

LOWER-CARBON FOOD



REDUCING carbon dioxide emissions often gets a mention in transport policy debates, but is rarely the main focus. The recent *Wise Moves* report from

Transport 2000, focusing on food transportation, represents an admirable start in engaging with this vital but overlooked topic. There have been a number of studies highlighting the self-evident environmental nonsense of, for example, shipping in apples from New Zealand while ploughing them into the ground in Kent. However, this report argues that reducing emissions from food production and consumption is actually a highly complex challenge.

In general, the food sector is estimated to account for 22 per cent of UK carbon dioxide (CO₂) emissions. Of this, 3.5 per cent of UK emissions are estimated to come from the associated transportation. However, the UK's greenhouse gas inventory does not take account of emissions generated before imported products reach the UK, consequently giving a substantial underestimate of overall impacts. One study of apples suggests that, on average, the amount of CO₂ emitted in transporting apples to the UK is three and half times as much that emitted transporting them within the UK.

Currently, national government's approach to food transportation has focused on increasing the efficiency of the freight sector. Initiatives have included driver training, improvements in vehicle design, discouraging partial loading, trying to improve fleet management through greater use of ICT

(information communication technology), and promoting cleaner and alternative fuels. However, the *Wise Moves* report concludes that, while these initiatives are important, and should continue, they will not be sufficient to deliver the 60-80 per cent cuts in CO₂ emissions required by 2050 (according to the Intergovernmental Panel on Climate Change).

In contrast, many lobby organisations have focused on 'reducing food miles', as the best way of tackling carbon dioxide emissions. Basically, the argument is that food should travel shorter distances, with less international sourcing and increased localisation (with, for example, local farms supplying local independent stores). To assess this argument, the *Wise Moves* project commissioned studies of six products (white sliced bread, cheddar cheese, chicken in whole-carcass form, cherries, iceberg lettuce, and Braeburn apples).

It found that the evidence does, on the whole, support the concept of food miles (i.e. that food which travels shorter distances usually generates less emissions). There can, however, be important exceptions and qualifications to this general conclusion. For example, a supermarket which receives cheese from both a local supplier and a regional distribution centre may need to use two partially loaded lorries instead of one full lorry. Tomatoes which are grown in energy-intensive conditions in the Netherlands may generate more emissions than 'naturally grown' tomatoes from Spain, even though they travel shorter distances.

As a result, the report refines some of the concepts. In particular, it argues for 'seasonal and indigenous' food, which it defines as 'fresh produce grown during its natural growing

season well adapted to UK growing conditions'. To facilitate this, it argues that regional food sourcing strategies are likely to be more efficient (in emissions terms) than local food sourcing strategies. Greater acceptance by both customers and supermarkets that stock will vary throughout the year and greater awareness of the substitutability of products are also highlighted. For example, instead of using either tomatoes from Spain or the Netherlands in a sandwich, it may be more efficient to use locally produced beetroot. Swapping 'hothouse' iceberg lettuce for hardier varieties like lambs lettuce or sorrel is suggested as another emissions-reducing alternative.

The mode of transport is also important. In terms of emissions per tonne-kilometre airfreight is usually less efficient than road freight, which is less efficient than railfreight, which is less efficient than shipping. The difference can be a factor of 100 or more. Moreover, it is a myth that airfreighted foodstuffs usually travel on passenger craft. Instead, they are largely transported in dedicated vehicles. Consequently, the report makes a strong case in support of a European or internationally applied aviation emissions charge, and for a review of airport expansion proposals which are based on a projected increase in freight movements.

The storage of food is also highly important, given the high energy consumption of refrigeration units. This is a particular issue for processed foods – where it clearly makes sense for the constituent ingredients to be grown or produced nearby, rather than, for example, transported long distances in temperature-controlled conditions to be





20 per cent of total food transport emissions, while other studies have suggested that the figure may be as high as 50 per cent. Recent research on home delivery of shopping highlights that there are major efficiency gains from one vehicle delivering bulk grocery shopping for a number of households (compared with lots of individual cars driving backwards and forwards). Consequently, measures to promote home-shopping could have a substantial impact on reducing food transport emissions. Rejuvenating local shops (whether independent or multiple owned) to sell the fresh, perishable goods that people tend to buy more frequently could also be of major benefit, particularly if people then walk or cycle to buy them instead of driving.

Finally, more general policies on freight transport (such as the 2006 lorry charge), on energy (such as the Climate Change Levy and associated reduction in employees' National Insurance Contributions), and on farming (as pursued, for example, in the follow-on measures to the Curry report) will also have a role to play. The *Wise Moves* report argues that the Government should issue a general challenge to the food industry to reduce field-to-store CO₂ emissions by 20 per cent over the next ten years, partly to shift responsibility to the food industry for identifying the most efficient ways to achieve this.

As reports go, this particular document represents a fascinating spectrum of general and specific argument, ranging from comments on international trade agreements through to minute detail about particular products. When reading about the specifics of cherry transportation, it is easy to wonder 'does this matter?'. And yet, if we are to address climate change, it is vital to develop policies which will genuinely result in a lower-carbon future, and to do this it is necessary to move beyond generalities to understand the detail of how things work.

Associated with domesticity and mundanity, food is often not taken seriously. However, it is one of the most fundamental parts of everyday life, and reducing carbon emissions from this sector must play an essential part in averting the global threat posed by climate change. The *Wise Moves* report represents a impressive first attempt at tackling the problem. ■

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Note

1 T. Garnett: *Wise Moves: Exploring the Relationship Between Food, Transport and CO₂* Transport 2000 Trust, London, 2003

converted into a non-temperature-dependent product. In some cases, there could be clear synergy with policies to promote fair trade, since this would encourage more processing of products in developing countries (which also tends to be the value-adding stage).

The report also speculates on other policies. One issue is whether consumers can be persuaded to purchase and demand 'lower-carbon food'. Comparisons with organic and Fairtrade products are made. These are small but growing markets: for example, Fairtrade coffee now accounts for 14 per cent of all coffee sales, and organic baby food constitutes 50 per cent of baby food sales. It is argued that consumers are increasingly concerned about the healthiness of what they buy (fuelled by developments like the BSE scare and the recent court case against McDonalds), and that the concept of 'seasonal and indigenous' food could legitimately and successfully be partly marketed as healthier food.

In responding to the report, Mike Barry, the Sustainable Development Manager for Marks & Spencer, stated that labelling food as 'British' is already seen as a way of increasing sales, which most of the supermarkets are therefore doing. However, critics of the supermarkets argue that they have still not been sufficiently proactive in choosing to stock British products in preference to imported goods, and that (perhaps apart from soup manufacturers) there has been no attempt to market the concept of seasonality.

Mike Barry argues that developing a 'seasonal and indigenous' brand could be an important way of achieving the otherwise bewildering task of labelling the 30,000-40,000 products that typically occupy a supermarket's

shelves. Such a brand could also be applied to ready meals, pre-made sandwiches, etc. Other commentators suggest that high-profile television chefs could help by promoting more sustainable recipes.

Meanwhile, the *Wise Moves* report highlights the need to consider 'lower-carbon food' in wider initiatives. For example, the Department of Health's initiative to promote eating five portions of fruit and vegetables a day is clearly laudable. However, the report notes that 'it does not represent joined up thinking to promote Vitamin C rich air-freighted blueberries, if, in the process, we undermine Government's own climate change objectives'. Instead, more appropriate products could be advocated.

'Lower-carbon food' could also feature more in public procurement decisions. Currently, the NHS food bill alone comes to about £500 million, and food purchasing decisions are also made in local authorities, schools, prisons, etc. Currently, EU public procurement regulations represent a significant obstacle, since they prevent discrimination against a supplier on the grounds of location or nationality and do not allow a purchasing authority to take broad 'social' costs into account. However, it is possible to develop procurement contracts which specify that products meet certain environmental requirements. The current DEFRA review of how the public sector obtains its food and catering services (which will include a consideration of energy issues) is considered a positive development.

The transport of groceries from shops to home is also important. The *Wise Moves* study estimates that this accounts for about