Never before have we enjoyed such a rich variety of fresh produce from around the globe readily available in our shops and supermarkets. Advances in freighting and storage technology mean that food we once would only have been able to sample abroad, is now available on our doorsteps, with some 25,000 food ‘lines’ available in an average supermarket.19 But is there an environmental price to pay for this privilege?

‘Food miles’ represent the distance food has travelled from the place where it was produced to where it is consumed, or ‘from plough to plate’. Recent estimates suggest the food chain contributes at least 22% to the UK’s total emissions of the greenhouse gas carbon dioxide (CO₂)2 - some estimates place it at nearer 27%.5 The vast majority of this is directly caused by transporting our food, not just from the supermarket to our homes, but from growers to distributors and processors, and from there onto the supermarkets and shops. This includes freighting by air, sea and land - predominantly road rather than rail. Some 40% of all UK road freight is food related.5

If we continue to demand more convenient, more exotic and unseasonal food, our contribution to climate change through ever increasing food miles will grow.

In 1997, as part of the Breath Easy-Buy Local campaign, WEN produced a briefing on food transport. With what is now Sustain, WEN was one of the first organisations to highlight the issue in the UK.

**What you can do**

- **Grow your own.** If you don't have a garden, ask your local authority for details of allotments or join (or start!) a local growing group - contact WEN for details.
- **Eat seasonal food** - it’s more likely to be produced in the UK, so is easier to find and encourages biodiversity.
- **Support farmers’ markets and small local shops** who tend to source goods locally, particularly perishables. If they don’t, ask them to.
- **Buy local organic produce** where available and call on the UK government to do more to support organic farming.
- **When salad is in season, buy organic** and prepare your own, avoiding pre-packaged, prepared and chemically preserved options.
- **Slow down and enjoy preparing meals from raw ingredients** - good for your tummy, good for the environment and good for your soul! [www.slowfood.com](http://www.slowfood.com)
- **Try an organic delivery box scheme** - see [www.bigbarn.co.uk](http://www.bigbarn.co.uk)
- **Join or start a food co-operative** - contact WEN for details.
- **Lobby your supermarket to supply local produce.**
- **Support increased taxation on aviation fuel** - contact your local MP and ask what they are doing to reduce road and air freight.
- **Call for air and sea freight CO₂ emissions** to be counted in the UK and international inventories of greenhouse gases.
- **Wherever possible, walk, cycle or use public transport to get to the shops or local farmers’ market.**
- **Join WEN and our Taste of a Better Future network** for regular newsletters.
As huge swathes of land become dominated by a single crop, our current food culture means loss of biodiversity and increasing air pollution from the vehicles ferrying our food up and down the country. ‘Fresh’ produce has been shown to decline in nutritional value the longer it is left between harvesting and eating - as a general rule the sooner fruit and vegetables can be eaten after harvesting the better. Rather than flying in food from the other side of the planet, it is healthier to eat local, seasonal and preferably organic produce. Whilst not all local food is organic, it is less likely to have the extra chemicals used to preserve food during storage and transit.

Processed foods add to the problem (for example fish transported from Aberdeen to Cornwall to be smoked, or sprouts freighted from Kent to be processed in Scotland). The increase in demand for ‘convenience’ foods, pre-prepared highly processed and packaged meals, are also contributing to food miles. A supermarket lasagne for example may contain around 20 ingredients. Each of these is transported from different places to various parts of the country for processing and preparation before eventually ending up on your plate. This means a ‘ready’ meal may have travelled many more food miles than an identical meal prepared at home. Estimates suggest that processed food could require around 15 times more energy than non-processed food and this doesn’t include packaging - in 1997 one third of all waste was food packaging. We spend up to £15 billion on food packaging every year.

According to figures from the Department for Environment, Food and Rural Affairs 62% of the food we currently eat could be produced by British farmers. If we were to eat more native produce, this figure could increase to 75%. Yet in 2001 we imported 64 million litres of raw milk and exported 414 million litres. We import half a million tonnes of apples every year, even though apples grow well in the British climate; since 1970 around 60% of UK orchards have disappeared.

Carrots
Onions
Broccoli
Tomatoes
Mustard Greens
Lettuce
Coriander
Apples
Pears
Strawberries
Rhubarb

What’s in season when?

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<th>Jan</th>
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“Nobody’s counting how much emissions from air and sea freight contribute to greenhouse gases. They’re not included in the UK’s greenhouse gas inventory - or that of any country.”

A survey by the Food Standards Agency showed that 79% of main household shoppers are women.

Climate change is one of the greatest environmental problems facing the world today. Caused by increasing amounts of ‘greenhouse gases’ in our atmosphere, current predictions suggest a 2-4.5°C increase in the average global temperature this century. This has wide-reaching implications for famine and disease, increased frequency of extreme weather, with drought and flooding decreasing availability of agricultural land. In August 2003 over 25,000 people in Europe, including over 2,000 people in England and Wales, died as a result of the extreme heat. Nobody’s counting how much emissions from air and sea freight contribute to greenhouse gases. They’re not included in the UK’s greenhouse gas inventory - or that of any country. Nobody knows how much emissions would increase if the contribution from the food chain and other air and sea freight were included. Without figures, there’s little incentive for legislators to reduce emissions.

What’s in season when?

Months shown represent the peak season for produce. Regional weather differences and good storage mean some produce displayed may be available earlier and/or later than the dates displayed.
The CO₂ emissions from air freighting mange tout from Kenya will be the same whether they are organic or not. However non-organic food requires more energy in fertilizers and pesticides used in production.

**Choices, choices... what's best?**

When faced with the bewildering array of produce available today, how do we pick between them? Here’s a rough guide to the top five most ethical choices.

- **ORGANIC, LOCAL, SEASONAL**
  - Least environmental impact
- **LOCAL**
  - Reduce CO₂ and climate change
- **FAIRTRADE & ORGANIC**
  - Fair price to producer, no pesticide exposure to producer or consumer
- **ORGANIC**
  - No pesticide exposure to producer or consumer
- **FAIRTRADE**
  - Fair price and better working conditions for producer

The table (right), based on a typical Norfolk town, shows the effect of where we shop and what we buy on CO₂ emissions. Norfolk apples from the farmers’ market travelled only 24 food miles but caused 109 g of CO₂ emissions. It may seem odd that apples from the village shop travelled further but caused less CO₂ - until you factor in the average trip to the supermarket or farmers’ market is 9 km, whereas the average trip to the local shop is 1 km (under a mile). The average Briton travels 893 miles every year to shop for food. This short regular car journey to the supermarket or farmers’ market makes a difference and illustrates that, if you can, a walk to the nearest shop, farmers’ market or even supermarket is not only good for you but better for the planet.

The apples example demonstrates how sourcing apples abroad has a greater impact on climate change than growing apples in the UK. New Zealand apples are sea freighted the 17,840 km (11,086 miles) from New Zealand to a UK port, hence the comparatively ‘low’ emissions of 300 g CO₂. Mange tout, air freighted from Kenya, travel 7,187 km (4,466 miles) from the producer in Africa to your plate, a much shorter distance than the New Zealand apples. However, because of the massive contribution of air freighting to climate change (air freight produces 9 times more CO₂ than road freight, and 50 times more than shipping), for each kg of mange tout transported, an enormous 3,998 g CO₂ will be released.

<table>
<thead>
<tr>
<th>1kg apples...</th>
<th>Distance travelled</th>
<th>CO₂/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>... from New Zealand, bought in a supermarket</td>
<td>18,227 km (11,326 miles)</td>
<td>300</td>
</tr>
<tr>
<td>... from Kent, bought in a supermarket</td>
<td>359 km (223 miles)</td>
<td>120</td>
</tr>
<tr>
<td>... from Norfolk, bought at a farmers’ market</td>
<td>39 km (24 miles)</td>
<td>109</td>
</tr>
<tr>
<td>... from Norfolk, bought in a village shop</td>
<td>61 km (38 miles)</td>
<td>10</td>
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<tr>
<td>... from Norfolk, delivered in a box scheme</td>
<td>30 km (19 miles)</td>
<td>17</td>
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</table>

How much do we consume?

In 2000, the population of London alone consumed 6.9 million tonnes of food, equivalent to 0.94 tonnes per person. For an average 11 stone adult, this is equivalent to eating over 13 times their own body weight! A large amount of this food was imported from outside the UK. Londoners drink 94 million litres of mineral water every year. One of the most popular brands travels from the French Alps to the UK, a journey of around 760 km. Estimates suggest that every tonne of food consumed in London had travelled approximately 640 km, which means some 3,558,650,000 tonne-km of road freight was needed to fill London’s stomachs in 2000 alone. This is equivalent to travelling to the Moon and back 4,628 times!
Cheap food hides true cost

So why are we flying our food excessive distances when the British climate is ideally suited to growing much of it? Basically, it all comes down to money. Oddly, it is often cheaper to produce and import fresh fruit and vegetables from abroad, even accounting for transport costs, than it is to grow them here. We also demand cheap food - in the UK we spend a smaller proportion of our disposable income on food than any other European nation.

According to recent estimates, aviation fuel accounts for around 20% of all UK petrol consumption. Aviation fuel is artificially cheap because it is untaxed. A litre of petrol cost 80p in November 2000, a litre of aviation fuel cost 18p. The cost of airfreight falls by 3-4% every year.

It is not surprising that UK imports of fish and fruit/vegetables by air increased by 240% and 90% respectively between 1980-90. Figures controversially omitted from a recent environmental audit by the Office of National Statistics showed that between 1990-2002 freight increased by 59%. How sustainable is this? And can this be justified when the Government aims to cut emissions by 60% by 2050, and the Intergovernmental Panel on Climate Change says we need to cut greenhouse gas emissions by 60-80%? 2

A full list of references for this briefing (indicated by small numbers in the text) can be downloaded from the website.

About WEN
Women’s Environmental Network is a registered charity educating, informing and empowering women and men who care about the environment. It researches and campaigns on environmental and health issues from a female perspective.

Individual membership (women & men)
- £20 ordinary
- £12 unwaged
- £40 supporting
Affiliate membership (organisations)
- £35-150 depending on size.

The humble carrot

Carrots are one of the many vegetables ideally suited to growing in the British climate. So why do so many carrots travel 5,979 miles from South Africa? The current system is grossly energy inefficient - it takes 66 calories of fuel to air freight 1 calorie of carrot from South Africa, and 127 calories of fuel to fly in a single calorie of iceberg lettuce from Los Angeles.

Meat miles

Animals bred and slaughtered for meat in the UK are not immune from the phenomenon of food miles - even locally bred non-organic livestock may have been fed on fodder grown abroad and shipped in. These crops are referred to as ‘ghost acres’. In Brazil, for example, around 12 million acres of forest have been cut down to grow soya beans for European animal fodder.

By increasing demand for overseas crops from countries with a food-deficit, we are causing valuable land to be diverted from producing food for local consumption into producing food for export. This has huge negative implications for the people of these countries. Women are intricately involved in the (often unpaid) production of food to feed their families and communities, and use valuable local knowledge passed down through generations. Many of these women are now working 12 hour shifts with minimal breaks, little if any healthcare or sick pay, scant attention to health and safety, and no job security to prepare food destined for British plates.

Further reading & resources

CRed Carbon Reduction Plan www.cred-uk.org
Fairtrade Foundation www.fairtrade.org.uk
Soil Association www.soilassociation.org
Sustain: The alliance for better food & farming www.sustainweb.org
Eating Oil: Food Supply in a Changing Climate
Andy Jones, pub. by Sustain and Elm Farm Research Centre (2001) ISBN 1-903060-18-4
Wise Moves: Exploring the relationship between food, transport and CO2

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Produced by Jo Budd, Caroline Fernandez, Antonia James and Liz Sutton.
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