



Florian Ilias

Biomass frontier
Industry insights
&
breaking through
barriers

Terravesta works exclusively with **Miscanthus grass.**



What we do

- High performance varieties
- Planting material
- Establishment
- Specialised machinery
- Biomass buyback contracts
- Biomass supply contract
- Logistics of biomass

Miscanthus is a perennial **biomass crop**.

CLICC - Circular, Low-Input Carbon Crop

- Regrows 4 metres every year
- No irrigation, no fertilizer
- Requires little cultivation
- Increases soil organic matter
- Drought, flood resistant
- 20+ productive years
- Stores yearly net 2.35t CO₂ / ha in the soil
- 14-20 t dry mass / ha - 30% more than other varieties





Miscanthus field in late winter prior to harvest



Harvesting dry biomass with a forage harvester



Baling & stripping after harvest into square bales



Transport to the user, approx 22 t / truck

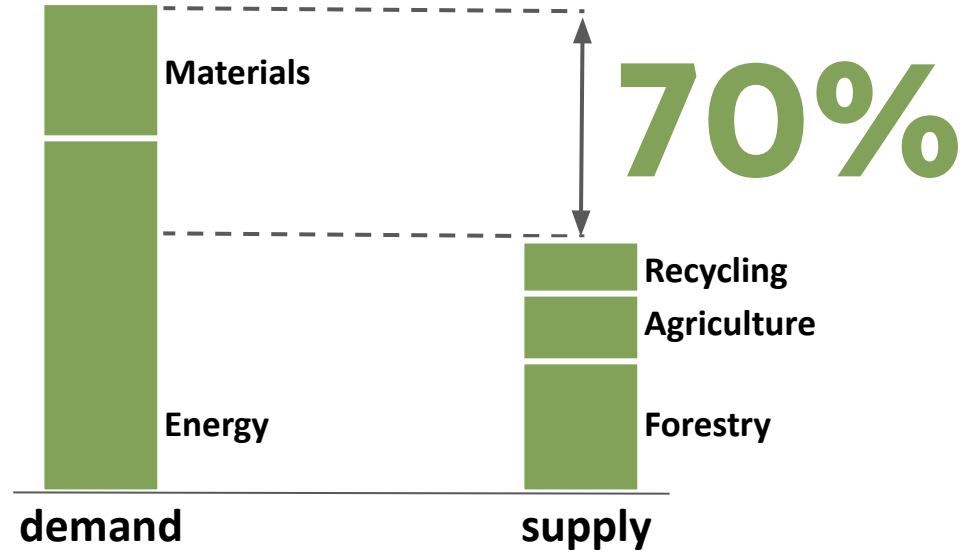
Biomass demand

Increase since 2000 (1)

3x

Demand vs Supply

Gap by 2050 (2)



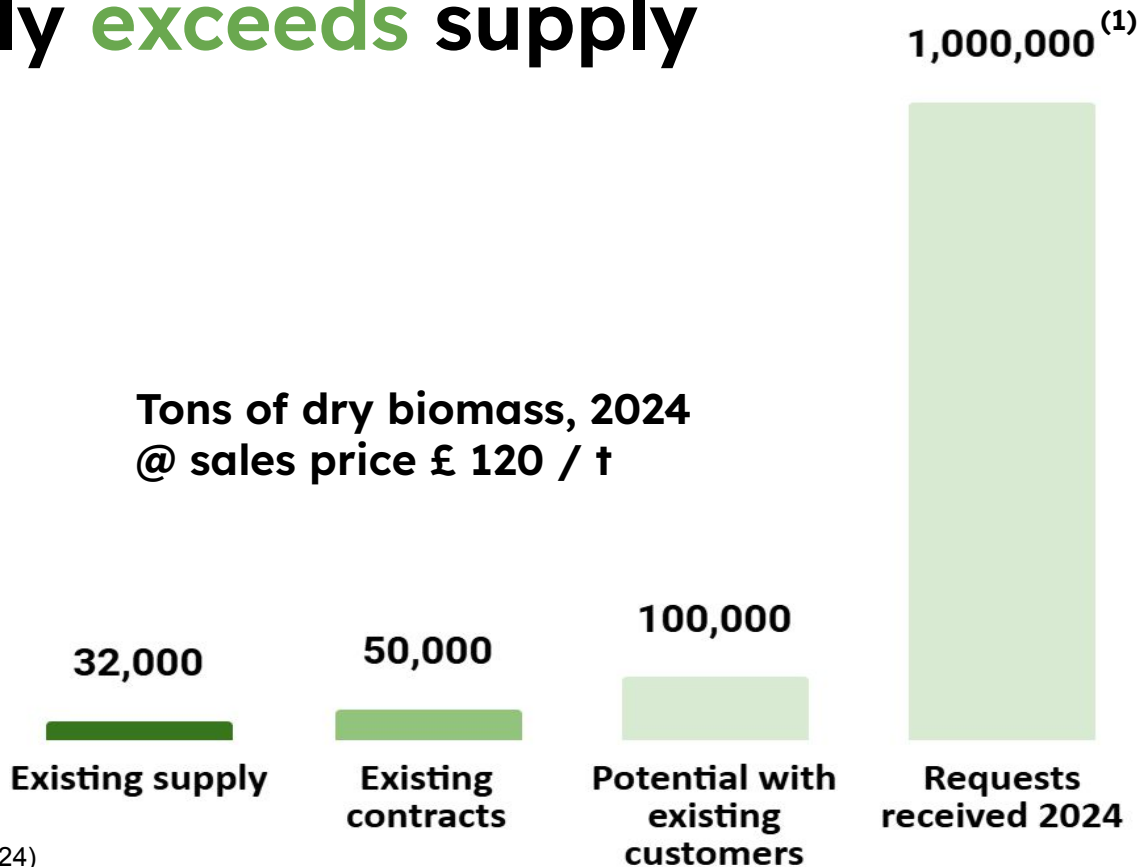
1 [European Environment Agency - The EU biomass puzzle](#)

2 [Material Economics by McKinsey & Company - EU biomass use in a net-zero economy](#), 2021 figures

Demand vastly exceeds supply

30x

of current
supply



Renewables share of EU
energy consumption

20%



Bioenergy share of
renewables

58%



Bioenergy supply
since 2000

3x



**Power generation from
bioenergy** since 2000

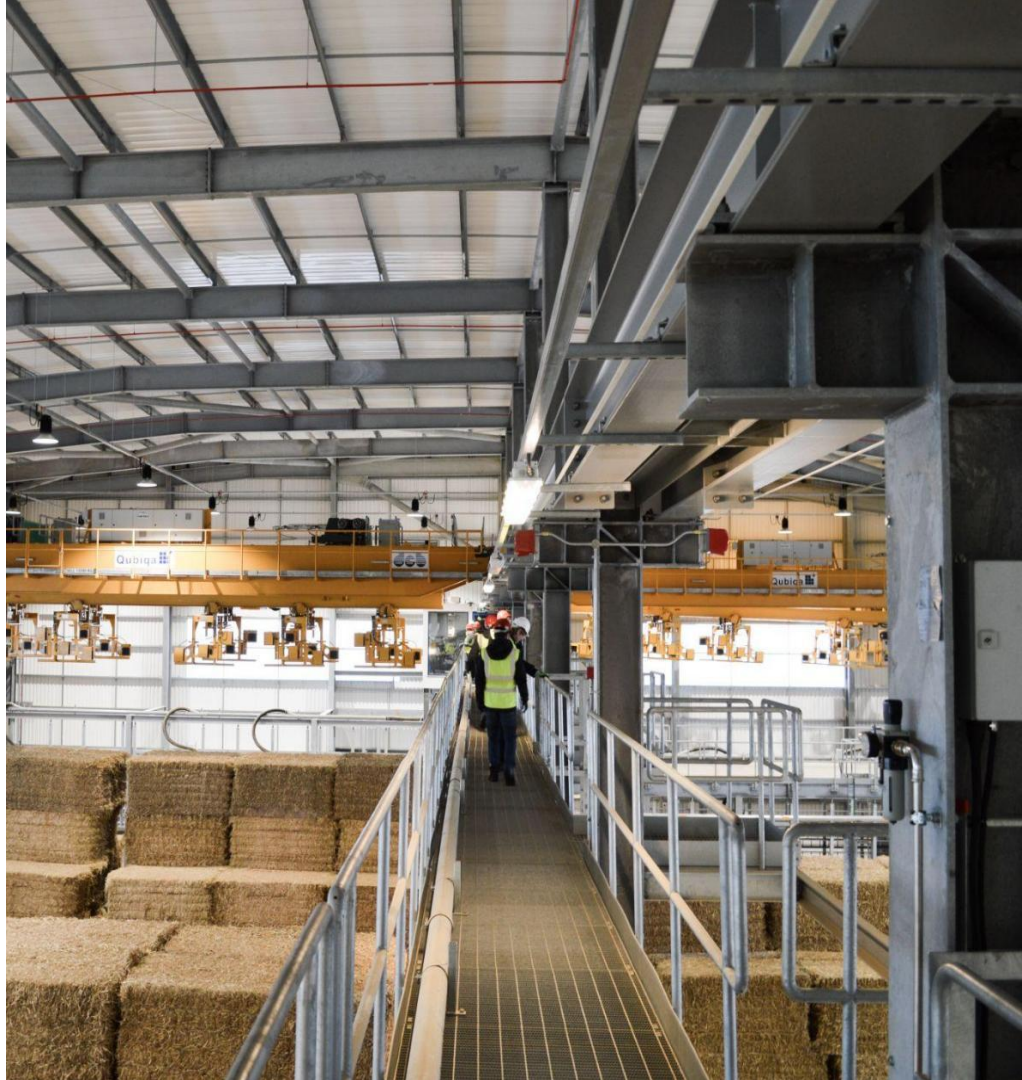
5x



Miscanthus

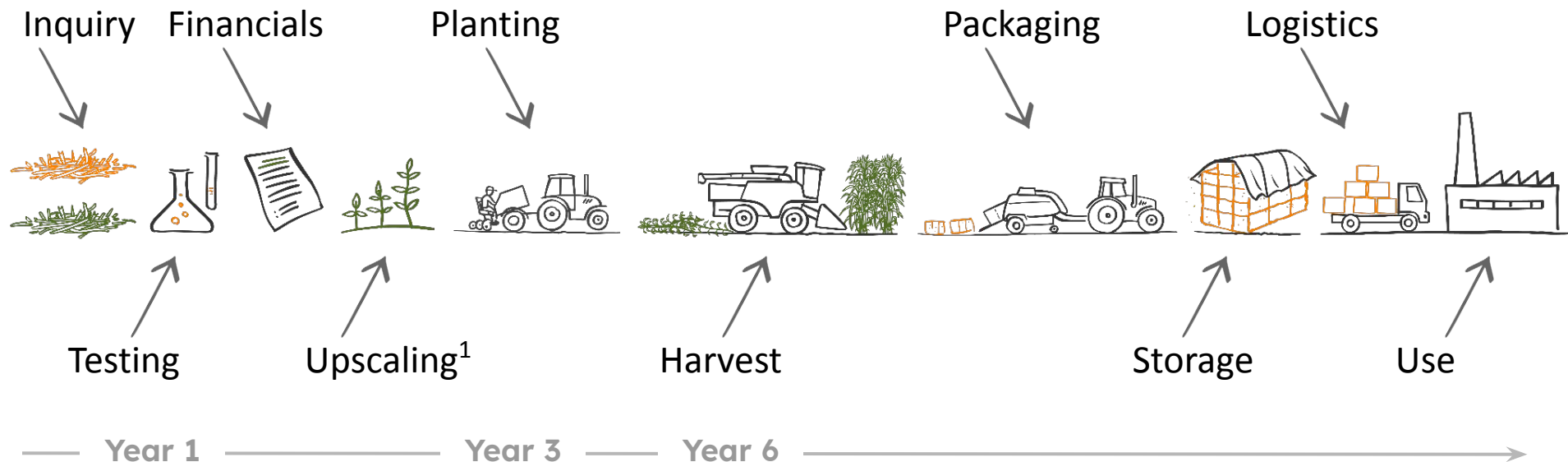
new use cases 2024

- TiO₂ (white pigments)
- Wind barrier for fruits
- Nitrocellulose
- Tissue paper/food packaging
- Biogas, SAV
- Peat substitute
- Insulated bricks
- XOS (prebiotics)
- Steel alloys
- Kitchen furniture panels



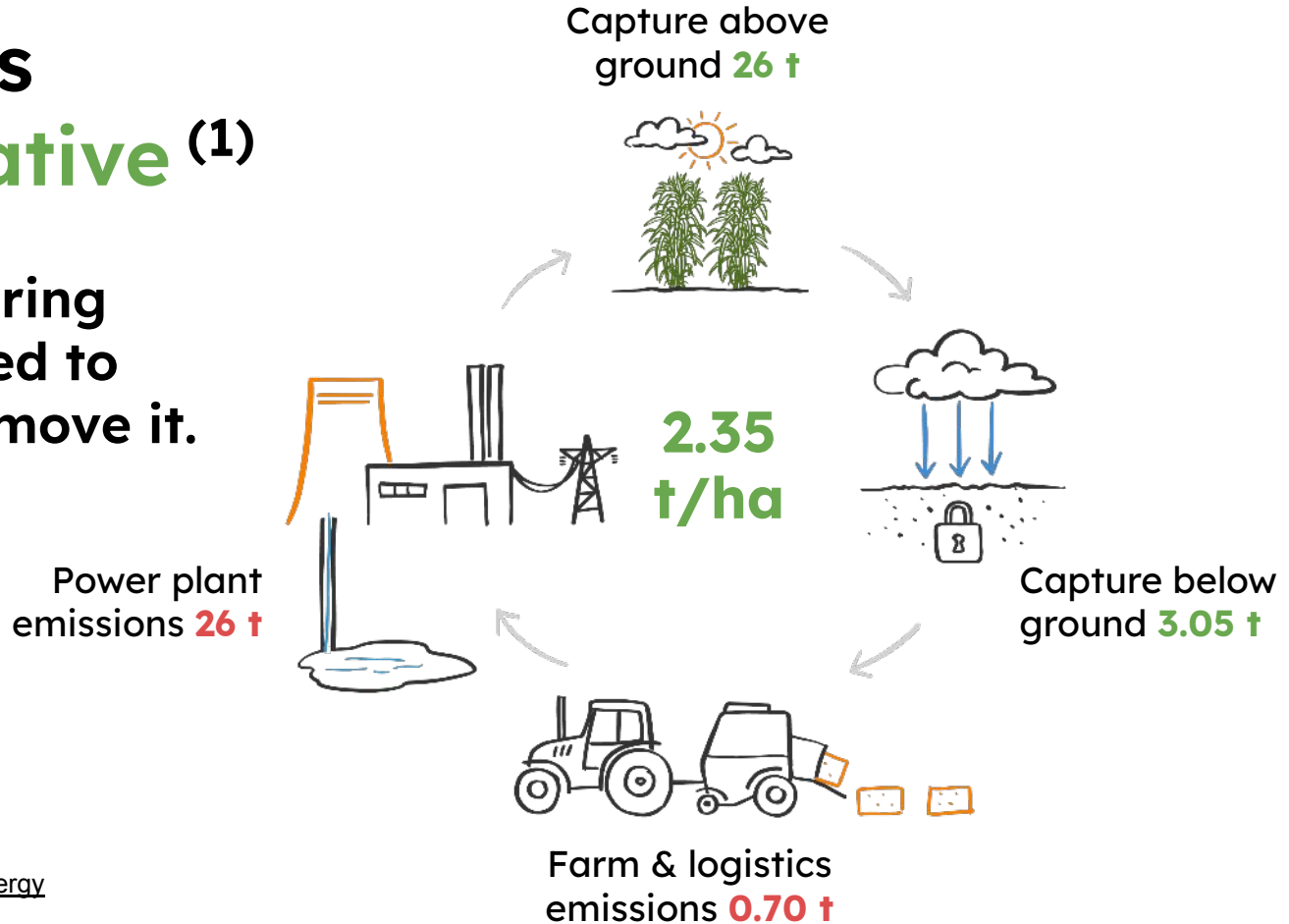
No spot market

Miscanthus isn't traded—It's cultivated on demand.

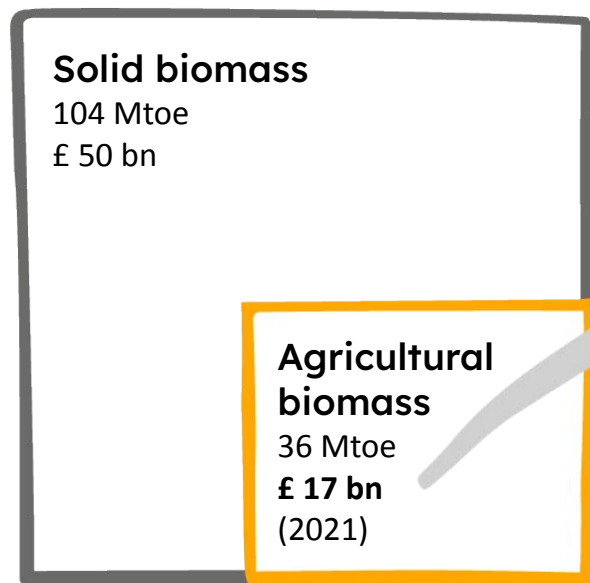


Miscanthus is net Co2 negative (1)

even when considering
how much is emitted to
plant, collect, and move it.



UK + EU demand for agricultural biomass



£29 bn

by 2050

Growth comes from



Heat & Power



New industrial applications

What's in the way of biomass growth?

- Low farm returns
- Fuel versus food
- Scalability issues
- Perception barriers
- Policy misalignments



CLIC Miscanthus: ditching the high-input trap

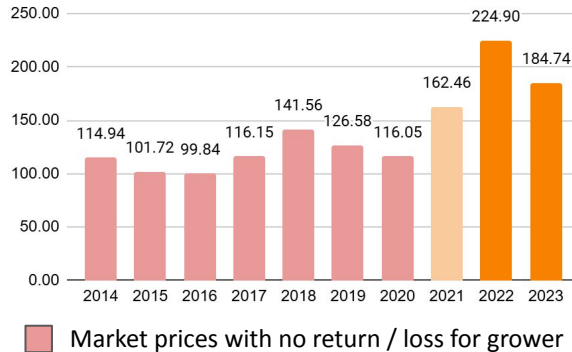
Circular low-input carbon

Low yielding land

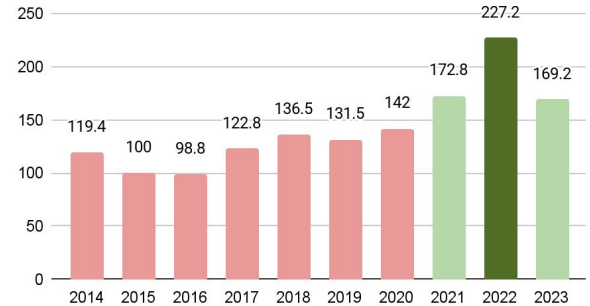
UK Miscanthus

	£ / ha
Gross output	1,300
Transport	172
Cutting, baling	310
Gross margin	818

UK barley prices GBP



UK wheat prices GBP



1
2

Strutt & Parker 2023
John Nix Pocketbook 2024, statista.com

Average UK farm margin £ / ha all soil types¹
Average **183**
High **363**

Not competing - complementing: Biomass from **less productive land**

- Idle, under-utilised, abandoned
- Distant, oddly shaped
- Erosion, salinization, flooding
- Stony, low organic content, less fertile
- Polluted

**Food, carbon, countryside - farmers do it all,
and need **income to keep doing it.****



Two decades boosting **yield & scale**

Science, scale, speed

Drone view, 1st year crop



2007 - Baical, 48%

“Chucking out rhizomes”
4-5ha / day



2018 - New genotypes, 82%

Terravesta ATHENA™
3-4ha / day



2027 - Plug from seed, 94%

Terravesta Aphrodite 43™
10ha / day

Policies for perennials - built to last

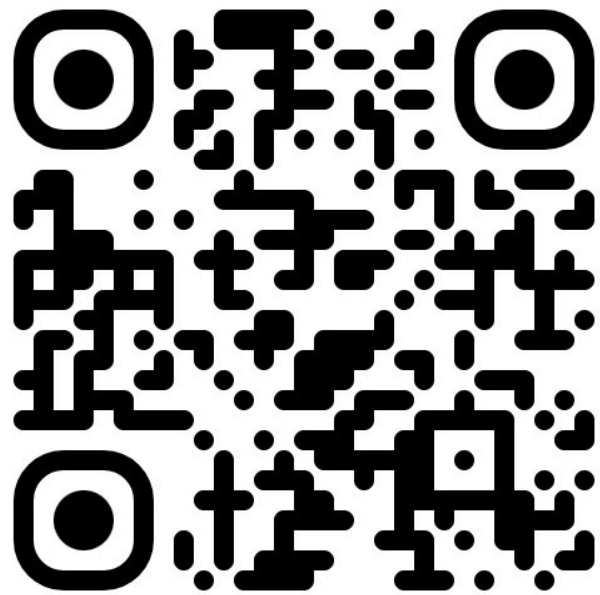
- Explain the plan for biomass beyond renewable energy
- Say it out loud: we want to increase soil carbon long term
- Quantify, standardize and verify soil carbon
- If farmers capture carbon, they should capture value too
- Introduce tangible benefits for circular farming practices

On the ground, in the farmer's shoes.

- Changing minds in the field
- Seeing is believing
- Farmer testimonials
- Growing confidence
- Make it personal
- Data to back it up



Download, contact



info@terravesta.com

