

Carbon Farming: Zeeuwind Case

Carbon Farming Online Conference Luuk van Wezel - 8 & 9th December





EUROPEAN UNION



Agenda

- 1. Short showcase movie Windpark Krammer
- 2. Explanation Windpark Krammer pilot (Luuk)
- 3. Mini-interview Zeeuwind (Marjan & Joyce)
- 4. Lessons Learned (Luuk)
- 5. Q&A





EUROPEAN UNION





Ministerie van Landbouw, Natuur en Voedselkwaliteit







<u>Introduction</u> <u>Showcase:</u> Vindpark Kramme







Windpark Krammer in a nutshell!

SHOWCASE

• Financially rewarding farmers for five years by cooperating with the energy cooperatives Zeeuwind and Deltawind: owners of Windpark Krammer

HOW DO WE DO THAT?

- Methodology developed in cooperation with farmers and based on latest Dutch scientific research (Soil program *Slim Landgebruik* by WUR, LBI & CLM)
- Contracting agreements: ZLTO as intermediary
- Hybrid reward:
 - 70% Effort-based
 - 30% Result based

RESULT

- 15 farmers, 617 hectares
- 2750 ton CO2 sequesterd in 5 years
- Potential extra income per farmer: €19.250



Plan of Action





Special moment in Covid-19 crisis





Boer

Peter van Adrichem

Melkvee Melissant



Kengetallen

40 52 hectare ton CO2 opslag op

landbouwgrond

Validatie

De kengetallen worden gevalideerd door middel van de volgende methodes:

(tCO2/ha)

CO2 vastlegging

ğ Gem. 273,2

2021

- modellering koolstofopbouw/ organische stofbalans
- monitoring maatregelen
- labanalyses grondmonsters
- bodem sensordata

Maatregelen

Uitgevoerd in 2020:

- Geen grondbewerking Groenbemester
- Niet kerende grondbewerking
- Natuurcompost
- Vaste dierlijke mest
- Permanent grasland
- O Kruidenrijk grasland
- O Stro hakselen en laten liggen
- Akker- en bloemenrand
- O Noten, fruit of voederbornen
- Voedselbos
- Lijnbeplanting



Veestape

onderdeel van

kringloop

Kernwaarden

leder bedrijf past maatwerk

toe

Minimaliseer

verstoren

bodem















Mini interview





Carbon Farming – Lessons learned



- Most important motivation for farmers starting with Carbon Farming is maintaning and improving soil quality
- More practical knowledge regarding soil organic carbon is needed: sharing best practices for different farm systems and need more insight in soil-processes and interactions
- Strongly rely on craftsmanship and entrepreneurship of farmers
 →Focus on realizing goals instead of imposing specific measures!
- Experiences conflicting legislation to increace soil organic carbon
- Direct financial incentive for sustainable practices is very important and stimulating!
- Cost-benefit analysis of CS measures is negative: -€50/ha tot -€500/ha





- Carbon Farming has multiple co-benefits:
 - Soil quality and securing future food production
 - Waterretention and water quality
 - Biodiversity
 - Landscape
- Potential sequestration in soils is limited (in NL): ~0,5 1 tCO2 per ha/per year
- Climate benefits of Carbon Farming is still under investigation:
 - Effect of CS measures on nitrous oxide (N₂O) emissions
 - Effect of combining different CS measures
 - Effect of reduced- and non-tillage



Carbon Farming – Lessons learned



Analysis of methodology and pilot by Slim Landgebruik (CLM)

Conclusions:

- Detection of SOC increase in 5 years and statistical substantiation
- Additionality requirements are not strictly defined
- Limited leakage effect
- Monitoring partly based on social control
- Strong methodology support from farmers: technical, financial and social

Recommendations:

- Combine measurements with model calculations
- Result based payment possible on project level
- Increase duration of project if possible
- Focus on control measurements when upscaling the project





