



‘Food miles’ or ‘food minutes’

Is sustainability all in the timing?

A report of the Business Forum
meeting on 27th June 2007

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Introduction

Over the past two years, food businesses and the public have been deluged with reports on the environmental footprints of food supply chains. On the face of it, however, far from simplifying the task of ‘greening’ that footprint, these studies seem to have made it more complex. In particular, they have revealed that the contribution our food makes to climate change depends on how it is produced, processed and consumed, and not simply on how far it is transported.

The first meeting of the Food Ethics Council’s Business Forum asked how far a focus on timing could help cut through this complexity. Timing matters because the environmental impacts of producing, processing and distributing food depend in part on whether it is in season locally and on how quickly it perishes.

This report outlines points raised during the meeting. Contributions are not attributed. References have been omitted because the meeting discussed unpublished data and emerging findings. However, further information may be available from the Food Ethics Council (info@foodethicscouncil.org).

We are very grateful to our speakers, Gareth Edwards-Jones and Richard Perkins, to Julia Hailes for chairing and to all who attended. Speakers’ biographies are appended. The meeting was held at the Acorn House restaurant in London.

This report was prepared by Tom MacMillan. It does not represent the views of the Food Ethics Council, the Business Forum or their members.

Key points

- Whether fruits and vegetables are **in season** locally can be *the* major factor in their energy use and contribution to climate change.
- The high global warming potential of out-of-season produce may arise from **production** (e.g. heated greenhouses), **transport** (e.g. air-freight of highly perishable goods) or **storage** (e.g. through processing or atmospheric control).
- The environmental footprint of food varies through the seasons as well as by place and method of production – **carbon labels** need to represent this variability in order to drive innovation.
- Data and analysis comparing the environmental footprints of alternative supply chains warrant careful scrutiny – recent marketing claims that it is better for the environment for UK consumers to eat **lamb from New Zealand**, instead of from the UK, are a case in point.
- While ‘food miles’ are not a simple indicator of sustainability, the concept may be useful in helping businesses **communicate** environmental issues with their customers.

Seasonality

Whether 'fresh' produce is in season where it is consumed can be a major factor affecting its global warming potential and energy use. For example, research comparing apples produced and consumed within the EU against those imported from the southern hemisphere shows that:

- Apples produced and consumed in the same EU country use less energy than those imported from New Zealand in October, January and April.
- In August, there is uncertainty over which use less energy.
- The energy use of EU apples rises through the year, from harvest in October through to August, because storage is a major energy user.

Where out-of-season fruit and vegetables cannot be stored, production processes or air-freight distribution can be the major energy uses. However, differences in energy use arising from different production methods (e.g. energy saving technology in greenhouses) can exceed seasonal variability.

Data was not presented for seasonal variation in the environmental footprints of heavily processed foods. Preservation through processing can overcome seasonality and delay perishability, but at an energy cost.

Supply chain hotspots

Life cycle analysis (LCA) can assess the environmental footprint of a product

upstream and downstream of production. It can take account of the environmental footprint of agricultural inputs such as fertilizer and of consumer behaviour, for example.

Energy use and the way it is apportioned along the supply chain varies considerably according to the food product, seasonality, provenance, processing, production method and many other factors.

Nevertheless, LCA studies to date suggest that transport and distribution are often relatively small contributors to a product's global warming potential. Production, notably the use of nitrogen fertilisers and carbon release from soil, is often a major contributor. Home cooking can account for the largest share of some products' global warming potential, though commercial catering can be highly inefficient if equipment runs at full capacity through times of low demand.

Although confirmed data on the level of pre- and post-consumer waste were not available the meeting, the waste of food due to mistimed orders and perishability is thought by Defra to be substantial. This has major environmental consequences in addition to the direct effects of waste-handling due to the loss of energy and other resources embodied in wasted food.

Setting priorities

LCA can inform priorities for sustainable supply chain management. For example, it may be easier to reduce the footprint of a product by reducing food waste than by improving distribution efficiency. For example, when Young's transferred their processing for seafood fished off the coast

of Scotland from a mechanised Scottish plant to hand de-shelling in Thailand, the lower waste from hand de-shelling reportedly more than offset the extra shipping, lowering the overall carbon footprint.

In setting priorities for sustainable supply chains, it is important to consider that:

- There are other environmental impacts besides energy use and climate change. Other priority issues in production include water pollution, water depletion, toxicity through pesticides, biodiversity loss and soil deterioration. Meanwhile, transport causes localised pollution even when its contribution to climate change is relatively modest.
- There are other dimensions of sustainability besides these environmental impacts, including the effects of food supply on the health of workers, community wellbeing and rural development.
- While such impacts can be studied in detail using tools such as LCA, the capacity of supply chain managers and customers to make complex trade-offs is limited, so it is important to identify clear win-wins, such as promoting seasonal produce and reducing fertiliser use.

Dubious data

Although tools such as LCA can be immensely valuable, they are open to manipulation and must be used with care. LCA was developed by engineers and is not well-suited to biological systems. The

use of internationally standardised data in LCA sits uneasily in agriculture, where soil variations within the same field may give otherwise similar products a vastly different environmental footprint.

A high-profile recent marketing claim that LCA showed New Zealand (NZ) lamb imported to the UK to be better for the environment than UK lamb illustrates these risks. The underlying research failed to compare like with like: the NZ analysis was based on survey data of production methods whereas the UK analysis drew on recommended practice, even though actual agricultural inputs are often much lower than recommendations. Contrary to the marketing claims, it therefore may not be true that lamb from NZ results in fewer carbon emissions than lamb produced in the UK for the UK market. Further research is on-going to clarify these issues.

This example shows how important it is to scrutinise research-based claims about sustainability. It also demonstrates that the funding of research affects its credibility. Multi-stakeholder research funding initiatives can therefore make a valuable contribution to promoting sustainable supply chains.

Carbon labels also face problems relating to the aggregation and standardisation of data. Common standards are necessary if businesses and consumers are to make useful comparisons between one carbon label and another, and aggregation is necessary in order to produce a meaningful and consistent label out of an array of complex variables. However, standardising and aggregating data hides important differences, say between different methods of producing the same product. By contrast, measuring and

communicating such differences creates an incentive for producers to innovate.

A further problem with carbon labels is that, to date, they do not consider emissions from soil, which in many cases are major sources of carbon.

Challenges for business

The past eighteen months have seen an upsurge of interest in sustainability within the food sector, particularly among supermarkets. It is because sustainability is now seen as a competitive issue that it has risen up the agenda. While this is welcome, a competitive response to environmental and social issues is not sufficient to promote sustainable supply chains, and the public and political pressure on businesses to do more is expected to rise. The challenges for businesses are to:

- Identify environmentally significant issues over which they can co-operate.
- Prioritise big wins, such as reducing fertiliser use, rather than going for comprehensive laundry lists.
- Incorporate sustainability criteria further into management systems, particularly in retail buying which is a major point of leverage.
- Lobby public authorities to ensure they address problems that the supply chain cannot.

Businesses share responsibility for sustainable food and farming not only with public authorities but also with consumers, and the way businesses and consumers communicate is vital to

success. Consumers need to be involved and to feel ownership of initiatives to promote sustainable production and consumption, not least because their behaviour around sustainability issues presents major risks and opportunities to businesses. Yet it is unrealistic to expect consumers to balance complex sustainability criteria every time they choose their dinner.

‘Choice editing’, whereby businesses make environmentally and socially sound sourcing decisions on behalf of their customers, is therefore a particularly important trend. Examples include the decision by Wal-Mart in the USA to stock only fish certified as sustainable by the Marine Stewardship Council. Choice editing can strengthen brands by reinforcing consumer trust.

The language in which businesses talk about sustainability and ethical issues with consumers also matters. The Co-op sells a greater proportion of free range eggs than most other retailers. This is partly because when they introduced ‘free range’ labelling they marked other eggs as being ‘from caged hens’. Another example of how important language can be is the concept of ‘food miles’ – while not a simple indicator of sustainability, it may be useful in helping businesses communicate environmental issues with their customers.

Surveys show that most consumers say price is more important than freshness, origin and environmental issues when it comes to buying food. They also show that consumers are most interested in issues that affect their health or that of their families. Where greater sustainability also promotes consumer health, it is important for businesses to tell that story.

Open questions

While the meeting highlighted immediate priorities for improving the environmental performance of the food sector, it did not discuss targets:

- How far do we need to cut the environmental footprint of our food system?
- Is it enough to improve the efficiency of existing supply chains?
- In a sustainable world, what share of our carbon budget would we want the food system to take up?

The food sector's environmental priorities are ultimately shaped by the sustainable development targets that the sector is expected to meet. These targets hinge on complex trade-offs, which need to be negotiated through ongoing dialogue between the business community, governments and the public.

Speaker biographies



Julia Hailes MBE is a leading opinion former, consultant and speaker on social, environmental and ethical issues. She has worked with a number of blue chip companies, including British Airways, Procter & Gamble and Marks & Spencer. In 1987 she co-founded SustainAbility Ltd, a think tank and consultancy company, where she was a director until 1994, when she started working freelance from her home in Somerset. Julia is co-author of eight books, including the number one best-selling *Green consumer guide*, which sold over a million copies worldwide and *The new foods guide* published in 1999. *The new green consumer guide* is published in May 2007. She is a member of the Food Ethics Council. (www.juliahailes.com)



Gareth Edwards-Jones is Professor of Agriculture & Land-Use Studies at the University of Wales, Bangor. He leads a major research project on *The comparative merits of consuming vegetables produced locally and overseas*. The research, funded by the UK's £25 million-plus Rural Economy and Land Use programme, aims to bring the natural and social sciences to bear on claims about the benefits of 'eating locally'. Gareth is a prominent figure in public and policy debates on 'food miles'.



Richard Perkins has worked for the last eight years on agriculture and the environment at WWF, the global environment organisation. Following a decade of work on CAP and WTO reform, Richard has helped in the last five years establish global multi-stakeholder forums to measurably improve the key environmental and social impacts of sugarcane and cotton production. Since December 2000 he has sat on Unilever's Sustainable Agriculture Advisory Board. He is developing and promoting indicators to measure what matters in the relationship between agriculture and the environment. Asked to sum him up in just one word, a close colleague chose acerbic.

About the Business Forum

Ethical questions around climate change, obesity and new technologies are becoming core concerns for food businesses. We have launched the Business Forum to help senior executives gain expert insights into the big issues of the day. Membership is by invitation only and is strictly limited.

Forum members set the meeting agenda. The outstanding speakers who have agreed to lead forum discussions include:

- **Sir Don Curry**, senior advisor on food and farming;
- **Will Hutton**, Chief Executive of The Work Foundation;
- **Paul Whitehouse**, Chair of the Gangmasters' Licensing Authority;
- **Stephen Joseph OBE**, Executive Director of Transport 2000;
- **Shaun Spiers**, Chief Executive of the Campaign to Protect Rural England; and
- **Professor Richard Jones**, author of *Soft Machines: Nanotechnology for Life*.

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