

Carbon Farming: Zeeuwind Case

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



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

Interreg
North Sea Region
Carbon Farming
European Regional Development Fund



 Provincie
Zeeland



Ministerie van Landbouw,
Natuur en Voedselkwaliteit





Introduction
Showcase:
Windpark Krammer

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?

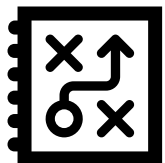
- Methodology developed in cooperation with farmers and based on latest Dutch scientific research (Soil program *Slim Landgebruik* by WUR, LBI & CLM)
- Contracting agreements: ZLTO as intermediary
- Hybrid reward:
 - 70% Effort-based
 - 30% Result based

RESULT

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

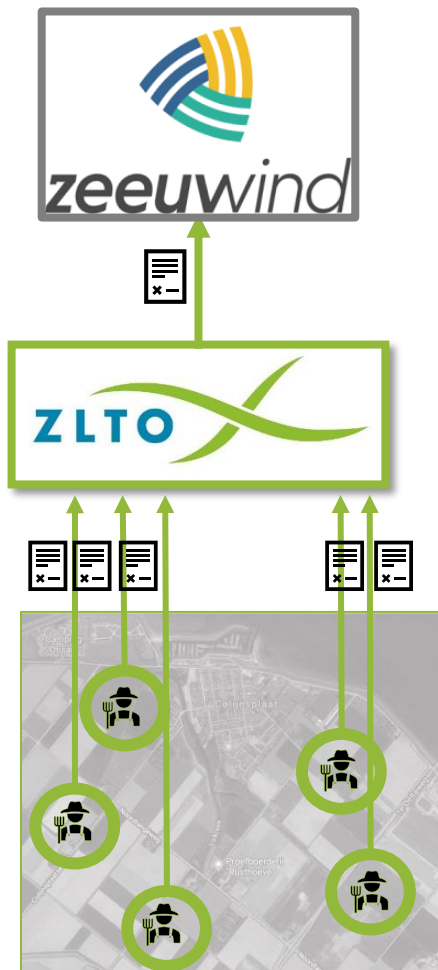


Plan of Action



Methodology

- Description and quantification of soil carbon measures
- Monitoring and reporting conditions
- Risk mitigation
- Soil analysis and sampling plan



**Agreement
ZLTO &
Zeeuwind**

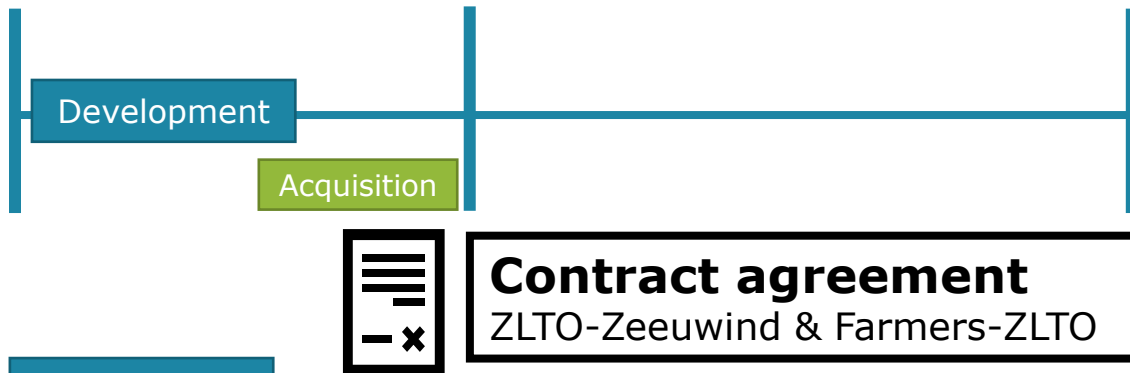


**Farmers'
Agreement**

October
2019

March
2020

March
2025



Development

Small working group (farmers, ZLTO & Zeeuwind) for development of:

- Methodology
- Contracts
- Selection criteria

Acquisition

- Open call for farmers located nearby Windpark Krammer
- Selection of 15 farmers based on: location, motivation, competence and communication skills

Special moment in Covid-19 crisis

A screenshot of a Zoom meeting interface. The meeting is titled "Special moment in Covid-19 crisis". The interface shows eight participants in a grid view:

- Marjon Krol (you): A woman with glasses holding a tablet.
- marjan: A woman with glasses.
- Zeeuwind: A man in a light blue shirt.
- Luuk: A man in a dark suit.
- Monique Sweep: A woman smiling.
- Maarten Zuurmond: A man in a blue polo shirt.
- kathleen goense: A woman in a pink blazer.
- Wim Bens: A man in a dark suit.

At the bottom of the Zoom window, there is a banner for "Interreg North Sea Region Carbon Farming" with the European Union flag and the text "European Regional Development Fund". The banner is repeated five times across the width of the screen.

The Zoom control bar at the bottom of the window includes icons for: ? (Help), Cam (Camera), Mic (Microphone), Share (Screen), Chat (Messages), People (Participants), and Leave (Exit).

The Windows taskbar at the bottom of the screen shows various application icons (File Explorer, Word, Excel, Outlook, PowerPoint, Edge, Chrome, Teams, Zoom) and the system tray with the date "6-5-2020" and time "14:49".

Boer

Peter van Adrichem

Melkvee
Melissant



Percelen



Kengetallen

40 ton CO₂ opslag op
52 hectare landbouwgrond

Valldatie

De kengetallen worden gevalideerd door middel van de volgende methodes:

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

Kernwaarden

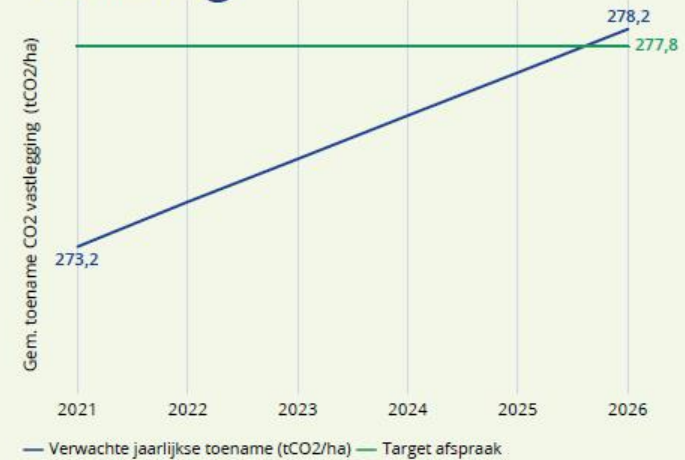


Maatregelen

Uitgevoerd in 2020:

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

0-Meting



Mini interview



zeeuwind

Carbon Farming – Lessons learned



- Most important motivation for farmers starting with Carbon Farming is maintaining 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 increase 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 – Lessons learned



- 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

Questions?