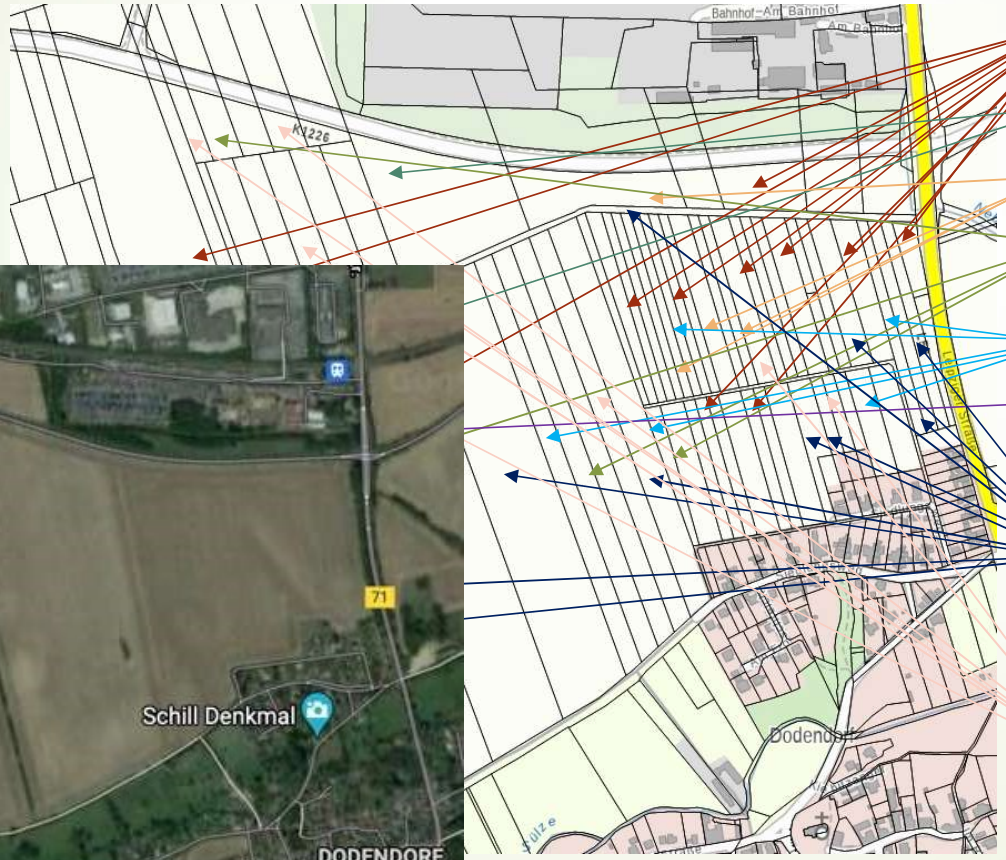
- Land structures in Germany



75 parcels of land

German agriculture
– Points that need to be considered

- Land structures in Germany



Meine und Claus is the owner

rented from Mr. A until 2024

rented from Mr. B until 2029

rented from Mr. C, annually contracts

rented from a Comuntity of heirs, 2025

rented from Mr. D, 2030

…

Land exchange with farmer B
(his farm landlease agreements with Mr. X (until 2023), Mr. Y (until 2025), Mr. Z (annually), own land of farmer B

Land exchange with farmer D

German agriculture
– Points that need to be considered

- Agriculture is always dependent on weather conditions
  - Crop rotation must sometimes be adapted shortly (e.g. wet weather conditions in autumn)
- Agriculture is complex
  - Crop rotation is not only adapted to the climatic and soil physical conditions, but also to:
    - machinery equipment
    - working periods of the crops
    - number of employees
    - government regulations
- Structural change in agriculture: Rising bureaucracy is one of the main reasons for German farmers to give up
- Farmers are entrepreneurs and want to make decisions on their fields themselves
- Liquidity

Conclusions for a „carbon market system“

Flexibility

is required due to the high complexity of agricultural farming

One possible solution for a „carbon market system“

- **Catalogue** of measures that store C in the soil
- for example, with a credit system
- credits should be tradable on the free market

- → The farmer can decide which measures suit to his individual farm, with its farm structures, climatic and soil-physical conditions, etc.

?!

- Science based analysis of the process (how much carbon is really stored in the long term?)

Practicality of methods to increase the carbon content in the soil

- **Permanant Grasland/ green fallow**
  - After 5 years, the grassland must be turned over again, otherwise you are not allowed to use the field for arable farming again (regulations)
  - → big loss of the value of land (40.000 €/ha)
- **Agroforestry**: difficult because of our landstructures (maybe field hedges (carbon certificates) are a solution?)
- **Effective microorganisms:** Increase the humus build-up, activate the photosynthetic capacity of the plants, more vital and resistant plants, bigger roots ?
- **Renewable energies**: Ground-mounted photovoltaics on arable land → Conversion of arable land into grassland; production of energy; more biodiversity

Thank you for your attention!