Passionate about growing
PepsiCo UK sustainable farming report 2010
PepsiCo UK is a good company but I believe it can be great. In recent years we have committed to becoming a different kind of company – one whose future profit and growth comes from healthier products, which we will achieve while travelling on a ‘path to zero carbon’. And of course, we will continue to deliver the great quality products our consumers know and love.

But we can only make great tasting products with the best quality raw materials – the potatoes, oats and apples that we source from 350 farms throughout the UK. Walkers Crisps, Copella Apple Juice and Quaker Oats are made from British produce, grown on British farms. Long-term relationships with our growers, some extending across three generations of farmers and many running for 40 years or more, means that our partnership with them is built on personal relationships, a supportive commercial framework, and a shared belief that sustainable agriculture is key to the future of UK farming.

We have involved our farmers on our sustainability journey. We shared with them the commitments set out in our Environment Report 2008 to reduce our impact on the planet, and the conclusions of our footprinting work showing that much of the carbon and water used in making our products is during the growing, harvesting and storing of our ingredients.

Many of our farmers have already seen the impact of climate change on their crops through flooding and droughts. They are willing and knowledgeable partners in delivering a new sustainable agriculture. This has enabled us to collaborate with our farmers on sustainability solutions, developing their knowledge and expertise as well as ours along the way.

This report sets out how we work with our farmers and respond to the environmental challenges that we all face. I have every confidence that by working in partnership with our farmers, we can deliver the ambition laid out in this report, most significantly our joint aim for a 50% reduction in water use and carbon emissions over the next 5 years, or ‘50 in 5’. Jointly aiming to reduce our impact on the environment is not only the right thing to do, but is commercially viable too. It builds on the work already underway, such as investing in carbon and water measurement tools, developing more sustainable varieties of potatoes and trialling low carbon fertilisers.

Even if we meet our ambitious target, there is more we can do. We are thinking about the next environmental challenges such as food security, working on new technologies and products, and ways to continue to share ideas and learn from others. An economically and environmentally sustainable UK farming industry is vital to a prosperous future for us all. We will play our part in making it happen.

Passionate about growing

Richard Evans
President, PepsiCo UK & Ireland
In 2007, working with the Carbon Trust, we discovered that the amount of carbon emitted in growing crops such as potatoes, oats and apples for Walkers, Quaker and Copella was equal to all the carbon used by our manufacturing sites to make them. In fact, growing potatoes and sunflowers – the raw ingredients in a bag of Walkers crisps – accounts for 34% of the carbon footprint of each bag.

Having set ourselves some ambitious targets to reduce our on-site carbon and water footprints (see our Environment Report for more details – www.pepsico.co.uk/environment), we knew that we also needed to work closely with our 350 farmers to reduce the amount of carbon and water used during farming if we were to significantly reduce our overall impact on the environment. That’s why we are committed to working in partnership with our UK growers to better understand how carbon and water are used in farming, and together develop and implement long term solutions benefiting both people and the planet.

PepsiCo UK (PUK) employs over 5,500 people. We have the largest crisp factory in the world in Leicester, make Quaker Oats in Cupar, Scotland, and Copella apple juice in Boxford, Suffolk.

Our high quality British potatoes, apples and oats are vital to the great taste of Walkers Crisps, Quaker Oats and Copella apple juice.

- We work with over 350 farms across the UK, of varying size and scale
- Walkers crisps use 100% British Potatoes. We source 370,000 tonnes from UK potato farmers
- In 2009 we bought 76,000 tonnes of oats from UK growers, enough to make all our Quaker Oats, and 29,000 tonnes of apples
- Many of our farmers have worked with us for more than 25 years, and some for 40 years and 3 generations.

PepsiCo in the UK

Why farming matters to us

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Newmafruits Farm, Kent

Case study - Walkers
Sustainable agriculture for our potatoes

Ways we will reduce our impact

- Potatoes are the primary focus of our sustainable agriculture strategy
- Reducing road miles with driver efficiency training programmes
- Energy efficiency and on site renewable energy
- New recyclable and low weight packaging
- Zero waste to landfill

*2% Seasoning ingredients
PepsiCo UK is committed to supporting and encouraging sustainable agriculture in the UK, investing in solutions, and incentivising our farmers to adopt sustainable practices. In partnership with our farmers we want to be an example of best practice to others in the UK farming and food industry, working together to create sustainable farms that are fit for the future.

In partnership with our British farmers, we aim to reduce the carbon and water impact of our core crops in the UK by 50% over the next 5 years. We will aim to reduce the amount of CO₂e that arises from the growing of our core crops by 50% by 2015, and we will also address our water use – aiming to reduce the impact of applied water of our farmers operating in water stressed areas by 50% by 2015.

“By 2015, we want to have made a step forward on sustainability and, in line with our corporate strategy, we want to see a reduction in our material environmental impacts of at least 15%.”

Andrew Clark, Head of Policy Services, National Farmers Union

As UK farmers we are well aware of the need to produce more food with less of an environmental impact. Only a long-standing partnership between PepsiCo and its growers will deliver the 50 in 5 target by investing in new ways of growing and storing crops to achieve this goal. But the reward is substantial: more productive and sustainable UK-sourced food will be a win-win for the economy and the environment.”

Andrew Clark,
Head of Policy Services, National Farmers Union

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All greenhouse gases, as carbon equivalents.
We want to help create sustainable farms in collaboration with our farmers, that are fit for the future.

Our focus is on the areas of greatest importance, and where we, together with our farmers, believe we are most able to influence change – CO₂e emissions and water use. To achieve our aim of 50 in 5, we are collaborating with a number of organisations and experts to develop sustainable farming ideas of the future – such as low carbon fertiliser and new potato varieties. We intend to focus first on our potato supply chain, followed by work with our oat and apple growers.

Our aims

• To reduce the agricultural carbon emissions of key crops by 50% by 2015
• Where our farmers operate in water stressed areas, to reduce the impact of applied water by 50% within 5 years
• To apply new technologies like the i-crop™ and Cool Farm Tool to measure water inputs and carbon emissions
• To encourage investment by farmers in renewable energy alternatives, such as wind turbines and solar panels
• To trial low carbon fertilisers, and encourage the development and uptake of low carbon and energy efficient machinery
• To target replacement of more than 75% of our current potato stock with better quality varieties by 2015, aiming to improve yield and decrease waste
• To invest in research to identify the most environmentally sensitive ways to grow and irrigate our agricultural raw materials and share the results
• To invest in research to optimise energy efficient storage practices for potatoes and oats
• To facilitate supplier collaboration and publish joint carbon reduction strategies by 2011.

The future of farming

On-site generation of renewable energy from wind turbines and anaerobic digesters

i-crop™ and Cool Farm Tool to manage water inputs and measure carbon outputs

Low carbon and more energy efficient machinery

New potato varieties to improve yield, use less resources and reduce waste

Renewables as a potential source of energy for storage facilities

Low carbon fertiliser to reduce soil emissions
Programmes and initiatives

The Cool Farm Tool

The tool was developed in collaboration with Unilever and The University of Aberdeen. A computerised carbon calculator, it enables farmers to analyse and better understand how much carbon is used during farming practices, giving a recognised industry number of CO2e used in each activity. By helping farmers to better understand their carbon usage, they are able to make effective changes to limit their impact on the environment.

Low carbon fertiliser

Fertilisers are a large emitter of carbon. Currently we are trialling new types of fertiliser at some of our farms, which – due to a different manufacturing process and chemical composition – emit less carbon. The trial will continue throughout 2010 and, if they successfully yield lower carbon emissions, we will work with our farmers to introduce the new fertilisers across our entire grower base.

i-crop™

i-crop™ is a web based crop management system that allows growers to monitor and manage their crop to produce the best results for maximum yield and quality. It helps growers to track crop inputs and outputs which allows them to accurately calculate water use and track carbon emissions. We are trialling the i-crop™ system across a number of our farms, helping growers record inputs, outputs and crop growth data more accurately in order to learn and then implement a best practice model.

Low carbon farming machinery

Across our farms we are encouraging and supporting our growers to invest in the latest low carbon machinery such as tractors and other fuel efficient equipment. Our growers will be able to use the Cool Farm Tool to measure the impact of machinery, allowing them to make informed data based decisions when buying new equipment.

Our Sustainable Agriculture Workshops facilitated by the Agricultural Development Advisory Service (ADAS) will inform growers on ways new technology can reduce their carbon footprint.
Meet some of our farmers

Across Britain we work with our oat, potato and apple growers to support and encourage more efficient and environmentally sustainable agricultural practices.

What we grow and where

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of farms</th>
<th>Tonnage of potatoes</th>
<th>Tonnage of oats</th>
<th>Tonnage of apples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>44</td>
<td>118,000</td>
<td>1,000</td>
<td>3,000</td>
</tr>
<tr>
<td>South</td>
<td>80</td>
<td>30,000</td>
<td>10,000</td>
<td>21,000</td>
</tr>
<tr>
<td>North</td>
<td>112</td>
<td>116,000</td>
<td>18,000</td>
<td>0</td>
</tr>
<tr>
<td>East Anglia</td>
<td>42</td>
<td>98,000</td>
<td>0</td>
<td>3,000</td>
</tr>
<tr>
<td>Scotland</td>
<td>71</td>
<td>3,000</td>
<td>35,000</td>
<td>0</td>
</tr>
</tbody>
</table>

All figures correct at time of publishing.
Potatoes require water to grow (the potato itself is 80% water), however too much water can severely damage a potato crop.

Our current weather patterns are volatile and the incidence of flooding events from heavy and concentrated rain is becoming frequent, causing crop losses and quality problems as well as removing valuable nutrients through leaching of the soils.

Being aware of the impact of climate change and its consequences, and researching measures that reduce water run-off and increase interception and infiltration will improve our management of water as a valuable resource.

"We had heavy rainfall throughout the summer of 2008 but then on the 7th of September 45mm fell in 45 minutes. Our fields just couldn’t cope. When it was possible we loaded the potato crop, a new Walkers variety, into store. A few weeks later it started to break down. I called people at Walkers for advice. They were brilliant and helped us to save what we could.

"Sometime later I was at one of PepsiCo’s steering committees and advised against the introduction of this new variety across more farms as a risk too far. The fact that PepsiCo agreed with me and didn’t go ahead with it shows that they value and respect their growers."

Robin Griffiths, Duncote Farm, Shropshire

"A few weeks later it started to break down."

"We are planning to invest in green energy. We appreciate the availability of information resources and comprehensive case studies which PepsiCo has provided to us."

Melvyn Newman, Newmafruits Farm

"I founded the farm in 1973 and today we have 500 hectares of orchard apples and pears.

"Global warming has affected several industries including ours. The positive impact was that we were able to grow new apple varieties which require a warmer climate. The negative impact has been more water shortages, especially during the last 2 years.

"We take sustainable agricultural practices very seriously. We do not spray our trees and plants unless we have to. We use electronic weather stations, which notify our farm managers through a mobile connection, if there are water shortages."

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Melvyn Newman, Newmafruits Farm

"Farmers are often accused of being major emitters of CO₂ whether it be crops or livestock. The act of growing crops absorbs CO₂ through photosynthesis and there is evidence that crops actually grow better in high concentrations of CO₂. However, we cannot be complacent and we must do what we can to reduce our use of fossil fuels and fertilisers and pesticides. One of the ways this can be done is in partnership with companies like PepsiCo."

Robert Balfour, Balbirnie Home Farms, Fife

"I am in no doubt that man’s activities have had an effect on the climate. I also believe that farmers are only just beginning to realise that they need to reduce their CO₂ output as well as ensuring that they use scarce resources sustainably. Farmers can be part of the solution to this problem, particularly by working in partnership with others in the supply chain."

"I am looking to erect an anaerobic digester using crops grown here and on other neighbouring farms as well as waste vegetables and oat husks from Quaker. The digester will produce digestate fertiliser which can be used for growing more oats as well as energy and heat which is ‘green’.

Robert Balfour, Balbirnie Home Farms, Fife

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What our farmers think about sustainability

UK challenges in focus

Flooding – The issue

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The view from the land

We listen to what our farmers tell us. They understand the land they work better than we do and by working in partnership with them, we can gain insights that allow us to improve both sustainability and business practices.

We regularly visit their farms and talk about their concerns. They’ve been telling us about how climate change affects them now, the changes they’re making in farming practice and about the things we can do together to make agriculture sustainable.

You can see and hear what our farmers have been saying by going to the farming section of our website: www.pepsico.co.uk/farming

“Farmers can be part of the solution rather than part of the problem. We are all in it as a nation.”

Hear more about what Robert Balfour has to say about working with PepsiCo in our video at www.pepsico.co.uk/farming/global-challenge

“I don’t know any other company who has put so much effort into sustainability. PepsiCo really are focusing on the carbon footprint of farming and how to reduce it.”

Hear more of Gavin Janaway’s interview on our website. Log onto www.pepsico.co.uk/farming/the-future-of-farming

“Our relationship with PepsiCo has got closer and closer over the years. We’re currently working together on reducing our carbon footprint and on storage research.”

Robin Griffiths’ family have been working with PepsiCo for over 37 years. Listen to what Robin has to say at www.pepsico.co.uk/farming/global-challenge

PepsiCo’s agriculture team

Our agriculture team’s relationship with farmers is crucial to the success of our 50 in 5 initiative and to ensuring we have the best quality ingredients for our products.

The team work closely with farmers to understand the challenges of UK farming today and in the future. Partnerships with world leading research institutes such as University of Cambridge and University of Aberdeen also allow us to understand how and where our farmers are impacting most on the environment and focus on solutions, through investment in technology and developing best practice.

“PepsiCo is passionate about farming. We know that without high quality produce from sustainable farms we cannot make the great tasting products that people enjoy.”

“That’s why we share everything we learn with our farmers, and with them we are focused on our aim of 50 in 5.”

David Wilkinson, Agriculture Director, PepsiCo Europe
Achieving a sustainable future for agriculture requires collaboration with farmers and our supply chain, other businesses, government and non-government organisations. We are already engaged in the following partnerships:

- With the **Agricultural Development Advisory Service (ADAS)** we are investigating how to make agricultural practices more sustainable. Our findings will be published towards the end of 2010.
- With **Natural England** we are running 2 pilots to investigate biodiversity – one at a potato farm and another at an oat farm.
- As part of our work with the **Sustainable Food Lab** and **Sustainable Agriculture Initiative** we are piloting the Cool Farm Tool at our potato farms.
- **The Carbon Trust** helped us calculate the carbon footprint of Walkers Crisps and Quaker Oats – both of which now feature on-pack.
- **Through the Carbon Disclosure Project** we share carbon emissions data and best practice with the rest of the industry and beyond.
- The **Farm Energy Centre** is helping us develop low-energy storage units.
- We consult with **WWF-UK, National Trust** and other leading organisations to ensure our sustainable agriculture strategy is based on the most recent and robust science.

**Green Alliance**

“Agriculture doesn’t get the attention it deserves in our response to climate change. Supply chain collaboration of the sort illustrated in this report is essential to making progress. Government can help business and minimise the conflict between agriculture and the environment by facilitating the development of common measurement standards to identify the most significant environmental impacts in the supply chain.”

**Matthew Spencer,**
Director, Green Alliance

**Energy and Climate Change Select Committee, Chair**

“Agribusiness has a huge impact on our environment so it is vital that it should operate in a sustainable way. At a time of increasing concern about climate change the need to reduce greenhouse gas emissions is particularly urgent. I warmly welcome the recognition of this by many farmers and agricultural businesses and urge the industry to intensify its efforts in this direction.”

**Tim Yeo,**
MP for South Suffolk and Chair of the Energy and Climate Change Select Committee

**Forum for the Future**

“The food industry is starting to recognise that in order to fully embed sustainability and biodiversity in its business practices, a large part of the focus must be on the agricultural supply chain.

“In this respect PepsiCo UK has taken a leadership role in recognising that it is, at its heart, an agricultural business. The focus of the business on improving its key environmental impacts, such as greenhouse gas emissions – in the field and on the farm – is most welcome.”

**Peter Madden,**
Chief Executive, Forum for the Future

**Ethical Corporation**

“PepsiCo is really getting hold of the sustainable development agenda and integrating it into core business. I’m impressed by their vision, progress and clarity of communication”

**Toby Webb,**
Founder, Ethical Corporation

**WWF**

“The food industry is starting to recognise that in order to fully embed sustainability and biodiversity in its business practices, a large part of the focus must be on the agricultural supply chain.

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**Richard Perkins,**
Senior Commodities Adviser, World Wildlife Fund
Sustainability challenge: from farm to fork

Farming does not take place in isolation from broader trends in the economy or society. Delivering truly sustainable agriculture requires a comprehensive strategy that also tackles the wider issues.

**Renewable energy**

Britain’s current energy mix is too reliant on coal and other fossil fuels. The energy used by farmers to power their farms and equipment needs to be renewable and emit less CO₂e. We are monitoring technology advancements in renewable energy and we will encourage our farmers to invest in on-site renewable technology – such as anaerobic digesters and wind turbines.

**Water**

In areas of high water stress, businesses, farmers and consumers need to reduce the burden of their activities on the local watershed. Our farmers who operate in areas of high water stress are actively seeking ways to reduce the impact of applied water to the potato crop. We will also reduce water use at our manufacturing sites – helping us to unplug our largest factories from the water grid by 2018.

**Public policy**

Together with our stakeholders, such as Aldersgate Group, we are pressing for a higher carbon price and a legislative framework that encourages businesses to make their practices more environmentally sustainable. A higher carbon price and a carbon floor price to create market stability, will deliver a predictable financial return to businesses, making it easier to invest in the renewable technologies of the future.

**Consumers and retailers**

The way our products are transported, consumed and disposed of must also be sustainable. Our target is for all Walkers and Quaker packaging to be renewable, recyclable or biodegradable by 2018. We are reducing our road miles through a variety of initiatives and are a founding member of the Prince’s Countryside Fund which seeks to improve the viability of British agriculture and educate consumers on the importance of rural Britain.

Our Environmental Sustainability Report 2010 outlines in detail how we are tackling other elements of the sustainability challenge, to be published in late 2010.
Have your say

The future of UK farming is too important to be talked about behind closed doors. The issues being faced on UK farms affect us all, whether we live in the countryside or in cities. We want to encourage an open and lively conversation, with opinions coming from people all over the UK.

You can make your views known on our website: www.pepsico.co.uk/farming

Sustainable business

PepsiCo UK has published a number of reports like this one, setting out our commitments to reduce our impact on the environment, and for our future profit and growth to be from fruit, vegetables and grain by 2020. At PepsiCo, Performance with Purpose means delivering sustainable growth by investing in a healthier future for people and our planet.

Visit our website www.pepsico.co.uk

Safe Harbor Statement (regarding forward-looking statements):

Any forward-looking statements in this Report are made under the Safe Harbor provisions of the US Private Securities Litigation Reform Act of 1995. All of our forward-looking statements involve risks, uncertainties and assumptions.

If any such risks or uncertainties materialise or if any of the assumptions proves incorrect, our results could differ materially from the outcomes implied by the forward-looking statements made.
For further information on our current projects, visit our website:
www.pepsico.co.uk