



Muntons

PASSIONATE ABOUT MALT SINCE 1921

Where
great
people do
good
business

ENVIRONMENTAL, SOCIAL,
GOVERNANCE REPORT



**Practical
Sustainability**

*Committed to positive change
for a sustainable future*



Where
great
people
do good business

As the world’s greenest maltster we believe passionately in our people, our planet and the prosperity of everyone we work with.

We are proud to produce 100% sustainable malt with a carbon footprint that is a fraction of that of our competitors. We reuse or recycle 99.7% of all resources and are committed to practical, measurable actions across our business and our supply chain. For us, sustainability goes deeper than what we do but it’s who we are. We live it, breathe it and share it with pride.



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“Muntons is committed to adhering to the goals of the Paris Agreement that set out goals for global carbon reduction through our commitment to a science-based target, adoption of the UN Global Compact principles and a strong programme of ESG engagement across our supply chain.”

Practical sustainability & governance

Fifteen years on from our first formal commitments to measuring & improving the Greenhouse Gas emissions of our business, 2022 has been a milestone year for Muntons. We have achieved a 52% reduction in carbon emissions from our UK maltings – beating our Science Based Target of a 45% reduction in emissions by 2025. Three years ahead of expectations.



INTRODUCING OUR COUNCIL GOVERNING SUSTAINABILITY ACROSS MUNTONS

Science Based Targets matter because they demonstrate alignment with the Paris Agreement, aiming to limit global warming to below 1.5° - 2°C, from pre-industrial levels. Muntons is the only maltster out of 2,869 businesses to make this commitment. Our targets are also aligned with the United Nations Framework Convention on Climate Change, Race to Zero. Through the Global Climate Change Action portal we have been recognised as a world leader for both the absolute emissions of GHG and the amount of energy per tonne of product.

Our focus and vision remain on forward momentum in reaching our ultimate sustainability goals but, as pioneers, we recognise the importance of sharing our learnings along the way with customers, suppliers and peers. We have been sharing our sustainability objectives and progress on emissions reduction for 20 years already so as a small step to widen this sharing of information, here is our current roadmap for Net Zero 2030.

Alongside our programme to reduce our energy usage we have a programme to support regenerative agriculture or carbon farming to enable the capture of additional carbon from the atmosphere and make real changes within our supply chain.

It is important that we hold ourselves accountable for our commitments. Our contribution to sustainability has been externally recognised & verified, through business platforms such as EcoVadis and the Carbon Disclosure Project, where we achieved outstanding results well above the average for maltsters and food & drinks manufacturers. We will uphold practical action using measurement and data more than ever before as we embark on the next stage of our journey to Net Zero. This is an immense challenge for us but one we are approaching with courage and the conviction to meet – for the good of our people, planet and prosperity.

Committed to **net** **zero**₂₀₃₀

In 2022 we were delighted to decarbonise our UK maltings by over 50% from our 2010 baseline. Achieving our Science Based Target of reducing emissions by 45% by 2025 - three years ahead of schedule. We are energised by this and are more committed than ever to achieving our Net Zero emissions goal. So much so that we are bringing forward our target of Net Zero by two decades to 2030.

1990

Focus on energy efficiency & lean manufacturing



2000

First Sustainability Report published

Developed World's first Carbon calculator for malting barley

Low Carbon Barley programme announced



Began SEDEX benchmarking

SWAN water recycling project introduced at Stowmarket

2005

First maltster to be audited as having 100% sustainable barley



Sustainable Futures low carbon farming group established

2010

2015

Anaerobic Digester plant at Stowmarket starts to deliver 16% site energy



Science Based Targets set and approved



Biomass plant at Bridlington delivering 90% emissions reduction



Energy centre broke ground at Stowmarket to provide heat and steam alongside power for the site



2020



Muntions recognised in top 1% of companies globally for ESG

First carbon negative malting barley verified

2022
Science Based Target achieved 3 years ahead of schedule



Reducing scope 1&2 emissions to Net Zero through further investment in renewable energy.

2025

Expand national Regenerative Agriculture Programme and support suppliers



Continue work with UK Government to support GHG reduction policy

2030

Investing in hydrogen based on successful evaluation outcomes supporting UK Government Net Zero by 2050 agenda.

2030
Carbon Net Zero



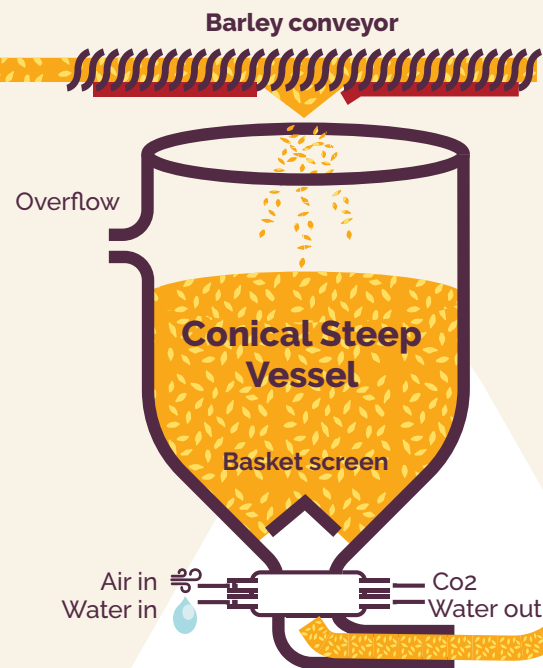
KEY

STRATEGY
CARBON DATA
FUEL
REPORTING SUPPLY
CHAINS
OPERATIONS

What this looks like at our Maltings

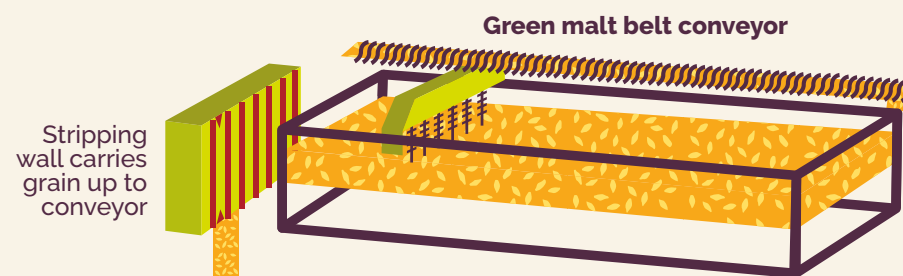
1 Steeping

Duration: 2 Days



2 Germination

Duration: 4 Days
4x240 tonne Saladin boxes



Water Conservation & Flow Management

Our reed beds and on site water treatment plant mean we can return clean water into Suffolk's River Gipping and the North Sea, providing a safe habitat for wildlife.



Making malt is an ancient natural process which requires lots of heat and water. Muntions reuse or recycle over 99.7% of all resources with nothing going to landfill. We produce co-products including animal feed from waste husks and fertiliser from our anaerobic digester process which ends up going back to barley farms within 50 miles of our site, supporting a circular carbon economy.

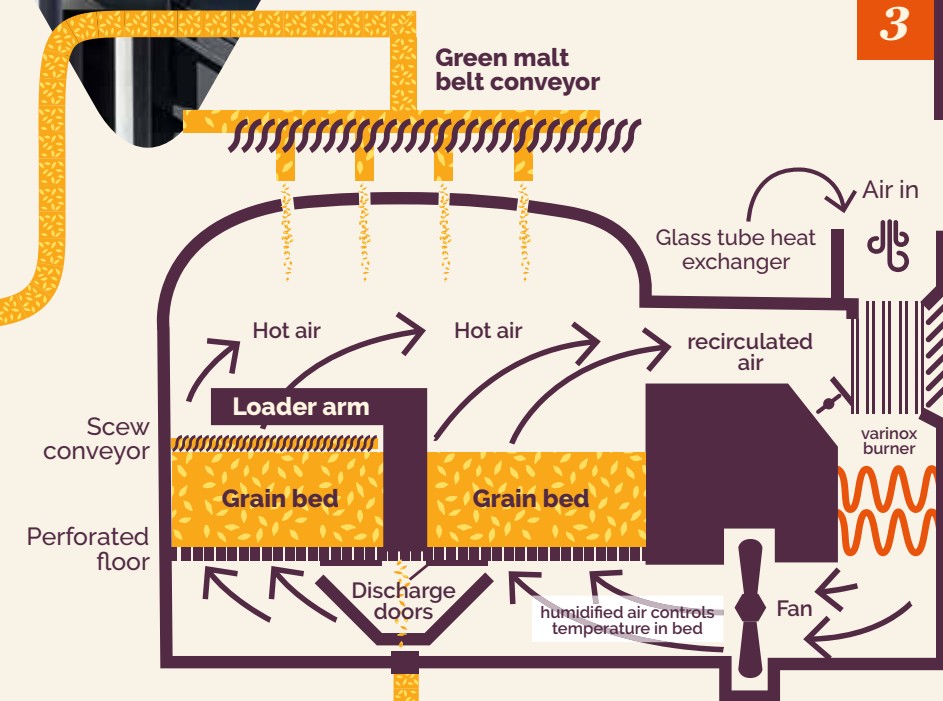
Generating steam, heat and electricity on site from waste materials.

We use only residue materials and waste water from our site to generate energy to help fuel our maltings and malt extract plant.

We are approaching the production of 20million kWh.

3 Kilning

Duration: 1 Day



Silos & Bins

4 Storage and Outloading



Streamlined energy & carbon reporting data

Our targets & achievements

	2021	2022
UK Energy use		
Gas (GWh)	144.35	86.75
Biomass (GWh)	46.08	80.66
% renewable	24.2%	48.2%
Electricity (GWh)	32.19	31.06
% renewable	7.2%	7.3%
Greenhouse Gas Emissions		
Scope 1 (to CO ₂ e)	26440	15889
Scope 2 (to CO ₂ e)	9100	6654
Scope 3 (to CO ₂ e)	85554	85053
Total (to CO₂ e)	121094	107596
Intensity metrics Scopes 1+2		
mt CO ₂ e per £000 turnover	0.351	0.187
mt CO ₂ e per employee	106.09	66.30

Total emissions fell this year as the proportion of low carbon biomass energy increased in the group. This shows the real value in our investments in technology that has over 90% less carbon emissions and moves us ever closer to net zero carbon emissions.

ENERGY EFFICIENCY ACTION TAKEN

The continued improvement in performance in respect to energy usage and greenhouse gas emissions was due to a series of energy efficiency measures which included:

- ◆ Muntions has expanded its farm-based grower groups that are actively involved with reducing carbon in its supply chain.
- ◆ Muntions report energy efficiency metrics at management meetings and track against targets.
- ◆ Muntions has increased dual kilning at its Flamborough maltings to utilise more low grade heat to pre-heat the following batches.
- ◆ The energy management system continues to be verified to ISO50001.
- ◆ The project appraisal system evaluates capital projects for reduced GHG emissions and environmental impact.
- ◆ Muntions anaerobic digestion plant continues to provide electricity at its Stowmarket plant and the biofertiliser produced from the wastewater treatment is approved to be sold to farmers growing cereals.

There have been some amendments to prior year numbers due to changes to the calculation method in the government model.

Muntions follows The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

	TARGET	2022 ACHIEVEMENTS	
GREENHOUSE GAS EMISSIONS	Science Based Target 2010-2025	Scope 1 & 2 52.3% 50% in 2022	AHEAD OF TARGET
	Scope 1 & 2 45% reduction Scope 3 30% reduction	Scope 3 33.2%	AHEAD OF TARGET
WASTE	0% non-hazardous waste to landfill	0% to landfill achieved	ACHIEVED IN FULL
FOOD WASTE	To align with the Target, Measure Act food waste reduction scheme: <2% food waste	0.51%	ACHIEVED IN FULL
WATER USE	< 4.8m ³ /tonne for malting < 7.0m ³ /tonne total products	4.9m ³ /tonne for malting 6.6m ³ /tonne total products	ACHIEVED TARGET ACHIEVED TARGET
SUPPLIERS ETHICAL DATA EXCHANGE (SEDEX)	Management score above average with target of 4.0/5.0	4.3	ACHIEVED IN FULL
CLIMATE POSITIVE AGRICULTURE	To reduce scope 3 carbon emissions from growing of malted barley by 30% by 2030	First crops of malting barley in our regenerative agriculture programme certified as carbon negative.	ON TARGET

Teamwork makes the dream work

As a family business that is over 100 years' old, we understand how important it is to adapt to an ever-changing landscape of challenges and opportunities.

The biggest of which, facing the world today, is how we nourish our nations and grow our economies without sacrificing our future. There is no clear answer, but what is certain is that we must work together to have any chance of achieving prosperity for our people whilst reversing the harm being done to our planet.

With over 380 employees across the globe, we believe that everyone can play a part, big or small, in making a difference. We set tough targets for

ourselves, but we are committed to empowering our people through capital investment, training and engagement within an open culture. Every idea from every corner of the business is reviewed and considered on merit. One of which is to deliver Muntions Sustainability School for continuous professional development and thought leadership for our employees as well as our customers and suppliers. We are on track to launch this in 2023 and look forward to sharing it with you soon.



The carbon footprint of Malt

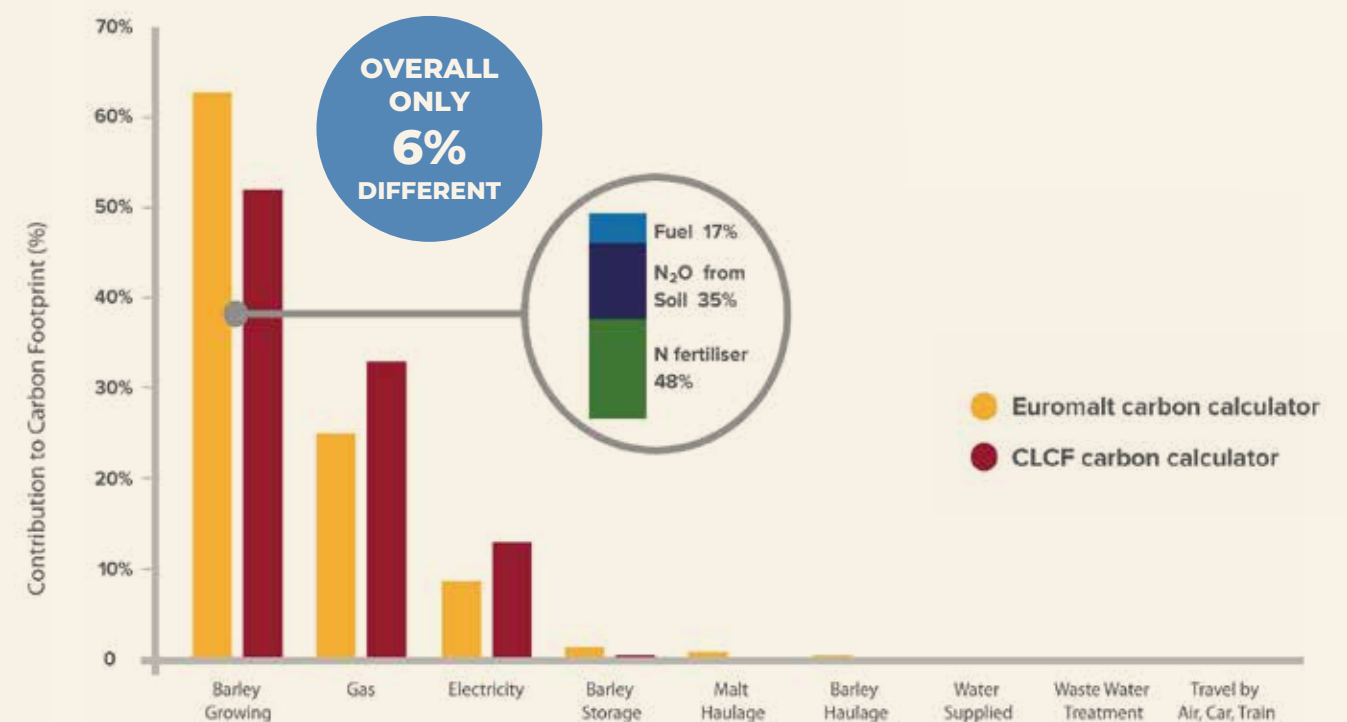
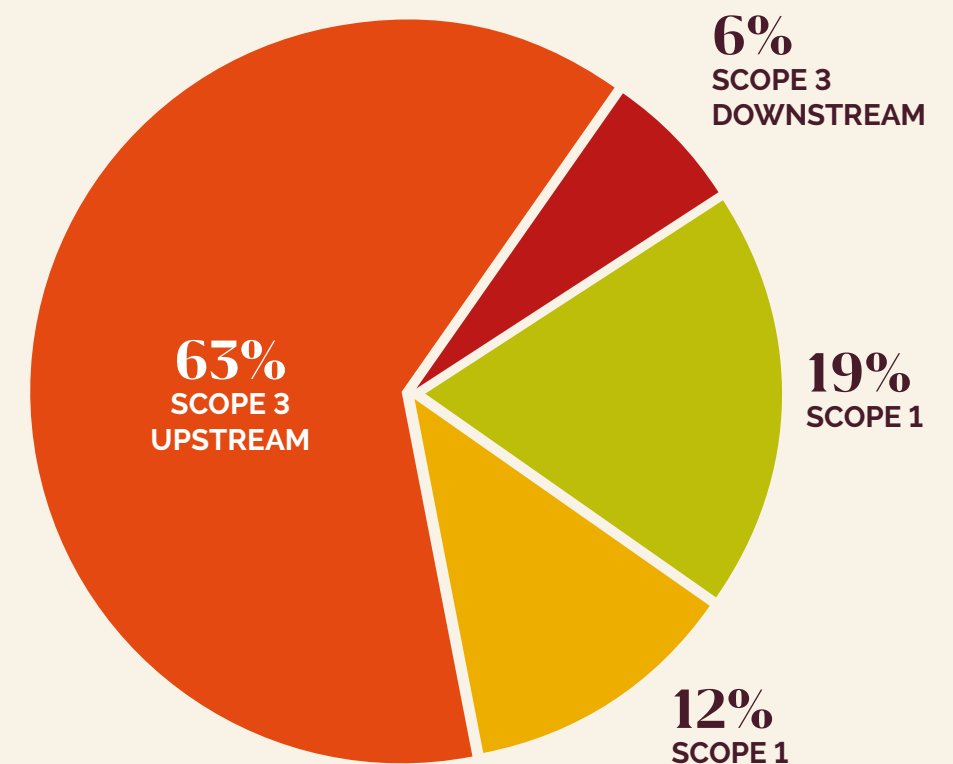
Sustainability is defined by the need to make meaningful, long-term systemic changes. To do that well, you must truly know your business. In ours the biggest carbon reduction opportunities involve the growing of malting barley from our farmers and the energy we use. This is where we have placed our focus ensuring our investments will have a significant contribution to a greener future.

Clearly, much energy is used in making malt, which makes it a major contributor (around 50%) to the carbon footprint of beer and whisky. Creating the first malting barley carbon calculator gave us the data and knowledge to meaningfully impact our supply chain. Focusing on the areas that would make the most significant difference to Green House Gas Emissions. For many years we have been committed to driving down the use of our energy and where efficiencies can go no further, is a space for true innovation.

The centuries old tradition of making malt is now powered by novel technology and more is currently being reviewed. We are already able to achieve significant reduction in the carbon footprint of malt by using green energy from waste water in our anaerobic digester and forestry material with no other uses in our biomass centres and, in the longer term approach, the race to carbon zero could bring on stream new technologies such as hydrogen power.

Our malt is widely regarded as the first choice for producing more sustainable beer and whisky.

Having now specifically calculated the carbon footprint of our malted ingredients, we look forward to working with global customers in the food sector too.

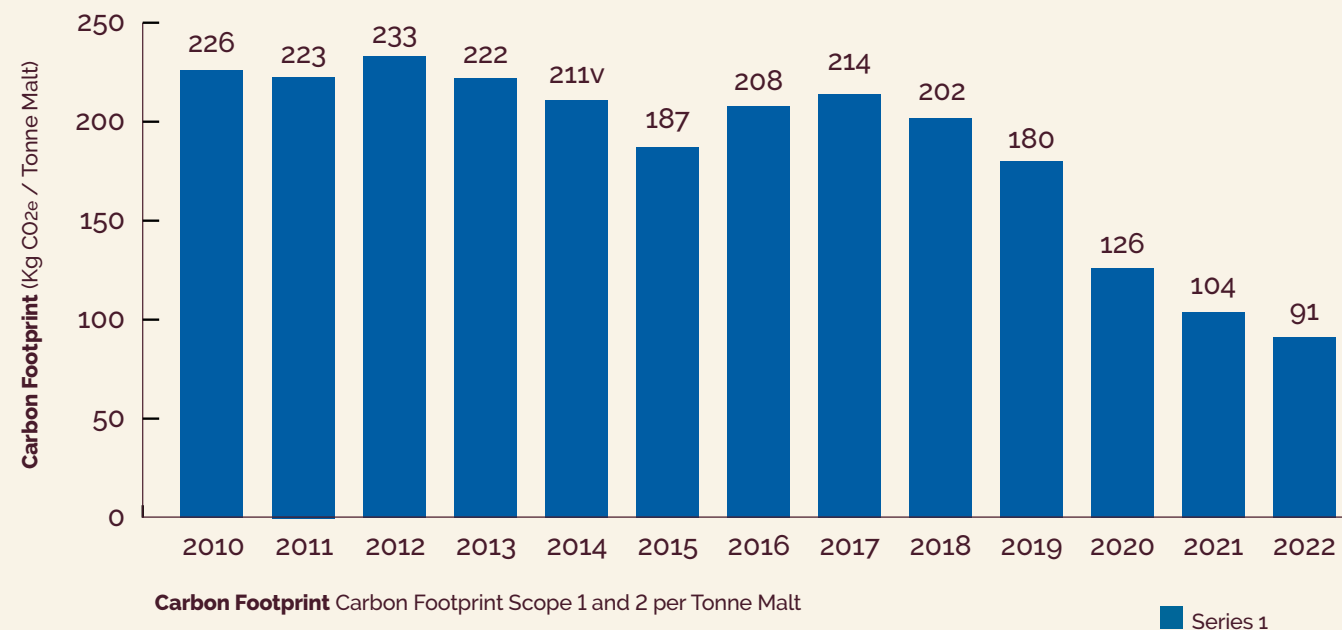


Decreasing the carbon footprint of malt

Malting will always be energy intensive, it enables us to create the flavours we all love, but the energy powering the process is increasingly environmentally friendly. Our carbon footprint is a fraction of that of other maltsters and we are proud that it is now under 100kgCO₂ per metric tonne of malt.

91kgCO₂ per metric tonne of Muntons malt

Carbon Footprint of Malt Scope 1 and 2



Multiple benefits of regenerative agriculture

It all comes down to the soil. "Understanding the importance of soil in the long-term production of high-quality grain is key," says Adrian Dyter, Head of Procurement at Muntons. By minimising disruption to the earth, keeping CO₂ where it's supposed to be; improves the land's water absorbency, thereby requiring less watering; and leaves important micro-organisms undisturbed.

It's holistic, mixing arable farming and pastoral farming, focusing on reduced tilling; rotational grazing, in which animals are regularly moved around pasture land to give the plants and soil time to recover; and cover cropping, in which plants are grown to nourish the soil rather than simply for harvesting. This also prevents erosion and increases the amount of organic matter in the soil.

- 1% increase in soil organic matter improves drought resistance by 5-10 days
- Improved soil water retention results
- Less additional synthetic fertiliser required
- Greater resilience to flooding
- Improved soil structure
- Soil carbon increase is gained in weeks
- Much lower cost than tree planting
- No long-term land-use change
- Less run off into ditches & other water courses



“Cover crops are responsible for an average 60% reduction in nitrate leaching, and even better results can be achieved when they are established early.”

Growing together with purpose

Muntons is showing true pioneering spirit in partnering with global drinks giants, Suntory and Heineken to radically change the way that barley, one of the main ingredients of beer and whisky, is grown. Cutting CO₂ emissions of producing barley by 50% in five years.

The trials have been established in partnership with supply chain consultancy Future Food Solutions Ltd. and Yorkshire and East Anglian-based barley farmers to explore how barley can be grown in a more sustainable way to reduce Green House Gas (GHG) emissions and protect water.

Initially baselining all crop-related emissions to inform an innovative nature-based programme of interventions that seek to reduce emissions, enhance soil health and protect water, while maintaining crop performance and grain quality. The ambition is to produce barley with 50% lower GHG emissions within five years.

Adrian Dyter, Head of Procurement & Technical at Muntons plc, comments, "It is fantastic to be working in partnership with such planet conscious customers and suppliers to collectively identify and make the biggest impact on GHG reductions. Malted barley contributes 39% and 41% to the carbon footprint of beer and whisky respectively. So, the success of these trials could pave the way for reducing the

overall value chain of production by 20% in a single leap."

Regenerative agriculture is a sustainable farming method that reduces dependency on chemical fertilisers and pesticides through the use of cover crops and no-till farming. It not only lowers GHG emissions but also increases soil biodiversity, thus improving soil fertility and water retention, leading to sustainable use of agricultural land.

"Thriving agricultural systems are crucial to our business and we place regenerative agriculture

as one of the core solutions in transitioning to sustainable agricultural practices," said Brian Golden, Senior General Manager, Suntory MONOZUKURI Initiative, Suntory Holdings Limited. "We will further our collaboration with various supply chain partners to procure more sustainably and to decarbonise our value chain."

We look forward to this barley making its way into drinks in 2024.

"We are delighted to have been working with Muntons and the relationships they hold to establish this opportunity to decarbonise our malting barley supply chain. This has been an important part of our Low Carbon Farming Global Programme and commitment to be carbon neutral by 2040."

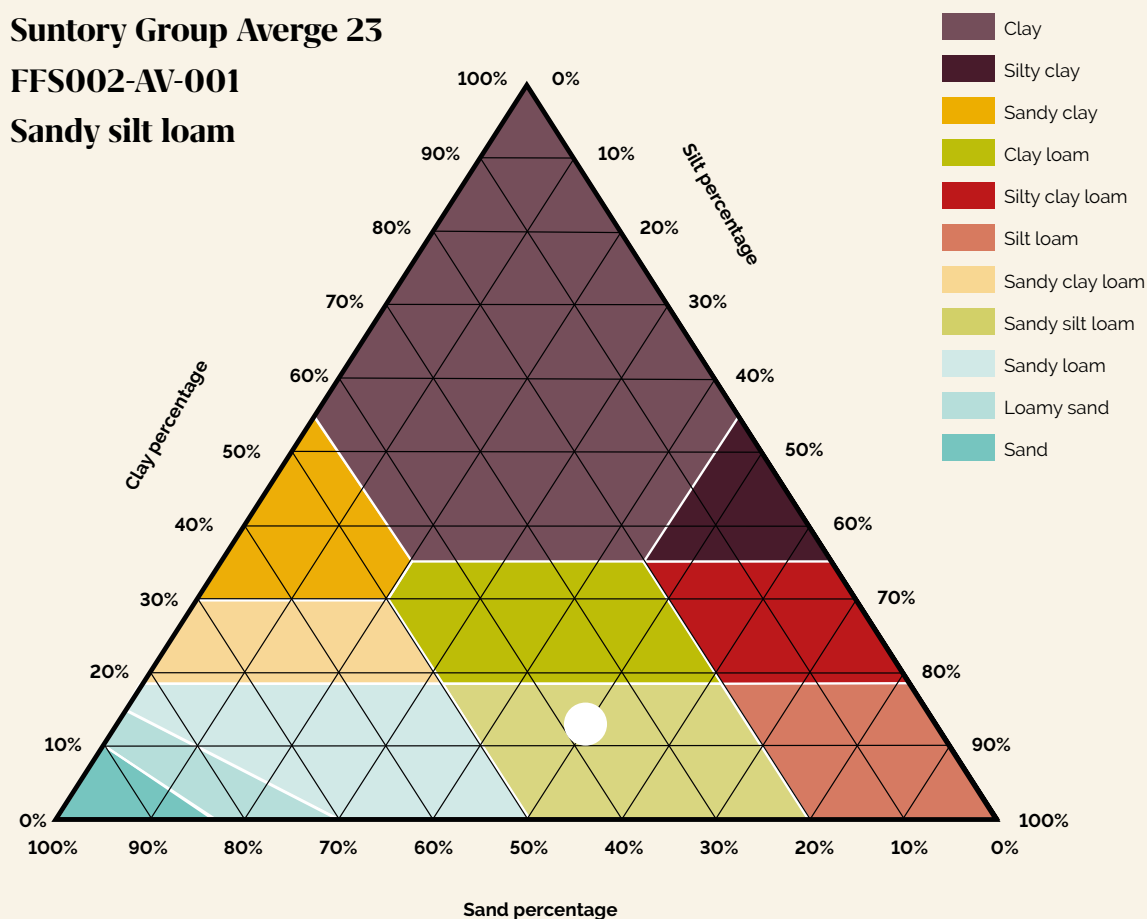
GÉRALDINE BERNARD, GLOBAL AGRICULTURE SUSTAINABILITY LEAD, HEINEKEN COMPANY



Farm: **Suntory Group Average 23**

Field ref: **FFS002-AV-001**

Soil texture: **Sandy silt loam**

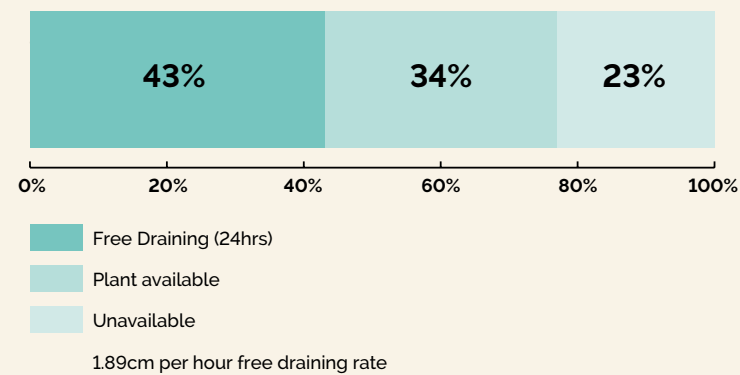


Soil is key for sustainable beer and whisky

Every journey begins with a first step. In the case of regenerative agriculture, we start by measuring consistent baseline figures for carbon across farming practices as well as analysing the soil. In this way we can track the positive impact that the practices can have on the soil, biodiversity and carbon capture. Barley grows best in sandy soils which are prevalent along the Eastern Coast of the UK. We are expecting to see an increase in organic matter, carbon, minerals and nitrogen in the soil as well as an increased water holding capacity.

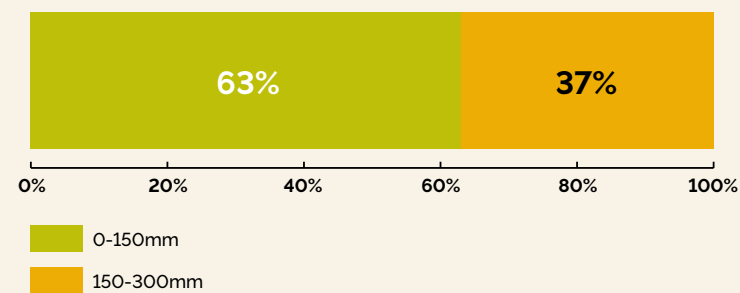
Water Holding Capacity

0.448cm³ water per cm³ soil



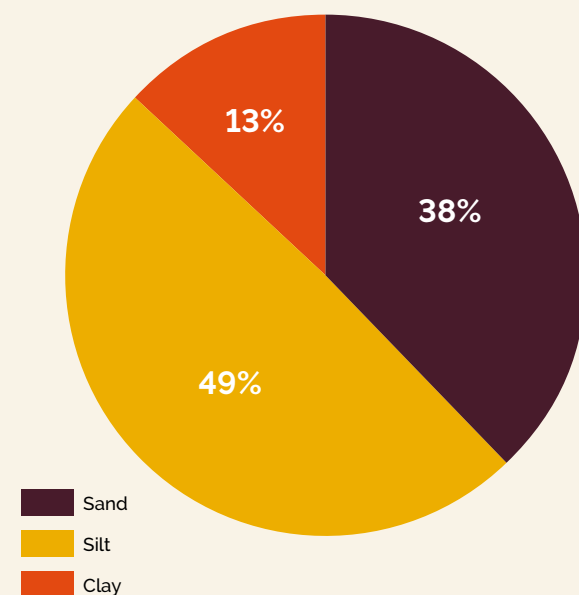
Organic Carbon Distribution

1.40% Organic Matter to 30cm

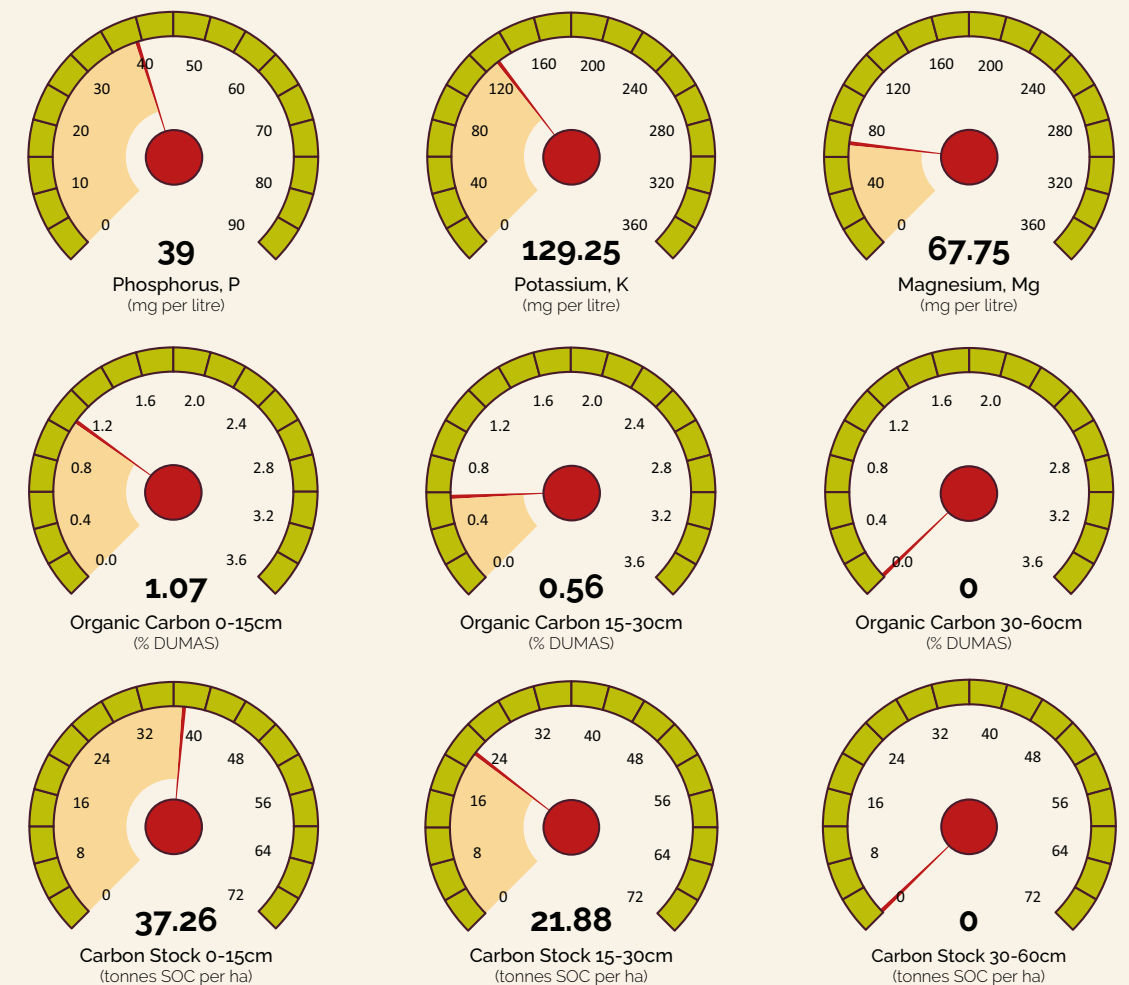


Soil Particle Distribution

1.297gm per cm³ bulk density



soil pH 7.22
1776mg per litre calcium



Demystifying sustainability language

Climate conscious terminology:

Regenerative Agriculture

Building healthy soil by implementing regenerative agriculture practices, reduces the need for artificial fertilisers, traps more carbon and holds more water, providing drought resilience and greater protection from extreme weather events. In addition, this lower-impact farming method digs deeper: it's also about focusing on preserving and improving the soil's ecological health as a whole. Rotating crops and utilising species rich margins promote biodiversity and encourages pollinators such as bees and other insects that can be used to control pests on the land naturally, reducing the need for pesticides.

Carbon Economy

This is a way of allocating a financial cost of carbon using official indices. Either the potential income that could be made from carbon credits creating a return on investment or the cost of penalties. By considering the true cost of carbon you are able to properly assess the best investment to make for your business.

Net Zero

The Science Based Target Initiative's corporate Net-Zero standard is to prioritise rapid, deep emission reductions by setting near and long-term targets to cut emissions by >90%, it must use permanent carbon removal and storage to counterbalance the final <10% of residual emissions that cannot be eliminated.

A company is only considered to have reached net-zero when it has achieved its long-term science-based target and neutralised any residual emissions. It should follow the mitigation hierarchy, and make these investments in addition to deep emissions cuts, not instead of them.



“The language of sustainability is important but understanding its meaning is vital.”



Industry, Innovation & Infrastructure

We have a commercial kitchen and brewery as well as a sensory room in our Centre for Excellence. Here we work closely with our customers as well as universities on knowledge transfer projects around nutrition and innovation with malt and malted ingredients.

Through education outreach programmes we are trying to develop skills and inspire new talent into the food and beverage industry.



Partnerships For The Goals

We work in partnership with our customers and suppliers to achieve our sustainability goals. Whether trialling radical ways to farm carbon negative barley or delivering enjoyment with customer giveaways and events, by working together we are certain to achieve better results. Our partnerships also extend to the Woodland Trust, the Suffolk Wildlife Trust and the Environment Agency, actively working together to ensure that wildlife thrives where it should around our sites.



Clean Energy

Muntons supplies free electric vehicle charging points for staff and visitors at all of our UK sites. These are powered by green energy sources on our site. We also encourage climate conscious commuting including biking and walking to work as well as car sharing.



Good Health & Well Being

We look after our people both at work and out side of it. In 2022 we hosted family days across all of our sites and rolled out free medical care for all employees. We also introduced a new national discount scheme, My Staff Shop, to help with the cost of living.



Gender equality

We annually conduct and review the potential for a Gender Pay Gap as well as ensure equality for all. In 2022 we became a certified Disability Confident Employer and regularly introduce new schemes through our Together Be Strong Council.

The Family you choose

We are aligned with the Principles of the UN Global Compact. Here are just some of the ways we show it.



Ethical supply

Not only do we like to do business with organisations who share our values, but we depend on a responsible and transparent supply chain to grow our sustainable business. Muntons is committed to building long-lasting collaborative relationships across the supply chain and with the local community.

We have been successfully certified as an ethical supplier since 2009 through external verification via the Supplier Ethical Data Exchange four pillar audit (SEDEX, SMETA audit). The four pillars are: Labour Standards; Health and Safety; Environment; Business Ethics. Our audit has 2-year cycles. We have also reinforced our ethical trading status by formally adopting the Modern Slavery Act (Human Trafficking) and a public statement is available on our website.

Our Ethical Supply Statement is available here:

www.muntons.com/Ethical Statement 2021

www.muntons.com/modern-slavery-statement

We are proud to be part of the Food Waste Reduction Roadmap (part of WRAP) to minimise food waste and are in fact the first maltster to sign up to it. The initiative encompasses the entire supply chain from field to fork. Our food waste is minimal at 0.51% and as a business, the ethos of looking for further waste reduction opportunities and sharing our actions through case studies is consistent with our company values. Action by individual businesses to 'Target, Measure, Act' on food waste is critical to the UK achieving its national targets as well as the UN Sustainable Development Goal of a 50% food waste reduction by 2030.

KEY PERFORMANCE INDICATOR	2022 DATA CALENDAR & FINANCIAL YEAR
Health and Safety	
Lost time incidents x 1,000,000 / total hours worked (Frequency)	00.00
Lost time incidents x 1,000,000 / total hours worked (Severity)	10.25
Environment	
Total energy consumption (MWh)	249050
Total scope 1 emissions (tonnes CO2e)	15,889
Baseline scope 1 year	2010
Baseline scope 1 year emissions (CO2e tonnes)	34,417
Total scope 2 emissions (tonnes CO2e)	6,654
Baseline scope 2 year	2010
Baseline scope 2 year emissions (CO2e tonnes)	12,885
Total water use (mega litres)	1,538
Total weight hazardous waste disposed (tonnes)	0
Total weight non-hazardous waste disposed (tonnes)	0.42

Labour Standards and Human Rights	
Average hours training per employee	1h/person Gender/Diversity; All training 5h/person/year
% workers in minority groups	9%
% workers in minority groups at executive level	0%
% women employees	25%
% women in executive posts excluding directors	18%
What control methods are in place to prevent child labour	Supplier Code of Conduct required to be signed by all suppliers

Ethics	
% staff trained in ethics	90 managers for 4h = 100% Online training 48 people: all managers = 100%
Number of whistle blowing incidents	0
Number of corruption incidents	0
Gender Pay gap data	See separate report available online https://www.muntons.com/gender-pay-gap/
What awareness programme is in place to prevent information security breaches?	We regularly alert team members to scam emails; have a mechanism for reporting to ICT any suspicious emails before they are opened so they can be quarantined; have a process to quarantine email messages from suspicious senders and require the user to positively confirm the sender is known to them; we brief annually the GDPR requirements and key staff controlling information sign a declaration acknowledging their role in information security
Number of confirmed security breaches	0
Number of audits for information security breaches	0: we ran an exercise when a breach was suspected but was found not to have been a breach so this was a live test of the procedure rather than an audit
What procedures are in place to train internal and third party users of secure information?	None at the moment, this is under discussion as part of the Data governance team meetings.

Procurement	
% suppliers signing the Conditions of Purchase	100%
% of suppliers with clauses in their contracts on environment, labour relations, human resources	100%
% of suppliers who have a CSR assessment	0% - we do not carry out a specific CSR assessment
% of suppliers audited on their sites	0% due to covid
% buyers trained in sustainable procurement	100%
% suppliers with corrective actions	0%

Passionate people with real community spirit

We are truly a team of passionate people and not just about delivering enjoyment for our customers but also in our communities. Members of our teams across our business have shared how they dedicate their time outside of work to serving their communities. This may be ready to respond to the call of duty as a Police Special Constable, RAF Reservist or for the RNLI. Or giving youngsters solid foundations through Scouts, Brownies, local sports coaching or as an Adult Cadet Instructor. We even have community-based heart monitoring volunteers and foster carers. Each and every one of our volunteers is dedicated and motivated by every life they may be able to change for the better and we applaud their community spirit.



Make a difference with Muntons



We have good reason to smile every day at Muntons. We are a one-of-a-kind sort of business. As a global plc we proudly deliver enjoyment by supplying malt and malted ingredients to many of the world's leading food and drinks brands. At the same time, we are a family business where almost all of our employees are shareholders. As world leaders in sustainability, we put our people and our planet first. Come and join our team and make your next job count for more.

Check out the latest vacancies on [muntons.com](https://www.muntons.com)

If you would like help with your sustainability story, then reach out to us sustainability@muntons.com



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