

Sustainability Report 2020



Muntions Make 100% Sustainable Malt

Muntions is proud to declare that its malt is 100% sustainable. With reference to the Farm Sustainability Assessment standard developed by the Sustainable Agriculture Initiative Platform (SAI) Muntions malt has been audited to assure our claim is reliable.



Muntions sets genuine carbon reduction targets that align with climate protection

Muntions has set a demanding science-based target to reduce GHG emissions by 45% from 2010-2025. In 2020 we are already halfway to achieving that target which genuinely aligns with climate protection.



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Muntions support farmers to grow more sustainable barley with greater profit

Muntions is a founder member of a farmer technical support group to improve the supply chain sustainability and resilience of over 140 farmers through its Sustainable Futures initiative.



Muntions malting barley is super low carbon

We have reduced the carbon footprint of our barley supply chain by 32% over 12 years. Our process GHG emissions per tonne are 24% less in the same period. If you want data on carbon footprinting in the malting and brewing supply chain we are the one place you can guarantee to get an answer you can trust.



Muntions turns waste into valuable fertiliser and takes action on plastics

Muntions Anaerobic digestion plant not only produces green electricity for use on site but creates a nutrient-rich fertiliser to supply local barley growers. We have a development program to increase recycling of plastic packaging and to replace as much as possible with newer more easily compostable alternatives.



Muntons Sustainability Program

Muntons is proud to be able to declare that our malt is 100% sustainable. With reference to the Farm Sustainability Assessment standard developed by the Sustainable Agriculture Initiative Platform (SAI)¹ Muntons malt has been audited to assure our claim is reliable. The SAI FSA standard (FSA²) benchmarks over 300 existing farm assurance schemes and has identified that the Red Tractor Scheme for our raw materials ranks as a silver scheme. In evaluating our projects and operations we use the triple bottom line framework that addresses sustainability in terms of People, Profit, Planet.

Muntons has been producing malt and malted ingredients for almost a century. The Company is a significant international player in the supply of malts, malt extracts, homebrew kits for beer and wine, flours and flakes and many other malted ingredients relevant to the food and drinks industry, exporting around half of its production.

Overview of Sustainability Activities and Progress

The current debate on climate change can be confusing and lead to lack of action. Muntons focusses on actions not words and we have the global lead for the sustainable supply of raw materials and manufacture of malt. We call it Practical Sustainability and it has allowed us to make continual and significant changes in emission reductions whilst others get bogged down in arguments or procrastination. Muntons Director of Manufacturing and Sustainability, Dr Nigel Davies, created the world's first carbon calculator for malt that maps impact from farm to beer. It has allowed us to identify a programme of dramatic change and move to a science-based target which verifies every change we make.

It is essential to be open and verifiable to avoid brand damage by using shaky data. We are the maltster of choice to deliver trustworthy data to support claims for our customer's raw material sustainability credentials. We have helped many customers map their carbon impact and look at potential mitigation options by buying 100% sustainable malt from Muntons. This externally audited claim is unique to Muntons and shows we are committed to making industry-leading changes in aligning sustainability with verifiable action.

Our Director of Technical and Sustainability was invited to the World Malting Barley Conference in Warsaw last year to be one of the keynote speakers promoting sustainability in the food and beverage supply chain. At the outset an audience poll revealed that only 45% understood the relevance of the subject to a successful business, but by the end 78% were convinced. Several international companies and organisations have since connected with Muntons to learn more about our lead and practical actions and verification procedures linked to greenhouse gas emission reduction. A key aspect in all cases was our focus on the farmer and our use of the Farm Sustainability Assessment to promote best practice amongst our expert peer group of cereal farmers and those from other supply chains such as wheat, oil seed rape and sugar beet.

¹ <http://www.saiplatform.org/>

² <http://www.fsatool.com/>

It was a great impetus to our work on sustainability to be awarded the EcoVadis Gold medal for sustainability for the second time. This is an international validation scheme to benchmark how well companies perform and is awarded to the top 5%. More than 55,000 businesses are on the EcoVadis network including big names like Johnson & Johnson, Verizon, L'Oréal, Subway, Nestlé, Salesforce, Michelin and BASF. Since its founding in 2007, EcoVadis has become a trusted partner for procurement teams in more than 300 leading multinational organisations. It provides business sustainability ratings, intelligence and collaborative performance improvement tools for global supply chains. The areas assessed are Environment, Labour & Human Rights, Ethics and Sustainable Procurement. Similarly, Weetabix who we supply with extract to make cereal-based products, recognised us with the award of being their Responsible Supplier of the year for a second time, citing our sustainability credentials.



The link that we can make between sustainability and new product development is extremely valuable. It is always heartening to watch an audience that perhaps think sustainable food is boring, be uplifted by products such as our cocoa substitute maltichoc which avoids deforestation, reduces food miles, lowers ingredient costs and yet makes a muffin that looks like a more premium product, attracts a higher margin and tastes delicious. Who could resist such a compelling demonstration of practical sustainability?

Being at the forefront as an international manufacturer of malt and malted ingredients supplying several major food brands, Muntions is continually seeking innovative ways to reduce its environmental footprint. Towards the end of 2019 a new Biomass plant began operating at the Bridlington maltings and is providing 100% of the heat requirement for the malt manufacture. The plant provides highly sustainable energy using locally sourced forestry materials that would otherwise go to waste.

Muntions global GHG reductions target aligned with climate protection

Muntions has made significant progress in meeting its commitment to reducing greenhouse gas (GHG) emissions through a combination of supply chain engagement back to farm and investment in new state of the art emissions-busting technology. The internationally recognised standard for GHG saving is to have a **Science-based target³** that ensures emissions reductions are in line with keeping the global temperature rise within acceptable limits. We are one of very few companies to have set a target (841 say they want to set a target, only 348 have done so). Nine brewers have set targets and Muntions is the only maltster in the world to have made this bold statement of intent. Currently our target is to reduce our on-site emissions by 45% from 2010-2025. With the installation of the Biomass plant in Bridlington and our program of action to reduce the carbon footprint of our malting barley we have already saved 22% towards that target, so we are almost halfway there.



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

³ www.sciencebasedtargets.org

Muntons has chosen not to follow the route of carbon offsetting. On this subject Muntons is very clear. Offsetting carbon simply kicks the can down the road and uses somebody else's benefit to cancel out emissions rather than looking in your own business for real opportunities to make innovative and continuing improvements.

Across its supply chain Muntons has continued to support sustainable farming practice through its **Sustainable Futures** group, which provides a forum for over 140 farmers to exchange best practice and facilitates the availability of expert advice on environmentally protective farming methods and sustainability reporting. This has aligned well with the proposed change to farm payments post-BREXIT which will likely be dependent on environmental protection rather than subsidy.

Muntons is a leading member of the Sustainable Agriculture Platform (SAI) which has generated the world's first Farm Sustainability Assessment (FSA) to facilitate the audit of farm sustainability against an internationally agreed standard. By reference to the FSA standard Muntons can claim that it procures 100% sustainable barley and consequently produces 100% sustainable malt. Muntons has been audited by SGS to verify the claim that their malt is indeed 100% sustainable. SAI has championed the use of the Farm Sustainability Assessment to benchmark existing sustainability standards and allow a future improvement plan for farmers to help protect and build their margins without increasing supply chain cost. SAI FSA has enabled the Muntons Group to engage with supply chain partners who source other crops from farms growing malting barley and thus reduce the demands on farmers to adopt multiple standards for each crop.

"As a leader in sustainability we are always investigating multiple ways of reducing our carbon footprint. Muntons is one of very few companies globally to have aligned its targets on greenhouse gas emissions reduction with that required to prevent global temperature rise by no more than 2°C. As such we have a capital plan to invest in technology that will decrease our carbon footprint by an impressive 45% from 2010-2025. Our biomass plant in Bridlington has achieved 22% of that target already and we are on the way to reach our target well ahead of the 2025 milestone. We have a programme of other options for the future to continue our journey to zero carbon."

Practical Sustainability

Muntons is pleased to share its learning on making sustainability real and measurable. When you visit www.muntons.com/sustainability/ you will read about its pledges, goals and achievements, and see some fantastic examples of how recipes for well-known foods can be made more sustainable and taste even better than the original!



Ethical Supply

Muntons has 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 Practices and 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 the website⁴.

Our Ethical Supply Statement is available here:

<https://www.muntons.com/wp-content/uploads/2019/11/Ethical-Statement-1.pdf>



Carbon Disclosure

Muntons is pleased to share its sustainability data with customers through the Carbon Disclosure Programme (CDP). We have repeatedly been rated above average by CDP for supplier engagement. The CDP programme benchmarks companies and provides a forum for sharing new ideas and showcases those leading on sustainability. As more customers adopt this standard it will improve supply chain resilience if they address the disconnect between wanting first class sustainability but placing contracts with the lowest cost supplier who often has no credible sustainability programme.



Farmer Sustainability Groups: Sustainable Futures

Muntons initiated an important development by creating a forum for farmers called **Sustainable Futures** which has now been running for 6 years. It is a grower group representing several supply chains (barley, wheat, sugar beet) all keen to focus attention on supporting farmers and growers to minimise any negative environmental impact, increase margin and verify the improvements being achieved.

This group has developed into a

landscaped based approach in conjunction with Yorkshire Water (**Sustainable Landscapes**) which addresses concerns of many land users with diverse interests and develops one solution that suits all. **Sustainable Futures** has an annual conference and more frequent and smaller meetings of farmers where they can learn from each other and invited industry experts about farming techniques and machinery that are the most effective in minimising environmental impact. The combination of peer-to-peer discussions and facilitated expert briefings has proved very successful.



⁴ <https://www.muntons.com/wp-content/uploads/2019/11/190424-Slavery-and-human-trafficking-statement.pdf>

United Nations Sustainable Development goals

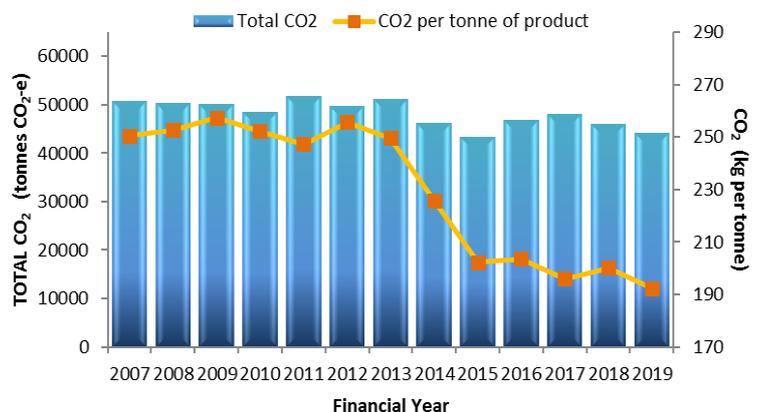
Muntons is a strong supporter of the United Nations Sustainable Development Goals and this is having an impact in its supply chain as identified by the brief summaries against some of those goals shown below.

	<p>Malted ingredients are a rich source of vitamins and minerals, low in fat, high in fibre with many health benefits to help feed the world</p>		<p>Innovation drives internal efficiencies and new product development</p>
	<p>Muntons has a policy of equal rights and opportunities irrespective of gender</p>		<p>Muntons has won national and international awards for sustainable leadership</p>
	<p>Muntons has a policy to reduce water consumption and recycle and reuse where possible. It supports cleanwater wells in Africa through Brewgooder</p>		<p>Muntons provides clean label ingredients produced in hygienic, highly efficient facilities using ingredients sourced ethically</p>
	<p>Up to 14% of Muntons electrical requirement provided by on site Anaerobic Digestion and solar panels</p>		<p>Externally verified Science Based Target for reduction of GHG emissions by 45% by 2025 compared to a 2010 base year</p>
	<p>Muntons is an ethical company caring well for its employees as verified by SEDEX ethical audit & has a strong strategy for growth</p>		<p>Muntons facilitate Farmer support groups: "Sustainable Futures". Member of the Sustainable Agriculture Platform</p>

Sustainability Metrics

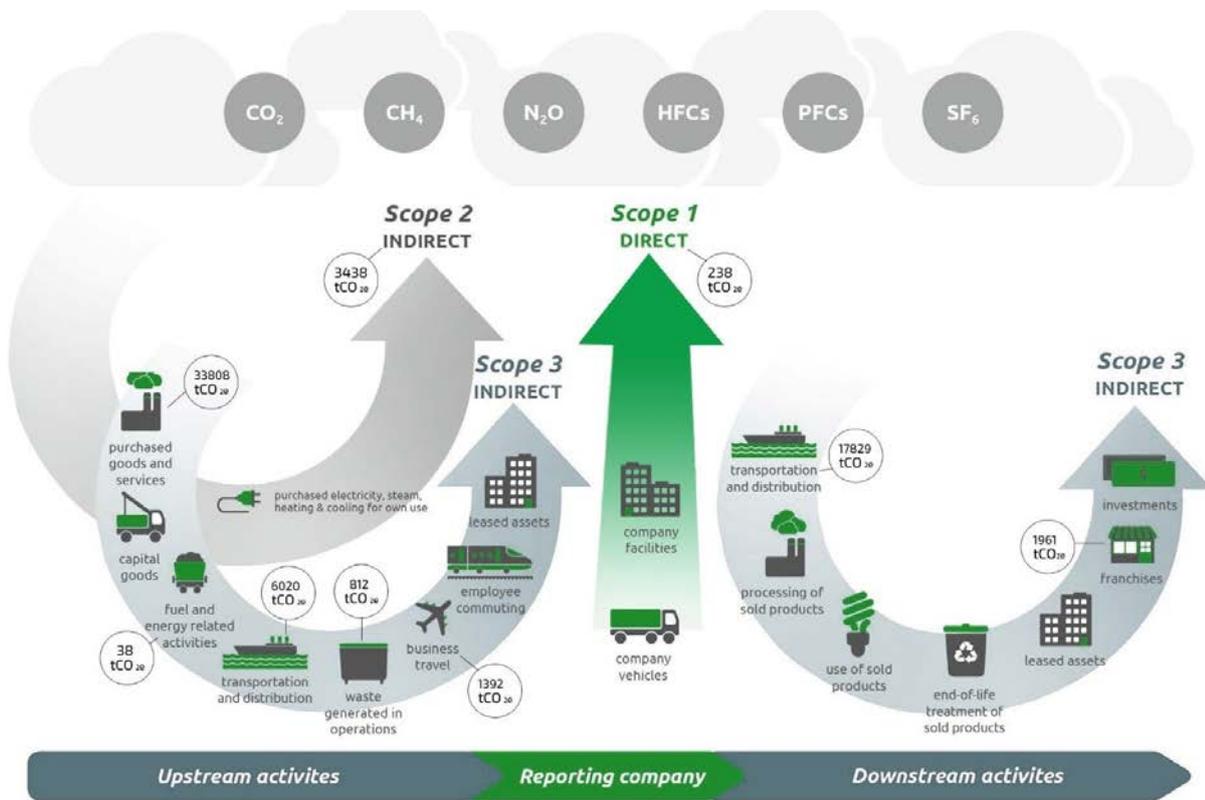
Carbon footprint is currently still the most quoted index of sustainability and our production facilities have seen a step change in emissions reductions through introduction of new green technology described more fully in the next section. Muntons is committed to a continuous reduction in energy use. Its total emissions have stayed relatively flat whilst production volumes have increased which means that the specific emissions per tonne of product have reduced considerably by 25% over 10 years.

Carbon Footprint of Manufacturing Operations (Scope 1 + 2)



Having the ISO50001 energy management system is valued as an external verification of the activities being monitored by Muntons energy review team and supported by a capital investment program that looks to minimise energy use, reduce greenhouse gas emissions and maximise production throughput.

Muntons is also able to report a breakdown of carbon footprint into scope 1, 2 and 3 emissions in line with mandatory carbon reporting guidelines (graphic, below).



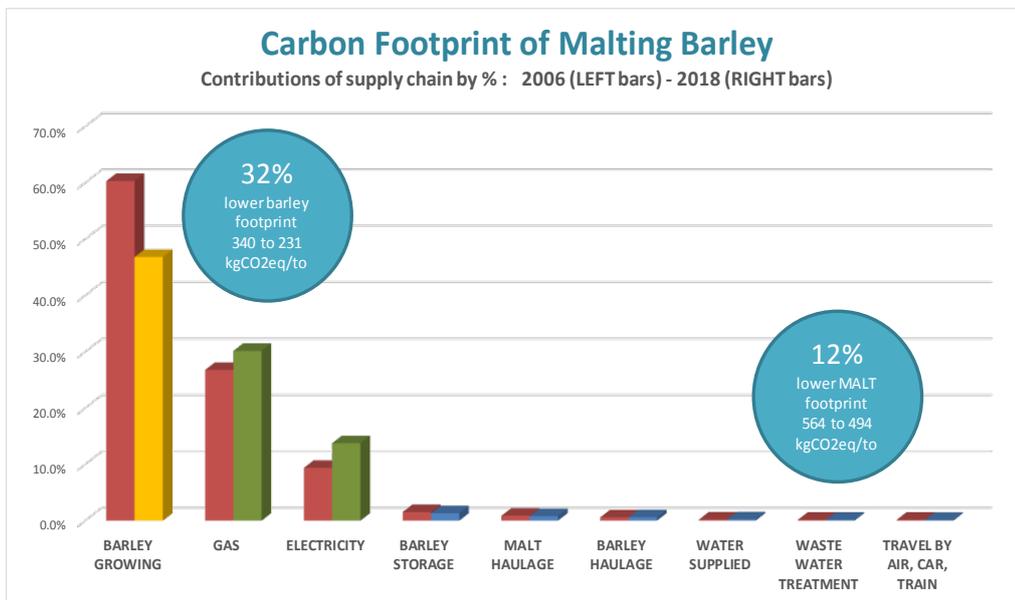
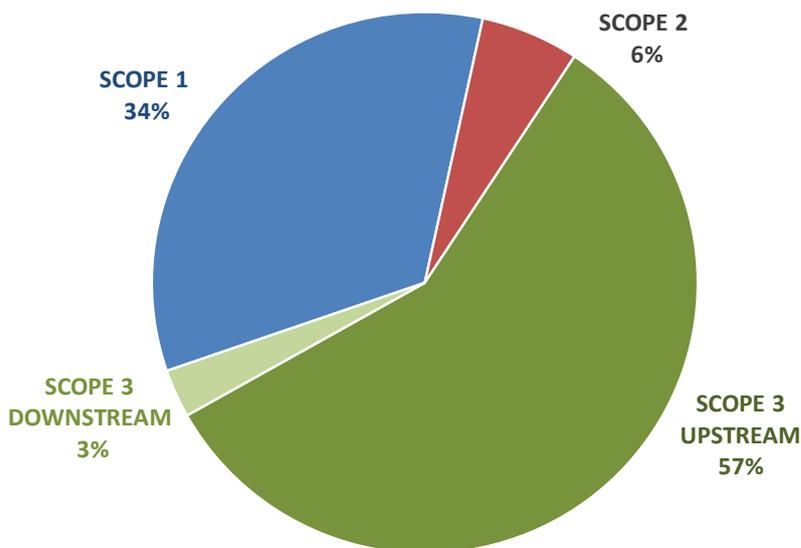
Muntons Carbon Footprint Analysis										
CO ₂ equivalent emissions (CO ₂ e tonnes)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Scope 1	34417	37803	35363	36910	35236	33186	38309	39487	38081	36128
Scope 2	12885	12906	13147	13034	10048	9290	7875	7873	7343	7445
Scope 3	69563	76272	67206	65882	63676	66057	67643	70667	68378	68368
TOTAL	116866	126979	115715	115827	108961	108534	113827	118028	113801	111941
Definitions										
Scope 1	Activities owned or controlled by Muntons e.g. plant, vehicles, gas use in boilers									
Scope 2	Emissions associated with <i>generation</i> of Purchased electricity									
Scope 3	Upstream: Raw material procurement Downstream: Products after they									

Overall scope 3 emissions have stayed relatively flat even though we take in 20% more barley than 10 years ago. Scope 2 emissions dropped from 2014/15 as we introduced electricity generation on our Stowmarket site from the Anaerobic Digester plant which provides that site with 14% of its electricity demand.

By scope, the greatest proportion is Scope 3 at 60% and the biggest contributor to that is the upstream emissions from raw material (barley) sourcing. However, in that category we have through our attention to malting barley carbon footprinting, achieved a 32% reduction in barley carbon

footprint over 12 years. The biggest contributor to that reduction has been the development of abated nitrogen fertilisers which reduce the impact on fertilisers applied by around 40%. Muntons require our suppliers to use abated nitrogen fertiliser where they use solid applications. For liquid variants this does not have the same impact. In addition, our farmers are supported to minimise their inputs to barley growing through the education and peer to peer learning that is made possible through our *Sustainable Futures* farming group.

CARBON FOOTPRINT ANALYSIS BY SCOPE



The impact of the change in barley carbon footprint intensity has been to reduce malt carbon footprint by 12%. The balance of contribution to our overall carbon footprint has thus changed, but the top 3 categories remain the same.

FAQ: What is the Carbon Footprint of Barley and Malt?

Malting Barley Production: 241 kgCO₂eq/tonne ⁵

Malt Manufacture (additional): 217 kgCO₂eq/tonne ⁶

TOTAL MALT CARBON FOOTPRINT: 504 kgCO₂eq/tonne ⁷

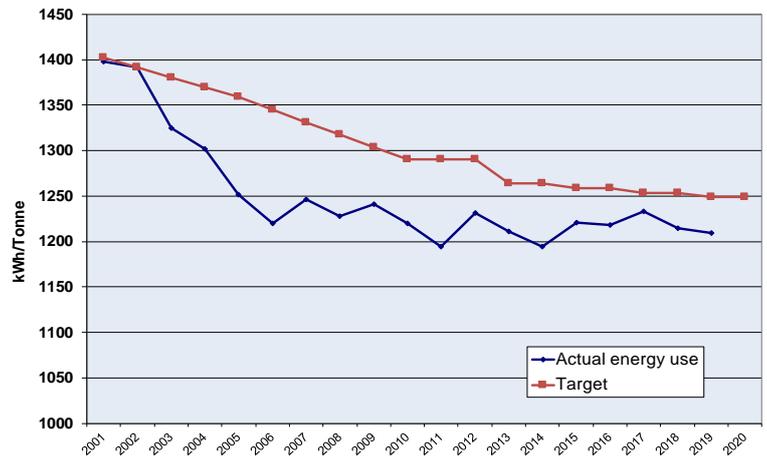
⁵ Includes 6% uncertainty factor and is SCOPE 3 upstream

⁶ 149 kgCO₂eq from Gas, 68 kgCO₂eq from electricity therefore SCOPES 1 +2 and Scope 3 downstream

⁷ Includes an uplift for associated supply chain and other site emissions by 10% hence 458 kgCO₂eq/tonne becomes 504kgCO₂eq/tonne

Energy Use

The government Climate Change Levy (CCL) target is shown in red on the graph (right). Muntons has performed much better than the target for the past 20 years. Continual energy reduction has been achieved by improved monitoring and targeting and through the benefit of having ISO50001 energy monitoring and targeting audits in place and thus we align with the Energy Savings Opportunity Scheme (ESOS) audit requirement.



Data averaged for Bridlington & Stowmarket sites for all production lines

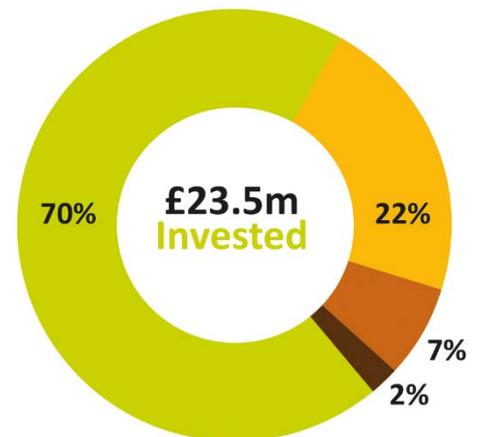


At the Bridlington plant Muntons opened a new Biomass plant using waste wood from primary forestry operations within a few miles of the plant that otherwise would have no use. It is generating heat required for kilning and has decreased our group carbon footprint by around 20%.

“Muntons is keen to take action to protect the environment through sustainable business activities”

It could be said that we are a small operation and have little impact on the planet’s resources. Being passionate about environmental protection, however, means taking the lead in promoting this ethos to both suppliers and customers. The result is significant change to GHG emissions where otherwise action might be delayed.

£23.5m has been invested over a 12-year period in environmentally beneficial projects with a commitment to re-investing any savings made through such projects into further greening initiatives. It is not surprising that 70% of investments have been in energy saving with a further 22% reducing transportation emissions associated with moving barley from farm to maltings.



2% of turnover invested in green initiatives

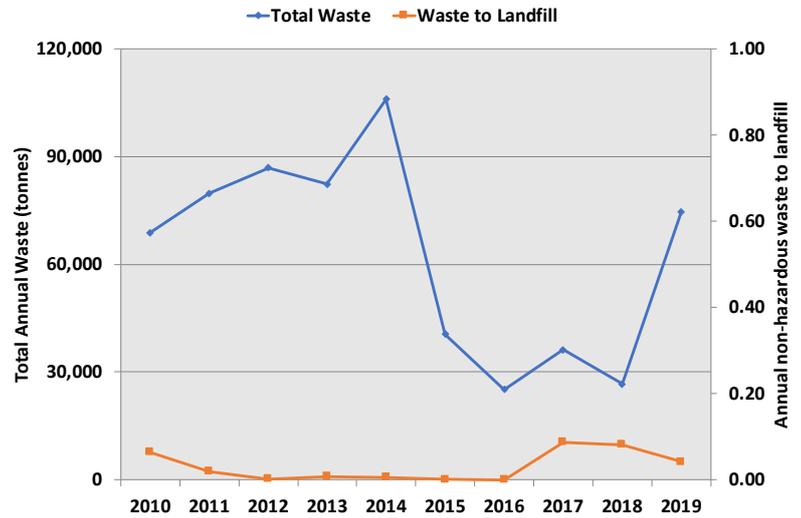
- Energy
- Transportation
- Water or Effluent
- Emissions

2007-2019

Waste

Muntons continue to operate with virtually no non-hazardous waste to landfill: just 0.04% last year.

We have a lot of construction work happening on site and had to change the operation of the AD plant for half the year hence the total waste went up. The underlying waste to landfill trend is down which is the most important metric.



Plastics and Recycling



Muntons is committed to reducing plastic waste and has replaced all plastic cups in dispensing machines with easily recyclable paper alternatives and provided all staff with reusable drinks bottles.

We have a programme in development to provide easily recyclable sacks to our bagged malt customers and to ensure all our packaging is easily recyclable and does not cause lasting damage to the environment.

A great story promoting the “Rethink, Recycle, Reuse” ethos comes from Brazil where we are proud of one of our customers who reuses our already recyclable plastic packaging and turns them into bags: https://www.muntons.com/success_story/old-sack-new-bag/.

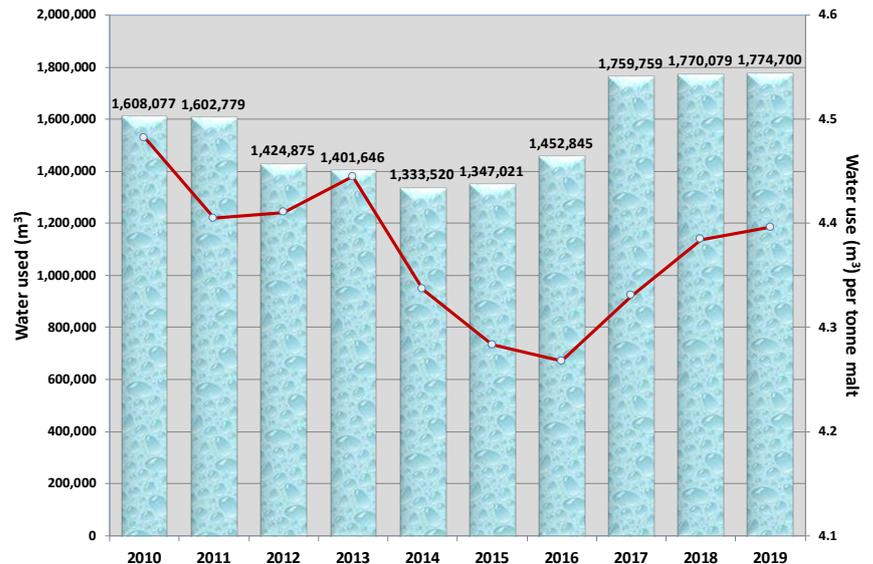
Muntons turns by-products into environmentally friendly fertiliser

The £6.1m in an anaerobic digester (AD) at Muntons Stowmarket was a full cradle to cradle approach when it was opened in 2014. Providing 14% of the site electricity is impressive as a standalone benefit. During 2019, having run extensive trials we were also approved to supply to local farms with a highly nutritive fertiliser by pasteurising and dewatering the solid material that comes from the wastewater treatment process. This is easily spread onto local farmland and reduces the need for expensive inorganic fertilisers. The fertiliser is a rich natural source of Nitrogen, Phosphorus and Potassium and a great improver of soil organic matter which in turn retains soils moisture and requires less irrigation. By using this high-quality fertiliser the farmer can use less of their normal fertiliser and reduces the likelihood of fertilisers contaminating local water courses.



Water

Muntons extract water from boreholes on site and seeks to minimise usage wherever possible without adversely affecting product quality. Malt and malted ingredients production volumes and new process additions have increased the overall water usage as has seasonal variation in the amount of water required to make good quality malt. Overall water consumption per tonne for malt (red line) remains at the lower end of industry best practice.



Food Waste

Muntons is proud to be part of The Food Waste Reduction Roadmap campaign to minimise food waste. The initiative⁸ encompasses the entire supply chain from field to fork. Muntons food waste is minimal at 0.51% but the ethos of looking for any waste reduction opportunity 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 national targets as well as the UN Sustainable Development Goal 12.3 of a 50% food waste reduction by 2030.



“Practical Sustainability: ‘it’s no afterthought’ typifies our approach to sustainability. We have firmly embedded sustainability into our strategic decisions and seek to make real changes in carbon emissions across the supply chain and avoid hiding behind carbon offsetting to make us look better. That sort of greenwash doesn’t fit at Muntons.”

“Sustainability is the common objective that links all aspects of Muntons business activities. An ongoing process that will ensure our goods are supplied in an economical and socially responsible way”

For further details please contact : **Dr Nigel Davies - Director of Technical and Sustainability**
(e-mail: nigel.davies@muntons.com)

⁸ <https://wrap.org.uk/food-waste-reduction-roadmap>