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V I S I O N

Agriculture presents a solution to the climate emergency and biodiversity catastrophe we face.

Reducing atmospheric carbon, enriching our soils, building biodiversity and developing sustainable fossil alternatives in a way that's scalable is a vast opportunity for agriculture and industry.

The Terravesta vision will see the rapid development of new Miscanthus supply chains, bespoke varieties and technologies for different climates and markets, replacing fossil-derived fuels and products on a grand scale.

The climate positive opportunity presented by Miscanthus

Healthy soils

Our soils support life on earth. Rising temperatures and changing rain patterns are leading to soil erosion and fertility loss and intensive arable practices are leading to soil structure damage and underground biodiversity loss.

Scientific studies demonstrate a positive impact of Miscanthus in restoring soil health and fertility through increasing soil carbon and organic matter naturally, restoring soil life, particularly invertebrates, including earthworms, insects, soil-based organisms and micro-organisms. Used rotationally in agricultural systems, Miscanthus reverses the severe soil degradation of intensive food production systems which will enable more sustainable, less depleting and lower cost agricultural regimes in future.

Emissions offsetting

Soil provides the largest carbon sink after our oceans. Miscanthus is a key player in the climate change revolution, absorbing more carbon than it releases in its lifetime. It's a carbon negative C4 grass which absorbs on average, 3.8t/ha of soil organic carbon annually.

Slowing flooding

Miscanthus receives little or no cultivation in its 20+ year life span. Its root structure stabilises and feeds soils, as well as slowing flooding, with no detriment to the crop. New research shows that it not only thrives on waterlogged land, it helps to stabilise flooded soils.

Increasing profitability

Miscanthus is a long-term crop, with index-linked fixed price returns, and numerous growing end-markets. Terravesta develops novel Miscanthus supply chains to replace fossil derived feedstocks for heat, energy, fuels, compostable plastics, pharmaceuticals, agri-products and other bio-economic uses.

Reduce farm overheads

Miscanthus thrives on marginal land. Planting Miscanthus takes the time and input burden from unproductive land. It receives little or no inputs and takes care of itself once established.

New varieties

Terravesta is working with world-leading plant scientists to develop new Miscanthus varieties for different markets, aiming to further build on the improvements of the rhizome-based variety Terravesta Athena™ launched by the firm this year, with the added benefit of being cultivated from seed.

Sustainable future

As we move away from a fossil-based to a plant-based economy, Miscanthus presents huge potential.

Markets for large-scale heat and power generation are growing and there are exciting second-generation markets emerging from biorefining Miscanthus for advanced end-uses, including degradable bio-plastics, pharmaceuticals, bio-ethanol and biogas production, as well as fibre uses for construction, materials and furniture.

The Department for Business, Energy and Industrial Strategy (BEIS) has a target of 1.4 million ha of perennial biomass crops to be planted in the UK and has calculated that this is sustainable, without posing a risk to food production.