



Why Muntons Thinks Being Green Is Good For Business



Muntons plc is delighted to have placed 13th in the 'Best Green' companies list in 2011 having placed 43rd then 41st and 20th in the previous years. We are the top ranked food company and have consistently risen up the ranks demonstrating our sustainable commitment to environmental protection and management. This public scrutiny of our performance is key to avoiding the label of 'greenwash' that characterises many who claim to have green credentials.

Environmental excellence is key to our business ethos. Muntons Managing Director, Alan Ridealgh notes:

"As a responsible business, I'm very proud of our placing. It reflects the substantial progress we've made to reduce the impact of our operations on both the local and global environment.

Central to our approach is the idea that we should, wherever possible, make real carbon savings – rather than simply offsetting our activities. It's this philosophy that ensures we are now considered one of the top performing businesses in the country when it comes to green initiatives."

Essential to our continuing high achievement in environmental performance is a team effort. Muntons plc Manufacturing and Technical Director, Dr Nigel Davies notes:

"I am proud that we are leaders of environmental measures that are real in malting – what I call practically sustainable. Our approach is both passionate and enthusiastic and through the 'Best Green' survey we find that our dedicated team are fully bought into our culture and drive to protect our environment and make a positive impact on financial performance through targeted investment in green initiatives"

We are proud to perform so well amongst nationally recognised companies and again stood out as a leading environmentally conscious food manufacturer beating many much larger organisations. Other food manufacturers entered but didn't even make the top 60 list. Some of last year's entrants have not remained on the list so to show a top 60 ranking for four successive years is evidence of our sustainable environmental commitment. Standards have again risen and last year's 42nd placed company would have only ranked 60th this year had it not improved showing that standard has toughened significantly.



One of the most important areas to avoid when publicising your environmental performance is what is termed 'Greenwash'. So many companies say they are green but actually that can just be a buzz word and doesn't mean they have necessarily done anything really positive for the environment. Muntons believes that it is important to have environmental performance externally verified. Failure to submit to external audit suggests that your environmental credentials are closer to hogwash rather than fact.

Muntons believes that to be really green you need to explain your environmental credentials clearly, passionately and interestingly.

What sort of verification?

We look to various external sources to verify that our internal procedures, targets and achievement are relevant and verifiable. Our operations are controlled by an environmental permit and routinely checked by the Environment Agency to ensure we have hit our targets and all legal requirements. Our Environmental systems are certified to ISO14001 against which we are regularly audited for legal and operational compliance. An additional scheme is the Sunday Times Best Green Companies initiative. This matches our performance against other types of businesses and combines feedback from our staff with a thorough analysis of our environmental systems and performance. Being a top 60 placed company for four years running shows that we really do achieve a very high standard of environmental performance.

We are the only Malting Company in Northern Hemisphere talking about carbon footprint

We are the only FOOD COMPANY to have made the top 60 listing for 4 years and improved

We are regularly asked to present at conferences and assist customers with their carbon agenda



AVOID GREENWASH:

the practice of companies disingenuously spinning their products and policies as environmentally friendly

**EVEN WORSE:
AVOID HOGWASH –
KNOW YOUR FACTS!**



Key facts about our Green Investments and Leadership

- ❖ £5 million investment in environmentally-favourable processing equipment
- ❖ Installation of the most energy efficient kilning systems in the world
- ❖ A major initiative to investigate supplier sustainability programmes
- ❖ Conversion of previously unused land into fertile allotments on which Muntons staff are encouraged to grow their own vegetables

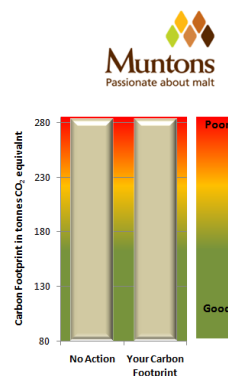
We are rightly proud of our investments in green technology and our ability to encourage staff to think green and make this philosophy practical, from allocating allotments at work, through cycle to work schemes, or through offering environmentally conscious gifts for good environmental performance in the group.

Our performance across the board in so many categories in the Sunday Times Competition shows our green credentials

Muntons low carbon malt pledge:
 Within the next 5 years all our malt will be produced using low carbon options to make a significant impact on our supply chain carbon footprint.

Muntons Farming **CARBON FOOTPRINT** Calculator

What is your yield of barley?	5	tonnes per hectare
How many tractor hours did you travel on farm in your tractor?	9	hours per hectare
How much barley seed did you use?	500	kg per hectare per annum
How much biofertiliser or compost did you use?	0	kg per hectare
How much Calcium Ammonium Nitrate was applied?	100	kg per hectare
How much Triple Superphosphate (P2O5) was applied?	30	kg per hectare
How much Potassium Chloride (as K2O) was applied?	1	kg per hectare
How much Pesticide was applied?	3	kg per hectare
Is your fertiliser sourced from a carbon efficient producer?	N	insert Y or N (Yes or No)



Your Carbon Footprint is 283 kg CO₂-e per tonne barley produced

Muntons has pledged to reduce its carbon footprint and is concentrating on farming as the major contributor. To assist farmers determine the key elements that make up their carbon footprint we have developed a simple calculator that demonstrates how to make real changes to farming practice by sourcing alternate fertilisers. Have a look on the website environment tab: <http://www.muntons.com/about/environment.asp>

Practical Sustainability

Muntons are keen to take action to protect the environment and have centred our efforts around carbon footprinting. It could be said that we are a very small operation and have little impact on the planet's resources. That would be true if we only influenced our own data. Being passionate about environmental protection, however, means that we take the lead in promoting our ethos to both our suppliers and customers. The result is very significant changes to carbon where otherwise action might be delayed. We have taken an active lead in promoting low carbon farming with a real possibility of reducing the carbon footprint of farming cereals by at least 50%. Research and funding organisations have responded to our desire to do something now rather than hide behind some perceived uncertainty on climate – that's what we call **Practical Sustainability**.

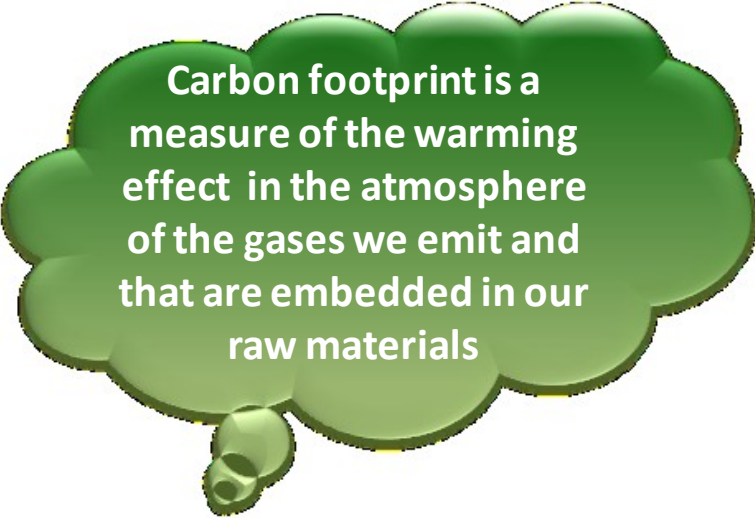
Carbon Footprint – Carbon What?

Many people will try to claim that measuring carbon footprint is extremely difficult, that there's no system to do it or that anyway there's no such thing as global warming. In terms of the latter point we take the view that if global warming is a reality then we have to act now and quickly – if it doesn't cause the rises suggested then at the very least we will be operating more efficiently so taking action is not an option!

Carbon footprint of the lifecycle of a product can of course be open ended, but rather than debate that subject we have simply defined our supply chain sector and calculated carbon footprint from barley growing through to malt supplied from our factory to brewers or food manufacturers.

It is fairly simple to obtain conversion factors for energy usage, transportation, air travel, haulage and farming production from reputable sources. Using this data we have been able to calculate our carbon footprint.

The standard we have adopted is the PAS2050 standard which specifies all elements contributing at least 1% to the carbon footprint must be included. We are acutely aware of the fact that nitrogen based gases have a much bigger ability to hold heat in the atmosphere – 300 times that of CO₂ - and hence are of greater concern wherever they impinge on our operations – most notably in fertiliser use on farm.



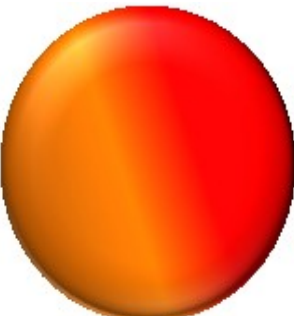
Carbon footprint is a measure of the warming effect in the atmosphere of the gases we emit and that are embedded in our raw materials



CO₂



Methane:
25 x CO₂



Nitrous oxides
300 x CO₂



Muntions plc C Footprint
is 55,000 tonnes CO₂^epa

Muntions total carbon footprint is 55,000 tonnes of CO₂ which may look like a lot, but is well under our permitted emissions as defined by the European Emissions Trading Scheme

Environmental Sustainability is not all about Carbon

We are aware that a key environmental concern over the next century is likely to be water shortage. Muntons was the trial site for a UK and French consortium that looked at how best to recycle steep water for re-use. An inhibitor of germination was identified and technology devised to remove that so that up to 80% of process water could be recycled.

If the fresh water saved had been saved from the requirement to be treated at a municipal treatment works the energy saved would be appreciable. Unfortunately the reverse osmosis process needed to remove the inhibitor requires even more energy resulting in a carbon cost.

Taking a holistic view, if that electricity was sourced from green technology such as anaerobic biogas the situation might look a lot more favourable.

Recycled steep water may be potable but still inhibits germination

Membrane bioreactor plus Reverse Osmosis removes inhibition: PROJECT SWAN



Water Use 1.2kg CO₂eq/tonne

Carbon cost ?



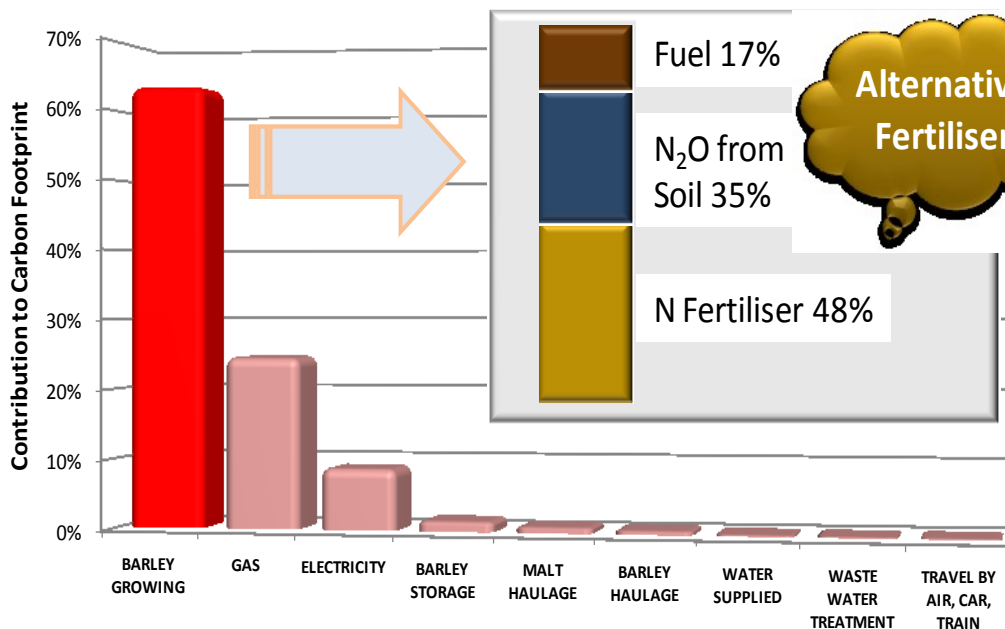
Save fresh water: 0.83kg CO₂eq/tonne

Electricity for treatment 1.23kg CO₂eq/tonne

What makes up our Carbon Footprint?

We know very accurately the contribution of our supply chain to malt: over 60% comes from growing barley and over 80% of that comes from the production and use of nitrogen fertilisers. Fertiliser production is set by virtue of legislation to reduce to 10% of its current contribution. Our aim is to investigate alternatives to conventional fertilisers to reduce the other half of that impact.

For our own malting operations around 90% is contributed by electricity and gas. Here we concentrate on kilning which is the major consumption area and we have installed the world's most efficient kiln heaters and engage in R&D to investigate novel technology aiming to make a step change to energy consumption.



Saving Carbon Saves £££££'s

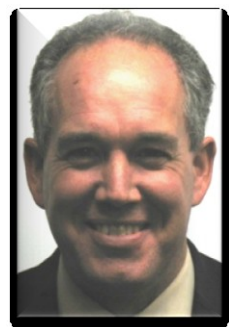
Our General Managers of production are very switched on to energy savings and appreciate our green theme saves us money:

“There are some very good consumption savings this yearif we continue these current consumption rates, we will save £300k over a £2M budget assuming identical product mix”



Stuart Campbell, General Manager Malted Ingredients Production

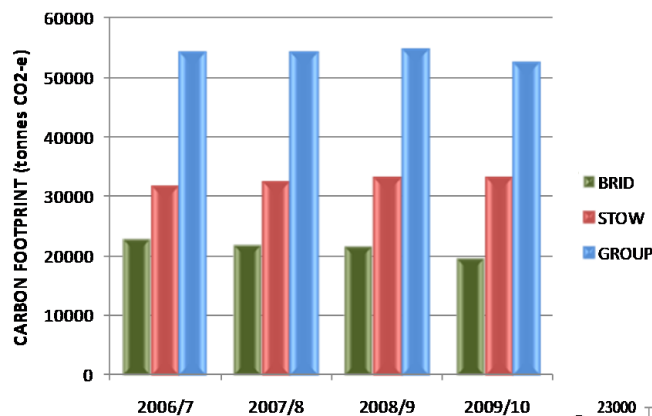
“ We have installed the most energy efficient kilns in the world, saved 8% on gas usage and been able to trade our spare CO₂ emissions on the carbon market so far generating £500K extra cash. To my knowledge we are the first malting company to install an energy efficient heating system with a zero year payback!”



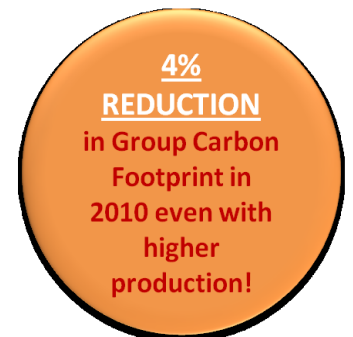
Guy Newsam, General Manager Malt Production

We monitor our carbon footprint very carefully because our emissions are capped. Therefore if we want to increase our production and not pay emissions tax, we have to make savings in our existing processes. This is precisely what we have been able to do. At our Bridlington malting the savings in Carbon achieved by investing in new kiln heaters and a new transport efficient storage facility have generated headroom that has been taken up as we introduced new processes into our Ingredients division.

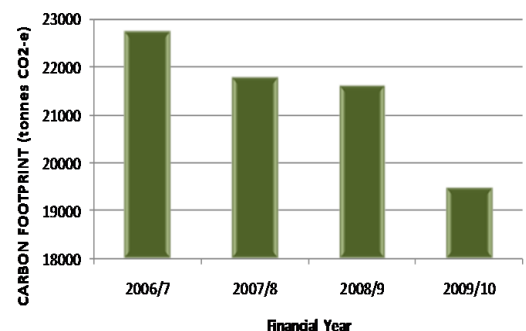
CARBON FOOTPRINT MUNTONS PLC



Reductions in Energy use in one area of the business help offset increased energy use as we increase production elsewhere



CARBON FOOTPRINT BRIDLINGTON



Remember - Green is Good!

We are absolutely convinced that a sustainable green agenda makes sound financial sense, contributes to the absolute best operational efficiency and rigour and longer term will protect both our business and our environment.

Undoubtedly we have challenges ahead but we cannot hide from the contribution that we make to our mutual heritage. We want the planet to be sustainable and we want Muntons to be sustainable and facilitate acceptance of the opportunities that are available for making very significant savings in carbon, energy and cost. It is our belief that this can be achieved if global supply chains cooperate and look seriously for opportunities to engage, modify requirements and still retain a prosperous performance.

Muntons

Passionate about the Environment

Greenest Maltster in the World

THE SUNDAY TIMES



**BEST GREEN
COMPANIES**

2008-2009-2010-2011