UK FLOUR MILLERS

Sustainability strategy 2025

Introduction

UK Flour Millers is the trade association for the flour milling industry in the United Kingdom (UK) and Ireland, representing over 99% of domestic production by volume. Our members operate 51 mill sites, supporting skilled manufacturing jobs across the UK with more than 2,000 people employed. Together, they produce the flour that provides approximately 20% of the nation's food energy requirements.

As an essential part of the UK's food supply chain, the milling industry recognises the critical role it plays in supporting sustainability. Beyond environmental efforts, the industry also plays a key role in the social and economic fabric of this supply chain. Millers support rural economies by collaborating with farmers, ensuring fair and transparent business practices. The flour milling industry purchased an estimated £800 million of wheat from UK farmers in 2024. They also contribute to local communities through employment, training, and partnerships aimed at promoting food security and responsible production.

This paper sets out the agenda for sustainability and the approach that the milling industry has taken so far. UK Flour Millers' members are at different stages of their sustainability journeys. This statement marks a crucial step forward in addressing sustainability challenges for all millers. Every business brings unique perspectives and expertise, which enrich collective efforts and drive innovation. Each action taken at the miller's level helps the sector move closer to a more sustainable future while preserving food security.

+99%

OF DOMESTIC PRODUCTION BY VOLUME REPRESENTED BY OUR MEMBERS

51 mill sites

OPERATED BY OUR MEMBERS

2,000 people

EMPLOYED IN SKILLED MANUFACTURING JOBS ACROSS THE UK

20%

OF THE NATION'S FOOD ENERGY REQUIREMENTS PROVIDED BY OUR MEMBERS

Looking ahead

One of the biggest challenges the industry faces on its journey towards Net Zero is obtaining accurate Scope 3 data. While this does not prevent progress or ongoing work on the topic, at some point, measuring and tracking progress will ultimately be essential.

However, sustainability is not just about reducing the carbon footprint. It is essential to broaden the conversation to include all aspects and foster a more holistic approach to sustainable development. As a result, the milling sector is actively working and engaging in discussions on various topics to drive progress.

Ongoing discussions and topics to address at the milling sector level include:

Enhancing collaboration on Scope 3 emissions data:

Strengthening emission factors sharing within the milling industry and partnerships across the supply chain to improve the accuracy and availability of Scope 3 emissions data, enabling more precise and reliable carbon footprint assessments.

Establishing an industry-wide carbon reduction target:

Developing a high-level target for the milling sector requires a comprehensive assessment of the sector's overall carbon footprint as a foundational step and an alignment on the base year against which improvements will be measured.

Implementing targets at companies' level:

Encouraging individual milling businesses to set science-based targets tailored to their specific operations, aligning with global standards for carbon reduction.

Continuing support for sustainable agriculture principles such as regenerative agriculture and organic farming:

Supporting sustainable agricultural practices to reduce carbon emissions and enhance sustainability in the milling industry, while maintaining wheat volume and quality. Among the various approaches, organic farming is the only regulated sustainable practice, giving full traceability for consumers. At the same time, regenerative agriculture is also gaining momentum, though its definitions and frameworks vary. Exploring sources like the Sustainable Agriculture Initiative (SAI) can bring further clarity and alignment within the sector while offering transparency for customers.

Addressing broader sustainability principles at companies' level:

Broadening discussions beyond carbon reduction and Net Zero for a more holistic approach to sustainability, encompassing the environmental, social, and governance (ESG) principles at the heart of the milling companies.

Milling industry's journey so far:

UK millers are committed to promoting sustainability across all aspects of the milling sector.

The milling industry recognises the importance of protecting the environment, supporting local communities, and ensuring the long-term viability of milling operations.

Millers individually engage with and address these topics. At the milling sector level, the sustainability efforts are built upon two key pillars:

- **Protecting the environment**
- **Supporting sustainable agriculture**

Protecting the environment

The milling industry is committed to reducing its environmental footprint through energy-efficient production processes, waste minimisation, and responsible resource management.

This commitment is further supported through investment in new mills and wider modernisation of existing ones (in the last ten years alone, more than £270 million has been invested by UK millers) but also in renewable energy technologies and carbon reduction initiatives, aligning with the UK's Net Zero goals.

The sector is highly efficient in its use of resources, ensuring that every part of the grain is utilised effectively.

For example, nearly all components of the grain find valuable uses: flour is processed for human consumption, while co-products such as bran and wheat germ are repurposed for animal feed, contributing to a circular economy and reducing overall waste.

Additionally, innovative techniques are being implemented, when possible, to further minimise waste, such as:

- **Process optimisation:** Advanced milling technology ensures maximum flour extraction from grains, reducing leftover byproducts.
- **Energy and water efficiency:** Milling facilities are investing in closed-loop water systems and heat recovery technologies to minimise resource waste. Additionally, investments are being made in more efficient equipment, such as LED lighting, upgraded packing lines, and PLC (Programmable Logic Controller) systems.
- **Byproduct innovation:** Some milling byproducts are being explored for use in biofuels, biodegradable packaging, or dietary fibre supplements, extending their value beyond traditional applications.

At UK Flour Millers:

Since 2021, an environmental performance survey has been run to assess the sector's performance during the previous year, monitor progress, and provide members with insights to implement improvements when necessary. Initially a bi-annual survey, it is now conducted annually.

In collaboration with ADAS, UK Flour Millers developed a carbon footprint calculator designed to provide all millers with a tool to assess their carbon footprint. The primary objective is to provide a comprehensive sector-wide overview of carbon emissions while encouraging millers who have not yet undertaken this assessment to begin doing so. This initiative represents a significant advance for the milling sector, offering a standardised approach to carbon footprint calculation. It aligns with national efforts to reduce carbon emissions and contributes to the UK's broader environmental targets.

Over the years, individual millers have implemented numerous initiatives and projects to improve energy efficiency and promote renewable energy. Below are some examples.

G R Wright & Sons Ltd: Installation of solar panels

In December 2024, **782 solar panels** were installed on the ingredient manufacturing facility at Delta Park in Enfield. This investment will decrease reliance on fossil fuels and provides a local, sustainable energy source while lowering energy costs. The generated electricity (340 MWh) **will power 50% of the site.**

ADM Milling: Knottingley mill river hydro-electric scheme

The Knottingley mill, which sits adjacent to the River Aire, uses **green electricity** from Yorkshire's largest hydroelectricity plant. The hydro station started operating in 2017 and **generates and supplies 40 percent** of the site's annual electricity requirements. To ensure that no wildlife is impacted by the project, the hydropower station includes a "bypass" for salmon and eels, both of which thrive in the river.

W&H Marriage & Sons Ltd: replacement and expansion of the onsite solar panels

Marriage's was an early adopter of photovoltaic panels with its **first system** (first generation panels) **being installed in 2013**. These panels repaid their investment after 8 ½ years. The first generation photovoltaic panels had several advantages and were relatively efficient. However, they also had some disadvantages, such as high costs and sensitivity to temperature, and seasonal power generation. Over the life of the installation the panels generate on average 21mwh per year. Last year, Marriage's noticed the output drop to around 10mwh.

When reviewing its photovoltaic system in 2024, Marriage's realised that the new fourth generation panels allowed better light absorption and energy conversion with an investment pay back that could be as little as three years. As such, Marriage's made the decision to **replace all first-generation panels**, and even expanded the number of panels on site from 120 to **180**. Although it's still early days, the investment appears to be paying off. In the first ten days of operation (in late February 2025, with lower light levels) the new photovoltaic increased panel area generated c. 1900kwh.

Supporting sustainable agriculture

The milling industry works with the whole supply chain to support more sustainable agriculture.

There are several ways of doing it, through the:

- Promotion of sustainable agricultural practices such as regenerative agriculture practices or organic farming to preserve soil health, enhance biodiversity, and reduce the need for chemical inputs. By supporting crop rotation, cover cropping, and reduced tillage, these practices aim to create resilient farming systems that benefit both the land and local ecosystems.
- Support of responsible fertiliser use that benefits the environment.
- Collaboration with agricultural experts and institutions to develop innovative solutions for sustainable farming. This includes researching ways to reduce fertiliser usage and developing more resilient wheat varieties while maintaining yield and quality.

Additionally, the sector prioritises, when possible, sourcing grains locally to minimise transportation emissions and support the UK's agricultural economy.

At UK Flour Millers:

A dedicated working group of members has been established to foster knowledge sharing and indirectly drive progress on the milling industry sustainability journeys.

Webinars are organised to raise awareness among members about key topics such as regenerative agriculture and fertilisers.

Many programs and initiatives have been launched by millers to collaborate with farmers, merchants, and the supply chain in general to support more sustainable agriculture. Some examples are detailed below.

Regenerative agriculture programme at ADM

ADM launched its **regenerative agriculture programme** in the UK **in 2023**, working with farmers to support an outcome-based farming approach that protects and improves soil health, biodiversity, climate, and water resources while supporting farming business development. **UK producers who enrol in ADM's programme receive guidance and incentive payments** for each hectare farmed using regenerative farming methods, such as planting cover crops to allow more carbon to be stored in the soil.

Low protein wheat for bread making: a great example of collaboration

Between 2016 and 2019, several millers (Heygates Ltd, ADM, Hovis Ltd, Whitworth Bros Ltd) participated in a **research project** led by Rothamsted Research **on bread-making with low-protein wheat**. This approach was conducted with the aim of helping to reduce fertiliser use and consequently its environmental impact. The study found that **good bread-making performance** with reduced nitrogen (N) fertilisation **depends on two key factors**: the efficient translocation of N into the grain and a higher proportion of glutenin in gluten, which enhances dough elasticity. It helped determine that breeding efforts should focus on improving nitrogen-use efficiency while maintaining high gluten protein elasticity.

Sustainability and regenerative agriculture at Allied Mills

The majority of the wheat use by Allied is grown in the UK, supplied from over 4,000 farms. Allied recognises that agricultural practice has a significant role to play in respecting the natural environment, reducing carbon emissions, and working towards greater resilience to increasingly volatile weather conditions. Allied Mills is sponsoring a **trial programme, started in 2020**, focused on assessing the commercial and environmental impact of wheat grown using a range of regenerative agriculture techniques including nitrogen optimisation, use of cover crops, and reduced tillage. **Allied pays participating farmers a premium** for their grain and **buys up to 10,000 tonnes** from them for each year of the trial. The project has positively impacted the environment by improving soil health, reducing inputs to crops, using less energy, reducing carbon, and improving biodiversity. The plan is to share the output of this trial programme as part of broader efforts to support other UK farms to adopt management practices that can be shown to optimise the balance between environmental and production efficiency.

Biodiversity

Biodiversity is at the heart of sustainable agriculture and collaboration with farmers and partners to protect pollinators, conserve natural habitats, and restore ecosystems is key.

Through these efforts, it ensures that the landscapes surrounding agricultural land thrive alongside productive farming operations.

Millers are involved in various programmes to protect, preserve, and restore biodiversity. Some examples are described below.

Woodland management at E B Bradshaw & Sons Ltd

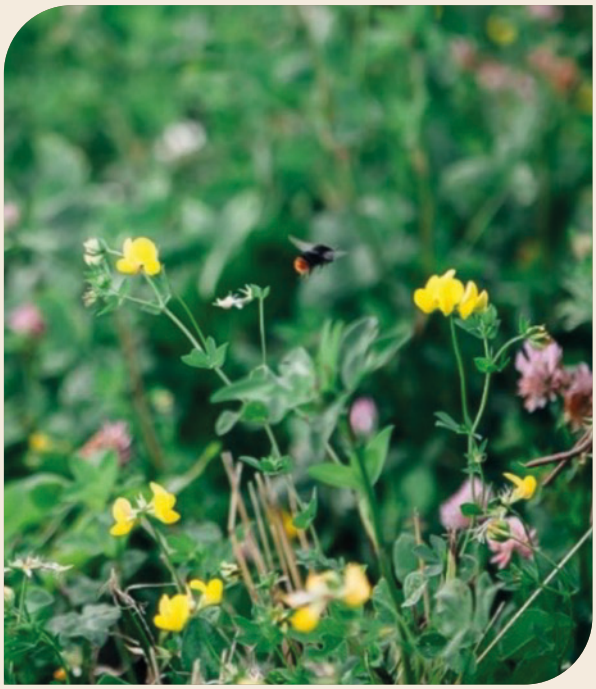
Bradshaws entered into a **20-year Woodland Management Agreement** with the **Forestry Commission** and Natural England on a 2.08-hectare wood upstream from the mill. This was originally planted in 1921 and 1923 by Alfred Bradshaw; it has been managed since. Careful thinning of the wood seven years ago enabled more sunlight to reach the wood floor and vegetation responded. This supported widening the range of plant species.

The **British Trust for Ornithology** continues to **run a Bird Count** every year to monitor the range of birdlife in the wood. This year's survey noted a total of 26 different species, including Cetti's Warblers (Cettia cetti), Great Spotted Woodpeckers (Dendrocopos major), and Common Kingfishers (Alcedo atthis). The total number of birds counted this year is the highest this decade.

Organic farming and biodiversity at Doves Farm Foods

Doves Farm Foods and its adjacent farm have been **certified organic since the late 1970s** and hold one of the first organic licences issued in the UK. The objective of organic farming is to protect and promote soil health and wildlife, ensuring a sustainable and regenerative approach to food production. Organic farmers commit to managing soil fertility to sustain crop production in the short and long term. Management includes **rotating** herbal and leguminous grass with livestock and field crops while avoiding artificial fertilisers, pesticides, fungicides, and weedkillers. Not only does this improve the soil biota but also **sustains natural biodiversity** and results in organic farms having a smaller overall carbon footprint.

Organic farmers also **work to sustain and enhance natural environments** such as **planting specific areas** to provide food for birds over the winter months. Lightly raised areas alongside or between fields are often planted with rough, tufted grasses to create 'beetle banks', home for predatory insects that will roam through fields eating crop damaging aphids during the summer. Organic enterprises are required to have annual inspection and re-certification.



Performance

This section presents key results in terms of sustainability and environmental performance. It demonstrates the industry's commitment as well as areas for further improvement.

In the first table below, a red mark indicates significant room for improvement, while a dark green mark signifies strong performance with no immediate need for further improvement.

2023 UK milling industry general outcomes	
74% **of UK origin** wheat	
75% of mills with an **environment management system** in place	
81% of mills with a **waste management system** in place	
75% of millers calculated **scope 1** carbon emissions	
81% of millers calculated **scope 2** carbon emissions	
16% of millers calculated **scope 3** carbon emissions	
56% of millers set a **sustainability target**	

2023 UK milling industry consumption outcomes

22.8 kWh
Fuel usage at sites level per tonne of grain milled

87.5 kWh
Electricity usage per tonne of grain milled

20%
Electricity usage from renewable energy sources*
*Mainly via REGO's

2.4 kg
Waste generated per tonne of grain milled

1.8 kg
Paper and cardboard purchased per tonne of grain milled

0.2 kg
Plastic purchased per tonne of grain milled

In conclusion

The milling industry will continue to align its business practices with UK sustainability targets, regularly review its progress, and remain transparent about its achievements and challenges. Together with its partners, the milling industry will work toward a greener, fairer, and more sustainable future.

For more information

You can access to millers' websites through the links below:

ADM Milling Ltd
Allied Mills
Andrews Flour
Carr's Flour Mills Ltd
Company Bakery
Doves Farm Foods Ltd
E B Bradshaw & Sons Ltd
Edme Ltd
G R Wright & Sons Ltd
Heygates Ltd
Hovis Ltd
Jordans & Ryvita Company
Kells Wholemeal Ltd
Kerry Ingredients and Flavours (UK) Ltd
Laxey Glen Mills Ltd
Matthews Cotswold Flour
Morning Foods
Mungoswells Malt & Milling
Muntons plc
N.R. Stoate & Sons
Navara Oat Milling Ltd.
Odlums Group
Premier Foods
Richardson Milling (UK) Ltd
Ripon Select Foods Ltd
Silvery Tweed Cereals
The Silver Spoon Company
W&H Marriage & Sons Ltd
Whitworth Bros Ltd
WM. Nelstrops & Co. Ltd

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