EUROPEAN CARBON FARMERS

From Conventional to Regenerative Agriculture through Carbon Farming with farmers in the centre

Mateusz Ciasnocha

Farmer, Ciasnocha Family Farms
CEO, European Carbon Farmers
Regenerative Agriculture Fellow, COP26 – Race to Zero
Junior RIS Project Manager, EIT Food

Ciasnocha Family Farms – we do not want to be unique any longer

On the mission of making European farmers the key part of the climate change solution in a profitable way

Conventional agriculture is feeding the world…

…for the next 60 years at the maximum

Conventional agriculture is part of the climate problem and is being challenged

Massive soil loss

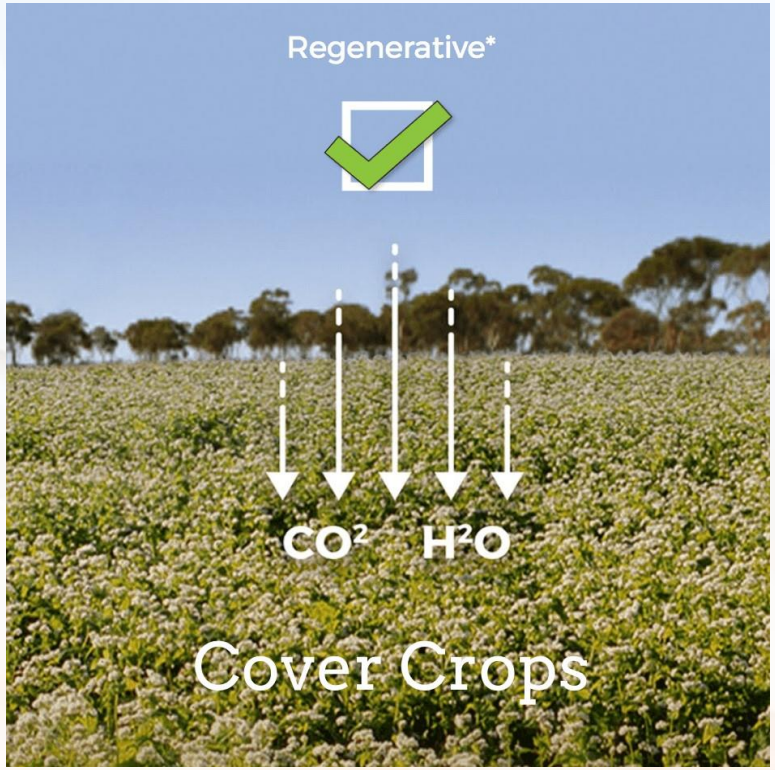
Contribution to climate change

Political pressure

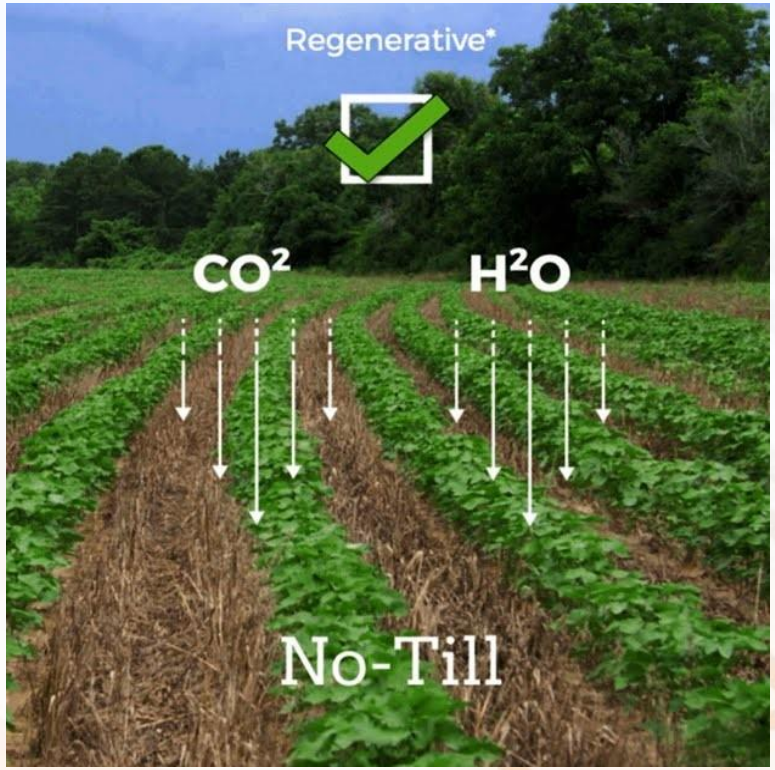
Regenerative agriculture is the solution

How do we get there in a way, which is not threatening an individual farm's financial viability?

How do we speed and scale up the second wave of regenerative agriculture practices?

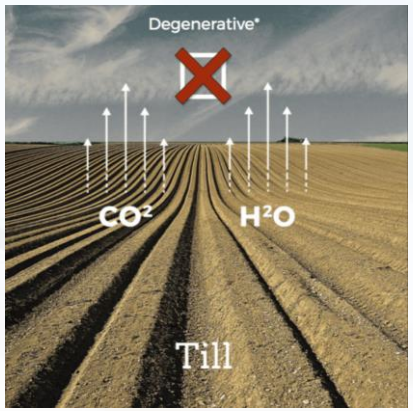


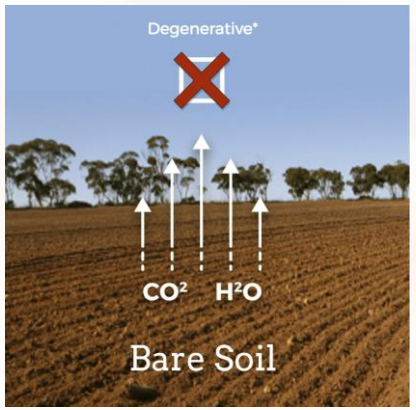
All year-round ground cover

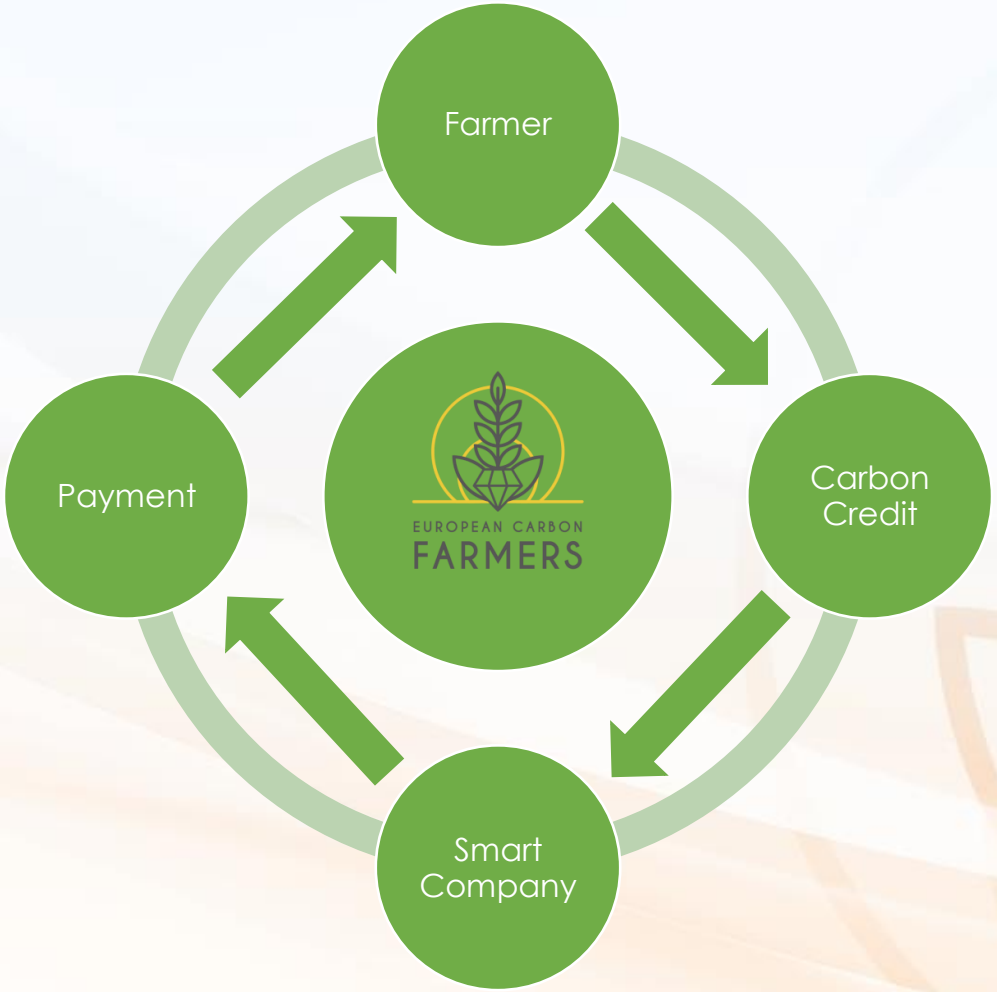


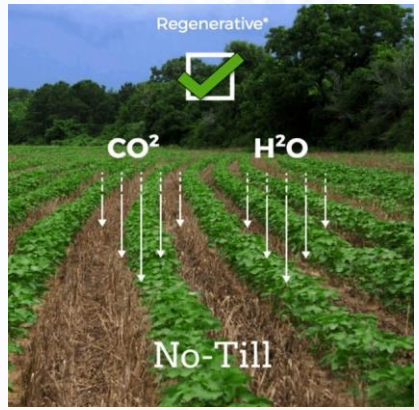
Zero tillage

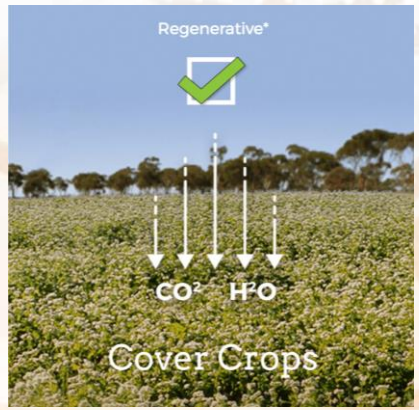
The solution: agricultural carbon credit – paying farmers for additional carbon captured and stored in their soils











1. Farmer
2. Smart Company
3. Regulator

Marathon starts now – you are invited to join us!

We are grateful for your attention and we are looking forward to the future!

Mateusz Ciasnocha

+48-692-477-747
Mateusz.Ciasnocha@EuropeanCarbonFarmers.com

Paweł Ciasnocha

+48-692-094-770
Pawel.Ciasnocha@EuropeanCarbonFarmers.com

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Together let's make European farmers the key part of the climate change solution in a profitable way

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Backup Slides

European Carbon Farmers – internal

Our Why?, How? & What?

We have turned this challenge into a validated opportunity

Mar-Apr 2019

Akademia Energii

Nov 2019

Youth Ag Summit

Jun 2020

STAKE CLIMATE CHANGE
Make agriculture part of the solution

Jul-Sep 2020

Copernicus masters

GALILEO MASTERS

Sep-Oct 2020

Carbon13

Oct 2020 – on-going

START UP HEROES

Nov 2020

eit Food
EIT Food is supported by the EIT a body of the European Union

Nov-Dec 2020

Climate ACCELERATOR

eit Climate-KIC
Climate-KIC is supported by the EIT, a body of the European Union

We continue on our path in 2021

Q1 2021

Q2 2021

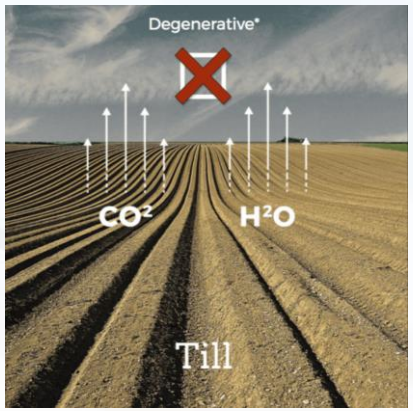
Q4 2021

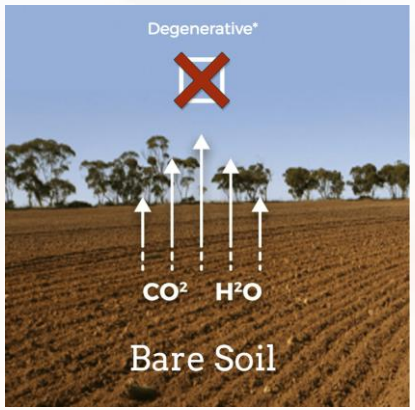
Q1 2021 & beyond

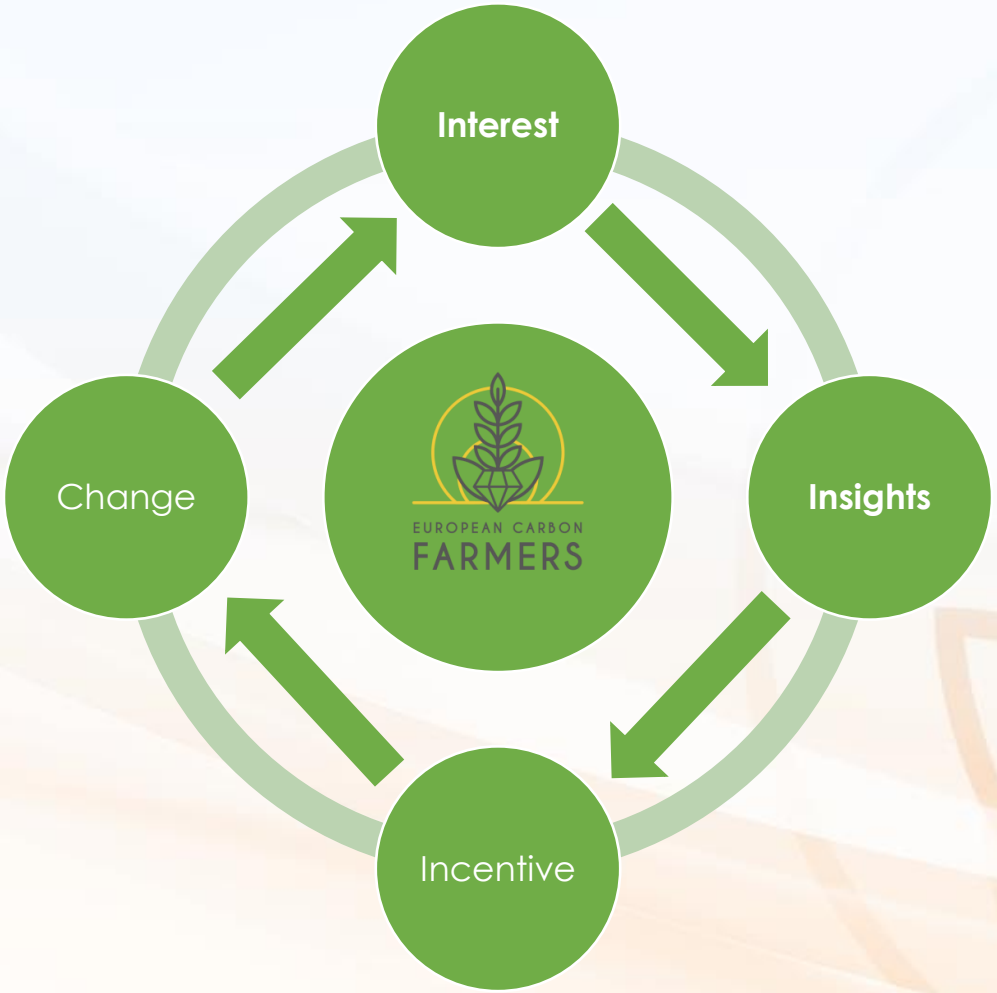
Q3 2021

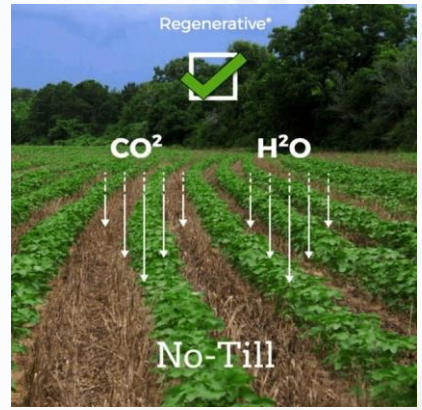
Polish Agency for Enterprise Development
PFR Group

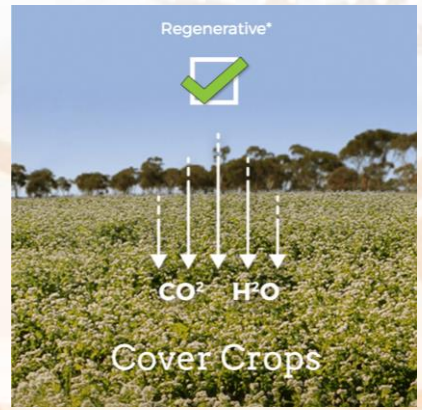
Our actions are informed by a validated theory of change



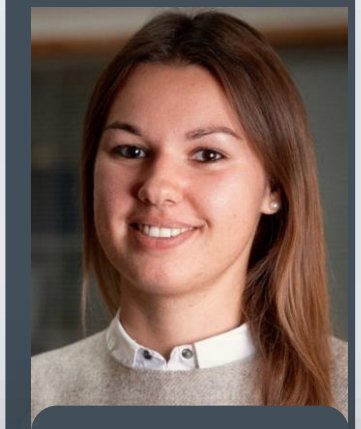




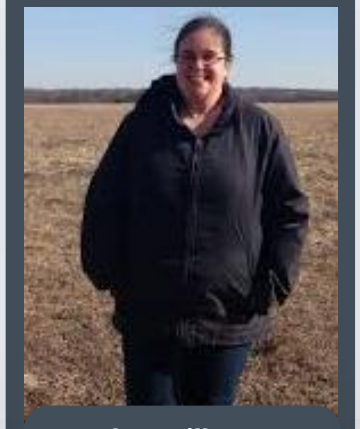




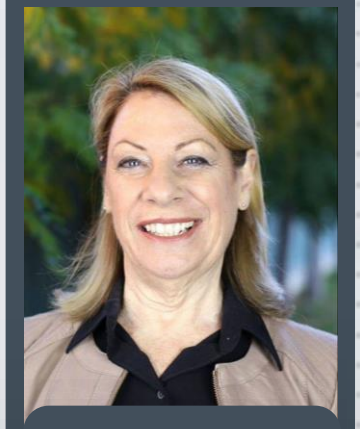
Supported by our Board of Advisors



Julia Wdowin
PhD, Bennett Institute
University of Cambridge
United Kingdom



Becky Willson
Farm Carbon Toolkit &
Nuffield Scholar
United Kingdom



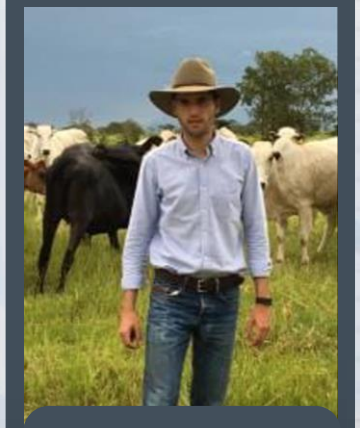
Louisa Kiely
CEO, Carbon Farmers of
Australia
Australia

Liviu Gheorghe
CEO, Eco2ro
Romania

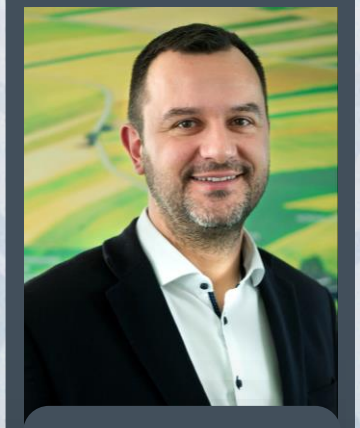
Charles de Liedekierke
CEO, Soil Capital
Belgium & France

Din Ćatić
Associate, The Carbon Trust
Croatia & United Kingdom

Maurice Bryson
Sustainable Finance, S&P
Rankings
Ireland & United Kingdom



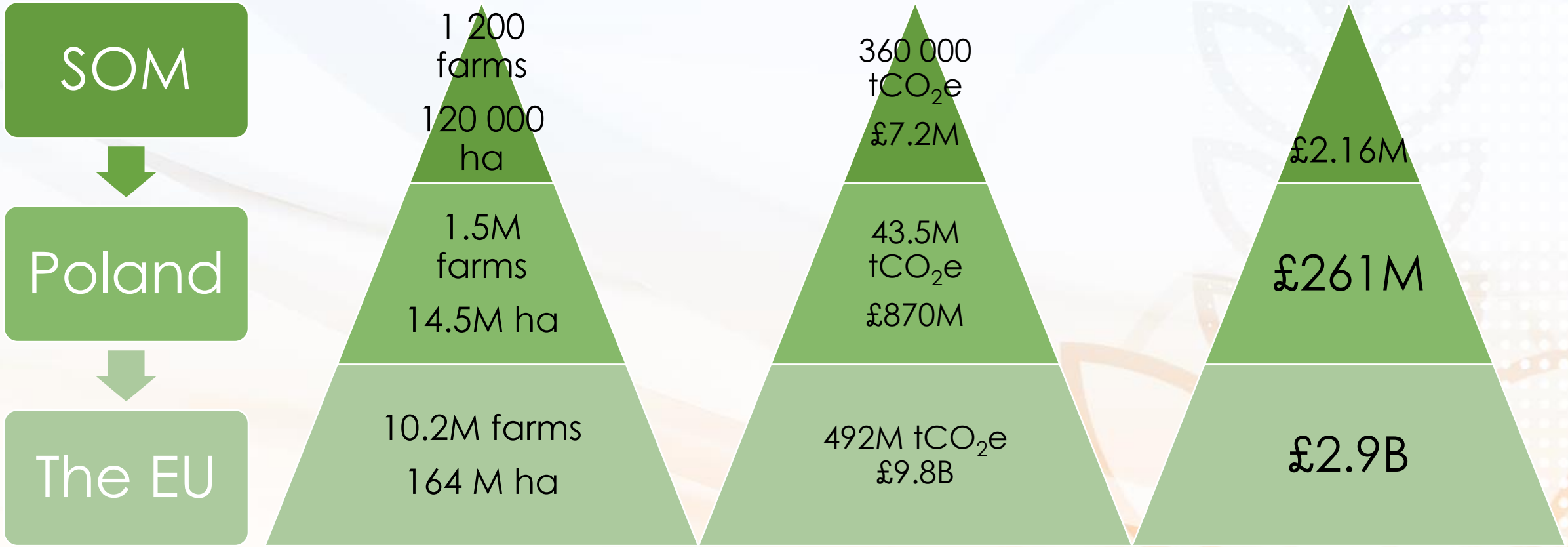
Augusto Semmelroth
Farmers; Investment
Manager, SLM Partners
Brazil & United Kingdom



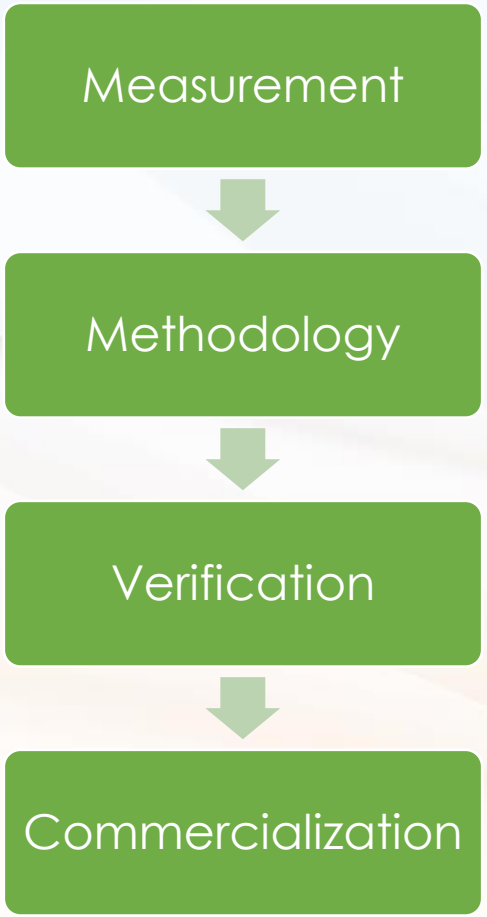
Matija Zulj
CEO, Agrivi
Croatia & United Kingdom

Together with our Community

Our mission defines our market: making each European farm emissions negative – in a profitable way



The carbon credit commercialization mechanism has four stages and monetization takes place annually



Remote and in-field soil carbon measurements

Computing CO_2e captured and stored in the soil

Verification of carbon capture by ISO 14064 (or other) certified body – the creation of carbon credit

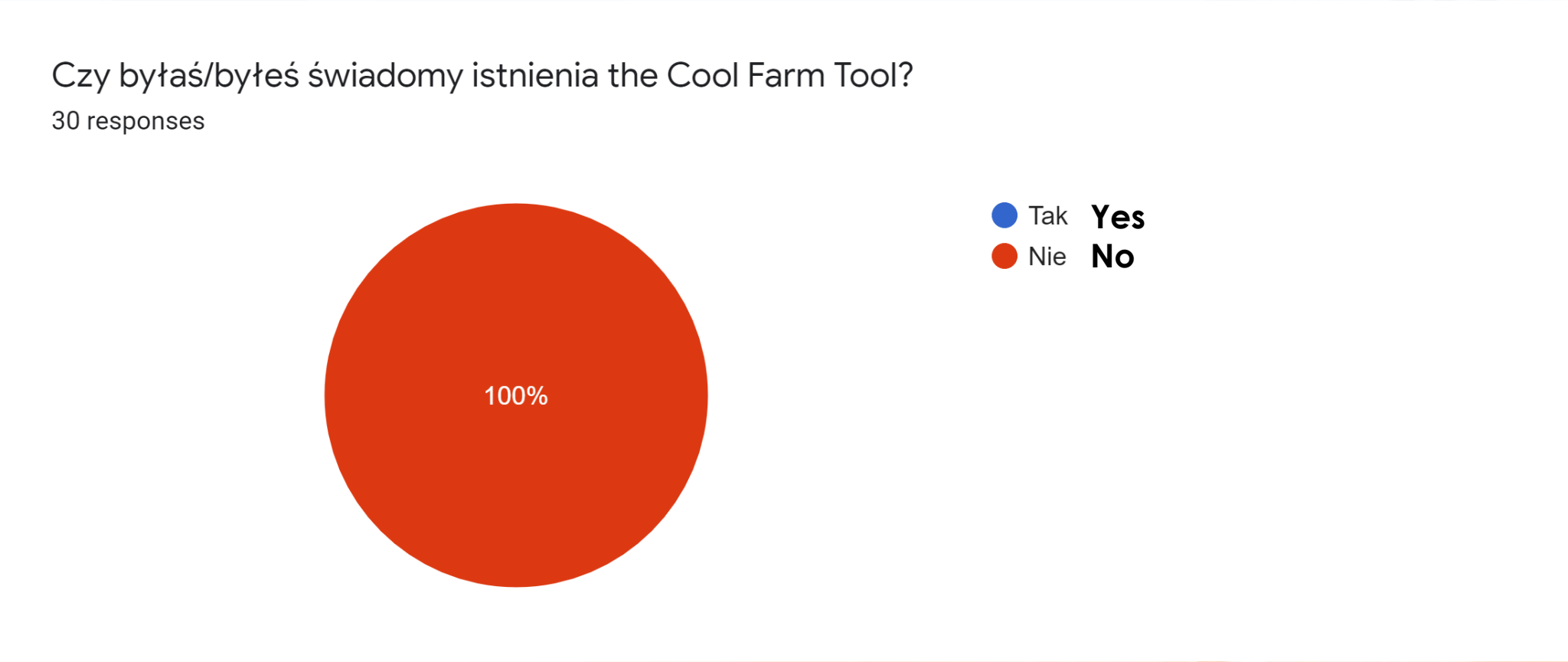
Placement of carbon credit on the market

EUROPEAN CARBON FARMERS

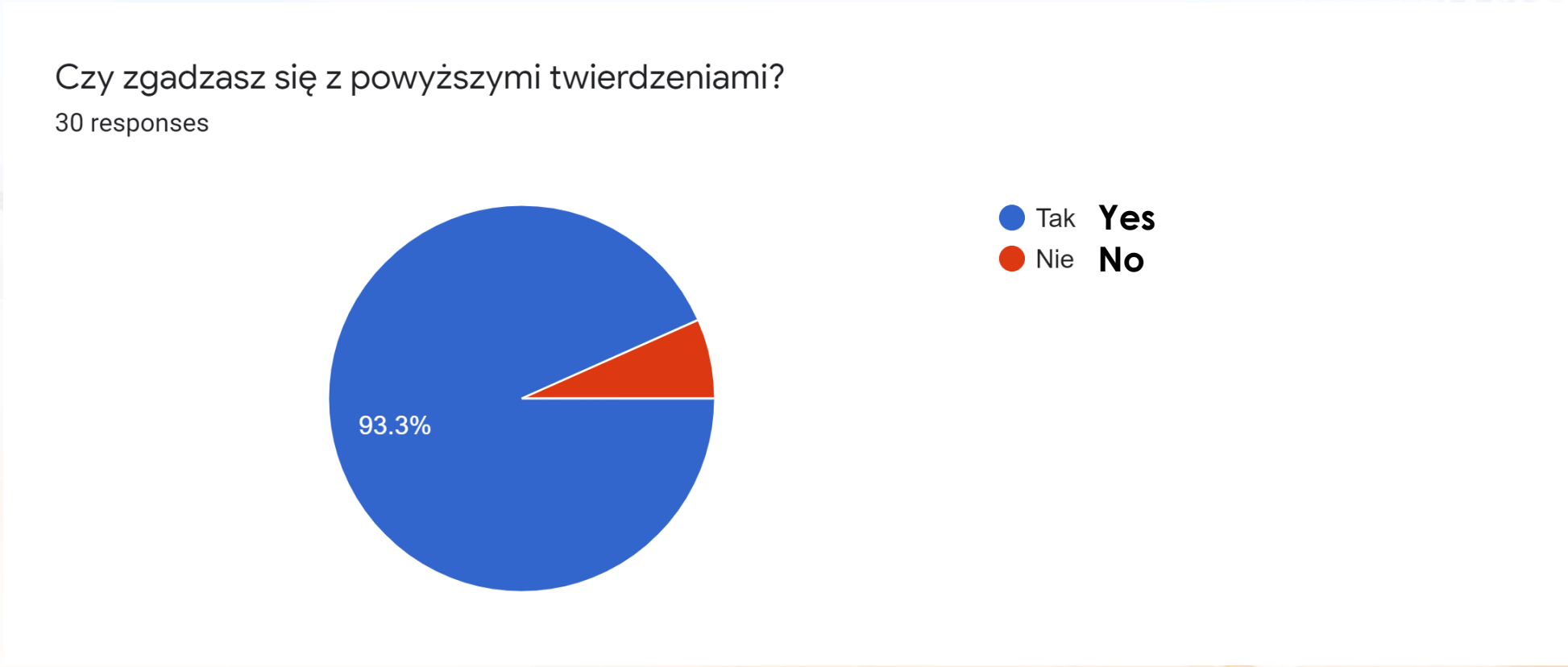
Carbon Farming – research

Survey on carbon farming in Poland: https://bit.ly/2HP0t8e

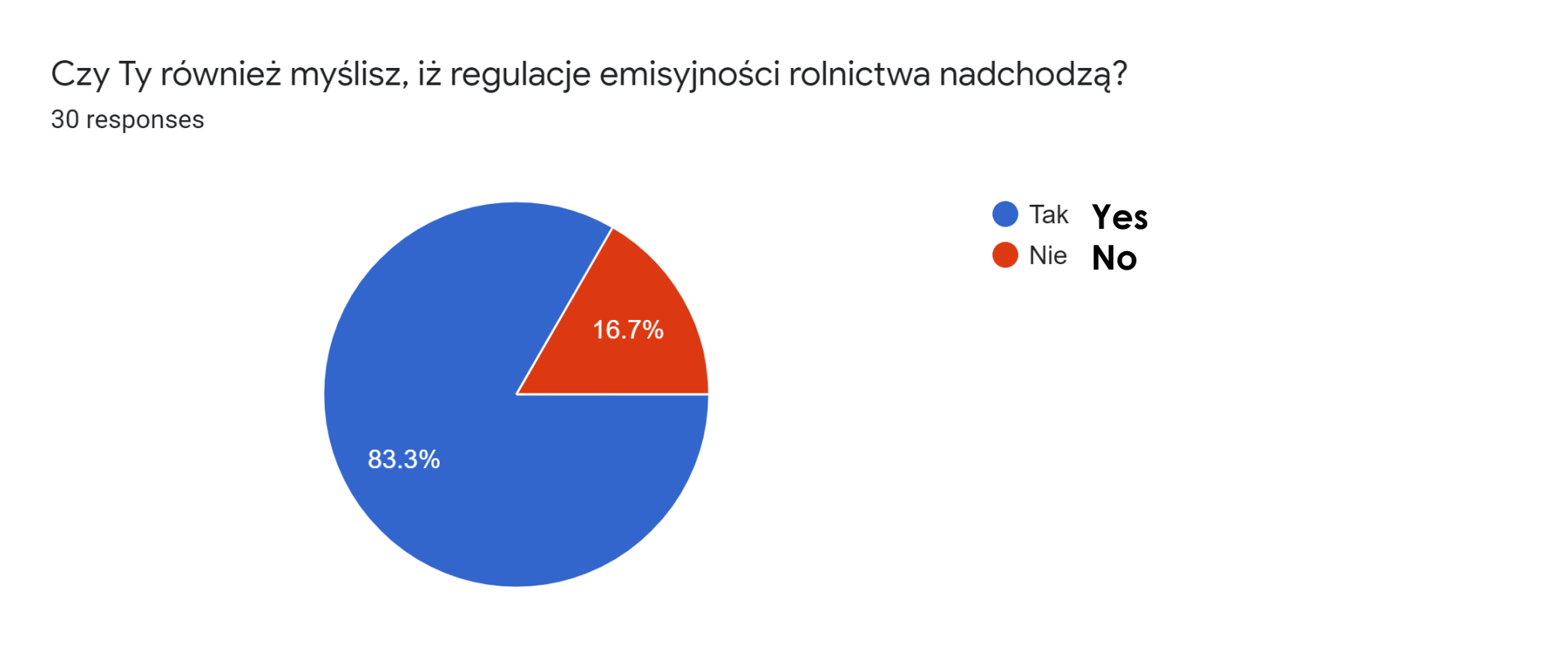
Survey results [1]: Are you aware of the Cool Farm Tool?



Survey results [2]: Do you agree that the economy, including agriculture, has to decarbonize?



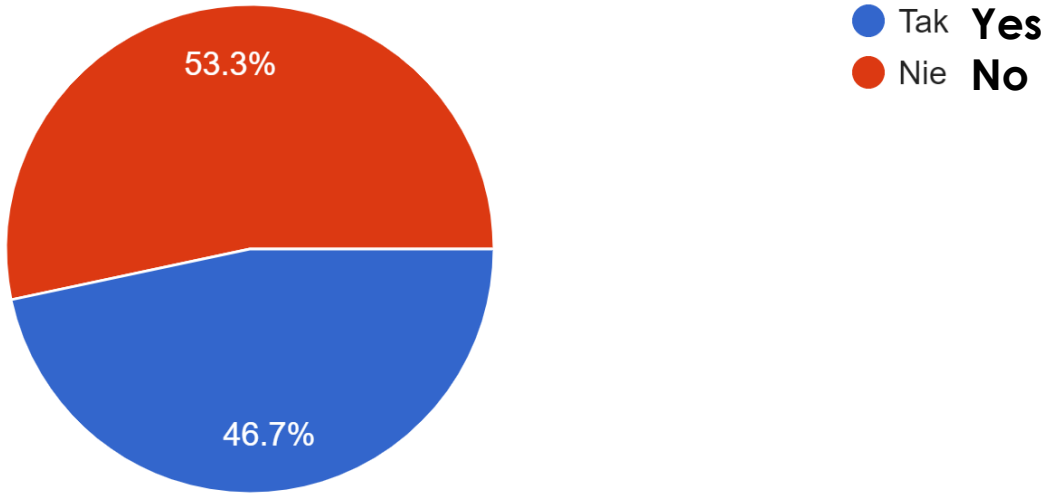
Survey results [3]: Do you think emissions regulations in the EU are coming?



Survey results [4]: Is your farm ready for those regulations if they were to be implemented today?

Czy Twoje gospodarstwo rolne jest gotowe na te regulacje jeżeli weszłyby one w życie dzisiaj?

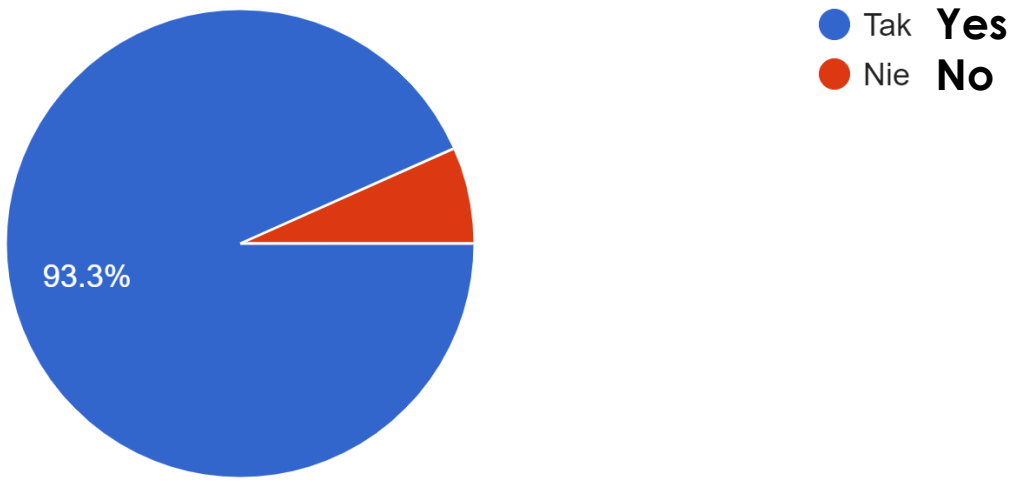
30 responses



Survey results [5]: Are you interested in developing carbon farming on your farm?

Czy jesteś zainteresowany rozwojem praktyk rolnictwa węglowego w Twoim gospodarstwie rolnym?

30 responses



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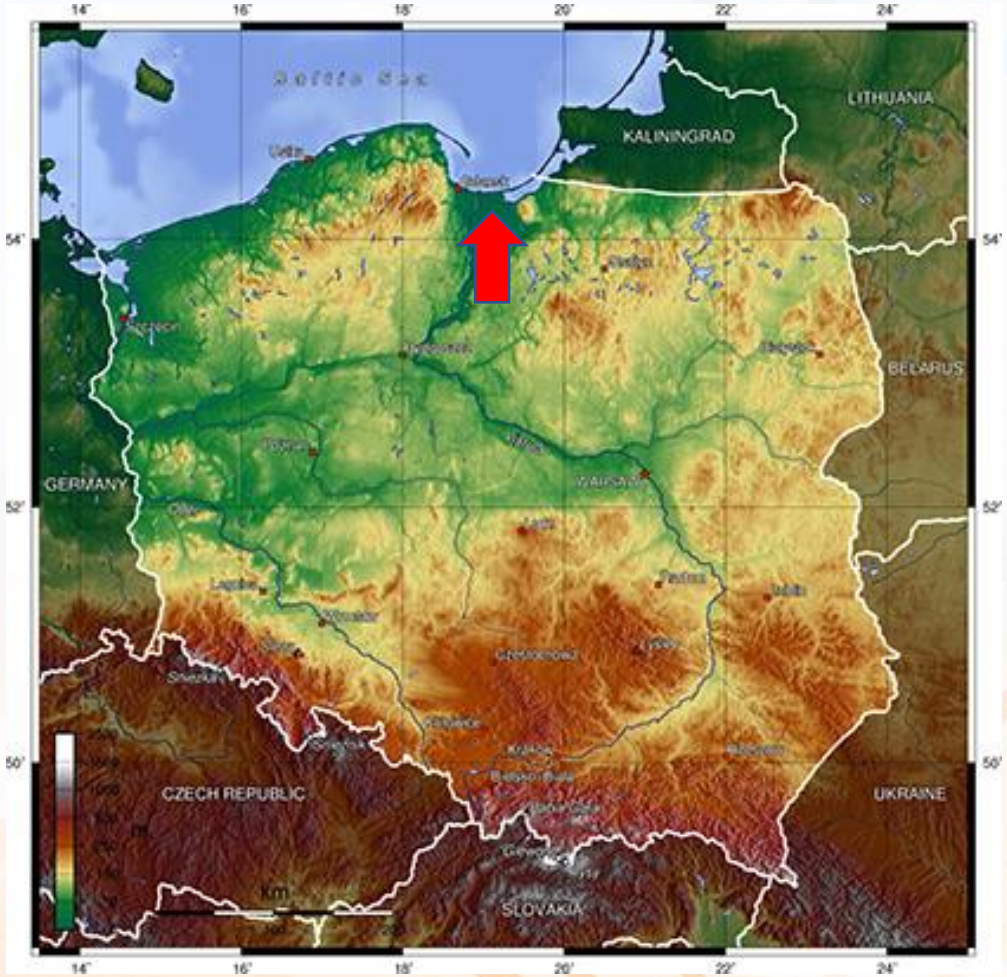
Ciasnocha Family Farms

Ciasnocha Family Farms

Farming in the Vistula Delta since the 1970s

1. Conventional cereals production
   - Till 2004 (Poland enters the EU)
2. Regenerative Agriculture 1.0
   - 2004-2008
   - Spring crops with cover crops
   - Min-tillage
3. Regenerative Agriculture 2.0
   - 2008-now
   - Permanent grassland
4. Regenerative Agriculture 3.0
   - Livestock integration?
   - Pollinator strips?
   - Agro-forestry?



Ciasnocha Family Farms (1): trawling

Ciasnocha Family Farms (2): cutting

Ciasnocha Family Farms (3): tedding

Ciasnocha Family Farms (4): windrowing

Ciasnocha Family Farms (5): balling

Ciasnocha Family Farms (6): logistics

Ciasnocha Family Farms (6): storage (1)

Ciasnocha Family Farms (6): storage (2)

As our family farm shows: farming cannot be green when farmers are in the red

Ciasnocha Family Farms' climate mitigation perspective:

- From net emitter of GHG in 2004 to the net capturer of CO_2 since 2008 onwards.
- 6.5 tCO_2e/ha/year (Cool Farm Tool)
- 6.5 tCO_2e/ha x 700ha = 4,550 tCO_2e/year

Ciasnocha Family Farms' financial perspective:

- 6.5 tCO_2e/ha/year (Cool Farm Tool) x £20/CO_2e = £130/ha
- £130/ha x 700ha = £91,000
- **£130/ha = 40% of the current farm profit**

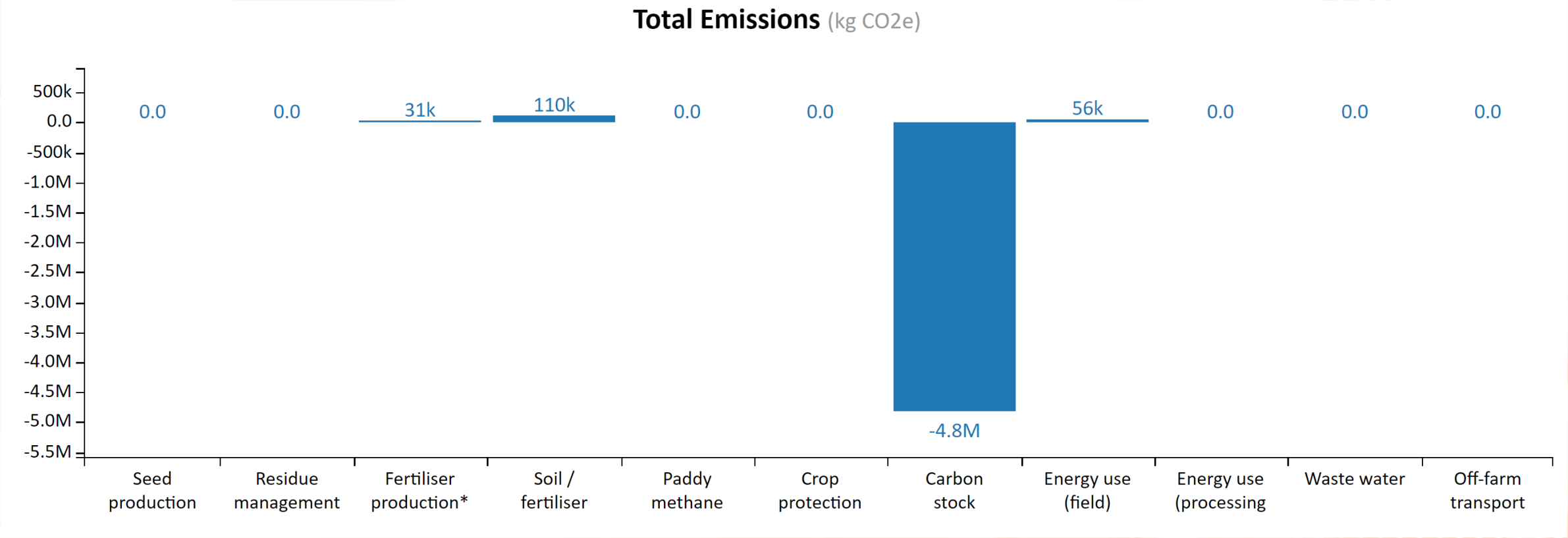
The amount of CO_2 captured and stored on our farm/year is equal to CO_2 emissions from producing 2,400 tons of steel

Ciasnocha Family Farms – Cool Farm Tool assessment [1]

GHGs | Compare | Performance | Costs | Data

Total emissions	Emissions per hectare	Emissions per tonne
-4.61M kg CO2e	**-6.59k** kg CO2e	**-922.42** kg CO2e

Ciasnocha Family Farms – Cool Farm Tool assessment [2]



Ciasnocha Family Farms – Cool Farm Tool assessment [3]

Detailed data (all values in kg)

Hide data

Sources	CO_2	N_2O	CH_4	Total CO_2 eq	Per ha	Per tonne
Seed production	0	0	0	0	0	0
Residue management	0	0	0	0	0	0
Fertiliser production*	30.73k	0	0	30.73k	43.90	6.15
Soil / fertiliser	25.67k	293.02	0	112.99k	161.41	22.60
Paddy methane	0	0	0	0	0	0
Crop protection	0	0	0	0	0	0
Carbon stock changes	-4.81M	0	0	-4.81M	-6.87k	-962.42
Energy use (field)	56.28k	0	0	56.28k	80.40	11.26
Energy use (processing)	0	0	0	0	0	0
Waste water	0	0	0	0	0	0
Off-farm transport	0	0	0	0	0	0

** Calculated with validated default values for fertiliser production.*

EUROPEAN CARBON FARMERS

Regenerative Agriculture

Conventional agriculture is part of the climate problem and is being challenged

Massive soil loss

- 50% of the world's top agricultural soil lost in the last 150 years.
- According to the FAO, we have only 60 harvests left before all top soil is gone.

Contribution to climate change

- Agriculture and LULUCF responsible for approximately 30% of the world's GHG emissions.
- Sink's storage potential for underutilized.

Political pressure

- Move away from production- and land ownership-based subsidies towards payments for public goods.
- Reflective of public opinion (young in particular).

Co-benefits of regenerative agriculture

Healthy and nutritious food

Lower healthcare costs

Biodiversity

Climate resilience

From Conventional to Climate Smart Agriculture in a financially sustainable way

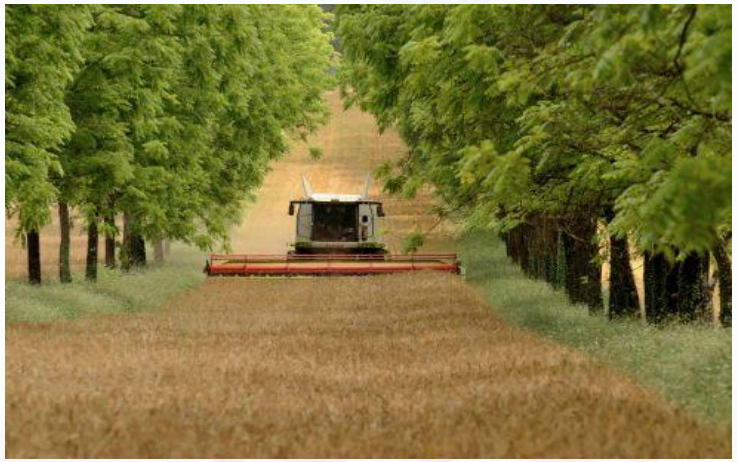
Today → **Tomorrow** → **The day after tomorrow**

Conventional arable production

Emissions of 2.3 tCO_2e/ha

Regenerative

Sequestration potential of 2 tCO_2e/ha



Agro-Forestry

Sequestration potential of 8 tCO_2e/ha

Return economy flight LHR – JFK: 2.1 tCO_2e

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