

briefing

WEN PO Box 30626 London E1 1TZ

T 020 7481 9004 F 020 7481 9144 food@wen.org.uk www.wen.org.uk

Sustainable Sustenance Food transport and the environment

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 $(CO_2)^2$ - 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



Why fly your food around the globe when you can grow it in your own back yard?

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 prepackaged, 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

- Try an organic delivery box scheme see 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.

Eat fresh, seasonal, local

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.⁴ 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).³ 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 nonprocessed food and this doesn't include packaging - in 1997 one third of all waste was food packaging.¹¹ We spend up to £15 billion on food packaging every year.¹²

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.^{2, 21} 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.¹⁸ 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.¹¹

"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.²⁰



An inner city harvest.

Climate change

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.9 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. 10

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.² 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.²³

What's in season when?___

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Carrots						-	-	-	-	-		
Onions									50	50		
Broccoli			-	-			-		-	-		
Tomatoes						(F	F	(F	(F	F		
Mustard Greens	15	15	10	15	10				15	10	15	100
Lettuce												
Coriander				1 Stofe	1St la	1Stofa	1St fa	1Stela	St. 10	St 10		
Apples									۲	۲	۲	۲
Pears									0	0	0	
Strawberries						CZ?	CZ3	CZ?				
Rhubarb	,	1	1	1	1	1						

2 Sustainable Sustenance, WEN, August 2004

Organic, fairtrade, local

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 CO_2 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 CO_2 emissions.⁵ 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.¹⁷ 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 Kenva, travel 7,187 km (4,466 miles) from the producer in Africa to your plate, a much shorter distance than the New Zealand apples.⁵ However,



because of the massive contribution of air freighting to climate change (air freight produces 9 times more CO_2 than road freight, and 50 times more than shipping⁴), for each kg of mange tout transported, an enormous 3,998 g $\rm CO_2$ will be released. ⁵

Children from Bigland Geen School, East London learn to grow herbs and vegetables with WEN.

5% of conventional UK farmers are women, compared to 50% of organic farmers.²²

1kg apples	Distance travelled	CO ₂ /g
from New Zealand, bought in a supermarket	18,227 km (11,326 miles)	300
from Kent, bought in a supermarket	359 km (223 miles)	120
from Norfolk, bought at a farmers' market	39 km (24 miles)	109
from Norfolk, bought in a village shop	61 km (38 miles)	10
from Norfolk, delivered in a box scheme	30 km (19 miles)	17

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!²⁴ 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.¹

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.¹ This is equivalent to travelling to the Moon and back 4,628 times! 6, 7

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?⁸ 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.⁴

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. ¹³ We also demand cheap food - in the UK we spend a smaller proportion of our disposable income on food than any other European nation. ¹³

According to recent estimates, aviation fuel accounts for around 20% of all UK petrol consumption. ² Aviation fuel is artificially cheap because it is untaxed. ² A litre of petrol cost 80p in November 2000, a litre of aviation fuel cost 18p. ⁴ The cost of airfreight falls by 3-4% every year. ⁵

It is not surprising that UK imports of fish and fruit/vegetables by air increased by 240% and 90% respectively between 1980-90.⁵ Figures controversially omitted from a recent environmental audit by the Office of National Statistics showed that between 1990-2002 freight increased by 59%.¹⁴ 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.

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.¹⁵

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

"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". 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. ¹⁶

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 Tara Garnett, pub. by Transport 2000 Trust (2003)

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

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

© Women's Environmental Network, August 2004 Printed on 100% recycled paper

Published by:



Women's Environmental Network

Supported by:

Esmee Fairbairn Foundation

ISBN 1-874137-15-3

Price 50p where sold

WEN PO Box 30626 London E1 1TZ

T 020 7481 9004 F 020 7481 9144 food@wen.org.uk www.wen.org.uk

Reg. Charity No. 1010397