



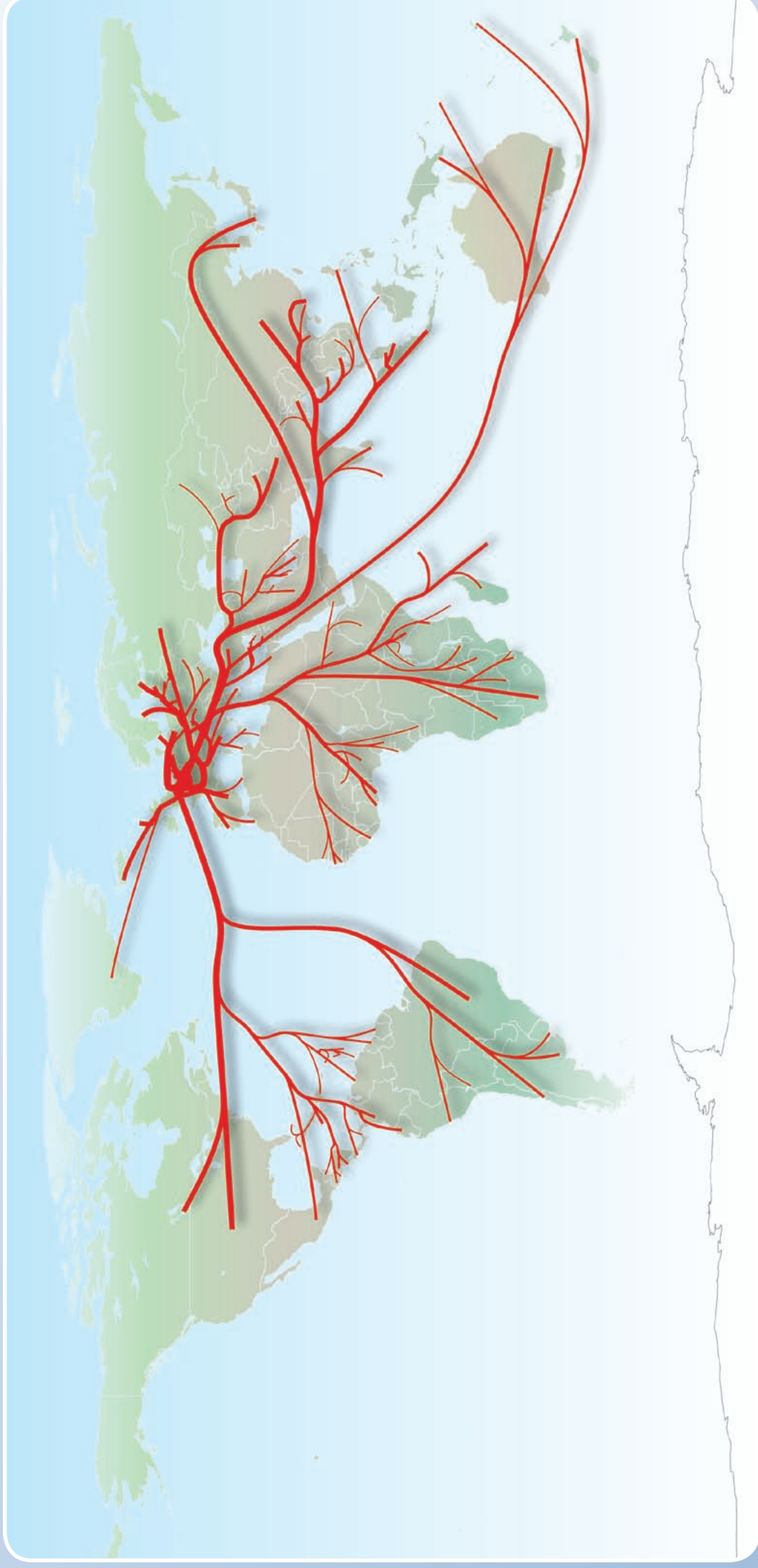
# THE UK INTERDEPENDENCE REPORT

How the world sustains the nation's lifestyles and the price it pays

Part of the Interdependence Day project – *new maps for an island planet*

INCLUDES THE  
ECOLOGICAL DEBT  
CALENDAR

## The UK's global ecological footprint



The United Kingdom consumes products from around the world creating a large ecological footprint. The footprint measures natural resources by the amount of land area required to provide them. This map shows flow lines for imported resources that make up our footprint. To attribute impacts properly to the UK consumer, the area required to produce imported goods – a standardised measure of resource use called global hectares or gha - is subtracted from the footprint of the producing countries and is added to the UK's account. The map is based on data for the total footprint of imports, and summed across product categories (see the centre pages for examples of selected resources). NB: Europe as a source of products is shown disproportionately large because adjustments are not made for re-exports due to the complications of tracing certain goods. This may create a bias suggesting that more raw resources come from European ports when in fact it was merely their most recent port of call on their way from the original source.



The UK has the world's fourth-largest economy.<sup>1</sup> This report exposes for the first time how the burden of the nation's high-consuming lifestyle is exported around the globe. It also describes our increasing global interdependence.

The clearest demonstration comes from looking at the day in a typical calendar year when, in effect, we stop relying on our own natural resources to support ourselves, and start to live off the rest of the world. The moment we begin living beyond our environmental means is what we call our ecological debt day. At current levels of natural resource use in the UK, the average person goes into ecological debt on 16 April. As our total consumption grows, it moves ever earlier in the year. In 1961 it was 9 July, advancing to 14 May in 1981.

## Contents

Summary – the rise of UK interdependence	2	<b>In the colour section</b>	
The UK interdependence report	4	UK interdependence: how many planets have you got?	15
Interdependence – a brief history	6	Commodity flow maps: chocolate, apples, lumber, fish, sugar office machines, cement, cut flowers	15–18
Cultural flows	7	The UK goes shopping: where the things we consume come from	16–17
Food	8	Ecological debt day calendar	18
Film and television	8		
Sport	9		
People flows	11		
A new global feudalism	12		
Health	14		
Education	19		
Trade, energy and financial flows	20		
Trade	20		
Lorries passing in the night: ecologically wasteful trade	22		
Perverse financial flows	24		
Energy and carbon emissions	25		
Conclusions	28		
Notes/Annex 1	29		
Endnotes	31		

# Summary – the rise of UK interdependence

The UK has the world's fourth-largest economy.<sup>2</sup> This report exposes for the first time how the burden of the nation's high-consuming lifestyle is exported around the globe. It also describes our increasing global interdependence.

The clearest demonstration comes from looking at the day in a typical calendar year when, in effect, we stop relying on our own natural resources to support ourselves, and start to live off the rest of the world. **The moment we begin living beyond our environmental means is what we call our ecological debt day. At current levels of natural resource use in the UK, the average person goes into ecological debt on 16 April. As our total consumption grows, it moves ever earlier in the year. In 1961 it was 9 July, advancing to 14 May in 1981.**

**The world as a whole is also living beyond its ecosystems' capacity to regenerate and now goes into debt on 23 October.** Looking back, if the whole world had wanted to share UK lifestyles in 1961, the Earth would just have managed with its available resources – one planet would have been enough. But today, if the whole world wanted lifestyles like those enjoyed in the UK we would need 3.1 planets. The *UK Interdependence Report* is the beginning of a new initiative called *Interdependence Day*. Over the coming years it will map changing patterns of interdependence and highlight the opportunities and threats that emerge. This report reveals many issues and trends, both good and bad, that we already face.

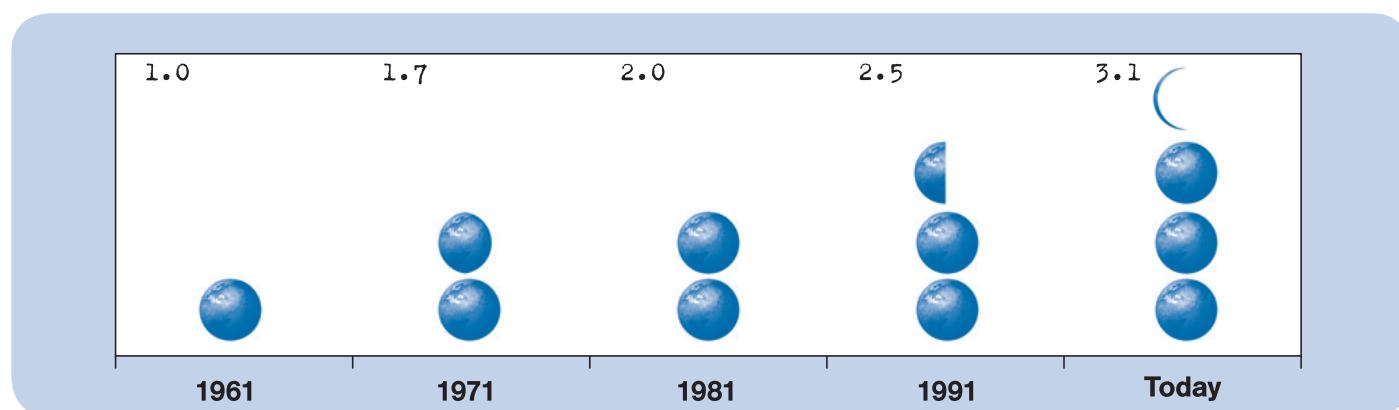
- **Declining UK food self-sufficiency:** The UK's self-sufficiency in providing food has been falling steadily since the mid-1990s. According to the most recent statistics available (and allowing for changes in the way the Government calculates its figures), our domestic production of indigenous food now appears to have hit its lowest point for half a century, making us increasingly dependent on imports.
- **Decreasing UK energy independence:** The UK has huge untapped renewable energy sources. Also a shift to more decentralised energy generation coupled with other efficiency measures could radically reduce the amount of energy needed. But due to its continuing dependence on fossil fuels, rising demand, and inefficient supply, the UK lost its energy independence in 2004, and came to rely on imports to balance supply and demand.
- **Increased UK dependence on trade:** For the last 30 years the UK economy has grown increasingly interdependent with the rest of the world. Since the mid-1970s international trade has made up a growing share of the UK's income. Trade now accounts for nearly half the value of its UK GDP, and the ratio of trade to GDP rose 77 per cent in the three decades up to 2004.
- **Ecologically wasteful trade:** Against a background of rising oil prices and pressure to reduce greenhouse gas emissions because of climate change, much of this trade seems highly inefficient. Identical products are being shipped backwards and forwards with heavy environmental costs, as the random examples in Table 1 show (2004).<sup>3</sup>
- **Rising dependence on health and education workers from poor countries:** Contrary to the popular myth of the UK being a soft-touch for health tourists, the UK's health service increasingly relies on attracting a growing number of health professionals from around the world. Trained at public expense in their

**Table 1: Ecologically wasteful trade**

Product	Import (total or country)	Export
Gingerbread	465t	460t
Fresh boneless chicken	44,000t	51,000t
Chocolate covered waffles	17,200t	17,600t
Milk and cream	10,200t (France)	9,900t (France)
Potatoes	1,500t (Germany)	1,500t (Germany)

**Source:** uktradeinfo 2005

**Figure 1: The UK's growing ecological footprint: number of planets needed to support the whole world at UK levels of consumption**



The nation's high-consuming lifestyles are only possible because the rest of the world supports us with large supplies of their natural resources. The way we live also sets a model of materialism that many people in much poorer countries understandably seek to emulate. Forty years ago, if the whole world wanted to copy the UK, the Earth could just have supported the demand on its ecosystems. But the UK's consumption levels have risen steadily. Today, if everyone consumed as much as the average UK citizen, we would need more than three planets like Earth to support them. To live within our overall environmental means, and give people around the world a chance to meet their needs, means the UK will have to reduce the burden its lifestyles create.

countries of origin, many of these come from very poor countries whose own health services can ill afford to lose them. New admissions to the nursing register from abroad trebled last year compared with 1998–99. Nursing staff came from Malawi, Zambia, Sierra Leone, Botswana, and Ghana, among other countries. UK aid to the health sector in Sub-Saharan Africa also increased, raising a question about how much of the benefits of that aid stay in the country targeted. The number of non-UK teachers working in English schools also rose by more than 250 per cent between 2000 and 2004.

- The global trade in sporting muscle, and our love of foreign food and films:** There are other less obvious ways in which our interdependence expresses itself. As entertainment sport is one of our biggest cultural industries. But self-sufficiency at the top of our most economically powerful game, football, is also at low ebb. In October 2005, half of the players in the English Premiership came from outside the UK. In one team, Arsenal, 85 per cent of players were non-UK. On our broader cultural horizons, ethnic restaurants provide 38 per cent of the UK fast-food market, most being Indian and Chinese. And, even though film and television imports from the US dominate our cultural trade balance, between 2000 and 2004 there were still 654 foreign-language films released in the UK, making up one-third of all releases.
- Whether the UK is an important aid donor or a haven for money on the run?** The UK Government proudly champions campaigns for international poverty reduction and its aid budget has gone from \$4.5 billion in 2000 to \$6.2 billion in 2004.<sup>4</sup> But another barely noticed trend suggests a more complex picture. Money from developing countries deposited in UK banks surged by over \$115 billion in 2005 alone to reach a total of \$385 billion, raising intriguing questions.<sup>5</sup> The rise in deposits since 2000 from just one country, Nigeria, is bigger than the growth in UK aid over much of the same period. Different factors are likely to be at play in each country but, generally, both the creeping removal of controls over the movement of money around the world, and capital flight are probable factors.<sup>6</sup>

The rest of this report draws a picture of the state of the UK's interdependence early in a new millennium. What emerges is mixed. At times it is troubling in terms of the burden the UK puts on the rest of the world, and because of the frequently bizarre and whimsical reasons for us doing so. But it is also a reassuring picture of how life in the UK is immeasurably enriched by the cultures that flow to it. It is a sobering reminder of how many of the services we depend on simply could not function without the skilled and unskilled workers who come from countries less comfortable than our own. Above all, it raises huge questions about how radically the UK's patterns of interdependence will have to change if our economy and lifestyles are to become remotely sustainable.

# The UK interdependence report

“I do not want my house to be walled in or my windows blocked. I want the cultures of all lands to be blown about the house as freely as possible. But also I refuse to be blown off my feet by any.”

**Mahatma Gandhi**

“Before you finish eating breakfast this morning, you’ve depended on more than half the world.”

**Martin Luther King**

“No man is an island, entire of itself; every man is a piece of the continent, a part of the main. If a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friend’s or of thine own were. Any man’s death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee.”

**John Donne (1573-1631)**

***Devotions Upon Emergent Occasions, 1624.*<sup>7</sup>**

“Only connect!”

**E.M. Forster, *Howards End***

## Overview

Ideas of independence are part of the national psyche, so acute that UK politics is divided by how we relate to Europe. Being an island nation bequeaths us a paradox. Geographical separation feeds our self-image as a country apart, but also makes us more vulnerable and dependent on the rest of the world for things that we cannot produce at home. Such relationships are controversial and confused by history. While the Queen apologised for aspects of our colonial past, Gordon Brown, the Chancellor of the Exchequer, went on record to say we had nothing to apologise for.

The *UK Interdependence Report* creates a pocket map of the UK’s give-and-take with the rest of the world. It shows that the reality of our interdependence can be at the same time rewarding, surprising, even amusing and, in environmental terms, deeply unsustainable.

Is the UK’s current pattern of global interdependence a force for good, an enlightened modern *pax Britannica*, or does it place a burden on the rest of the world and set a lifestyle example that, if copied, would be environmentally

disastrous? This report reveals for the first time how the load of the UK's high-consuming lifestyle is exported around the world. It also shows the extent of our substantial interdependence with other nations.

The clearest demonstration comes from looking at the day in a typical calendar year when, in effect, we stop relying on our own natural resources to support ourselves, and start to live off the rest of the world.

This is when we begin living beyond our environmental means – our ecological debt day. At our current levels of natural resource use, and based on the most recently available figures, the UK goes into ecological debt on 16 April. After that, we start consuming more than our own fields, seas, rivers, forests, and mines can provide, and begin to depend on the rest of the world to maintain our lifestyles.

On one level there is absolutely nothing wrong with importing goods and services to meet our needs; but on another there is a big problem. To sustain the whole world's population at UK levels of consuming it would need more than three planets like Earth. But we only have one. So while, per person, we take an unfair share of available ecological capacity we do two bad things: first, ecosystems get pushed to the point of cracking and fail to regenerate, and second, we take up the space that less materially well-off people need to improve their lot.

### **What does it mean to be an ecological debtor nation?**

Contrary to our national self-image as leaders of the global anti-poverty campaign, being an ecological debtor nation shows how some of the world's poorest people and poorest countries effectively finance our way of life. The full picture emerges through the scale of natural resources that we soak up, through the skilled professionals and manual labourers who come to the UK to keep our economy and health and education services running, and it shows in the burden of waste that we dump back into the global environment. A potent reminder is the UK's acute vulnerability to new strains of flu virus that might begin by wiping out ailing flocks of birds in Asia.

There is nothing new in noting our ecological interdependence, yet the issues of climate change and accelerating loss of the world's biodiversity raise the stakes. These issues demand that those developed nations that are running up a big ecological overdraft take a long hard look at themselves. The scientific consensus is now solid: our high-consumption lifestyle is feeding extreme heat waves and cold snaps that are the result of the growing climate chaos of global warming. Less apocalyptically, we now take for granted the year-round luxury of exotic fruit and vegetables that soak up the precious water and soil fertility of developing countries.

The relationships between consuming nations (ecological debtors) and the generally poor nations that provide their ecological resources (ecological creditors) will undoubtedly shape the next 100 years.

The existence of international trade in ecological goods and services means that nations, unlike the planet as a whole, need not be ecologically autonomous to be sustainable. Nations can import and export goods, but the planet cannot.

Rich countries have seen remarkable local environmental improvements in recent decades. In places like London, which was famous for its toxic fogs, air and water quality have improved beyond recognition. In many ways, though, this has only been possible because the mining and manufacturing that feed rich-country lifestyles increasingly takes place elsewhere. By and large, pollution and resource depletion no longer occur within eyesight or earshot of the final consumers. The ecological burdens created by the way we live have become hidden.

## Box 1: Interdependence – a brief history

‘From Nature’s chain whatever link you strike,  
Tenth or ten thousandth, breaks the chain alike.’

**Alexander Pope (1688–1744), Essay on Man**

Cultural awareness of interdependence can be traced back at least as far as the depiction of city life depending on its rural hinterland in Virgil’s Eclogues written over two thousand years ago. It is much more recent, however, as a conscious political dynamic.

During India’s struggle to escape British colonial rule in the first half of the 20th century Gandhi, who led the independence movement, understood and went to great lengths to demonstrate the simultaneous importance of interdependence. In 1929 he said:

“Interdependence is and ought to be as much the ideal of man as self-sufficiency. Man is a social being... If man were so placed or could so place himself as to be absolutely above all dependence on his fellow beings he would become so proud and arrogant as to be a veritable burden and nuisance to the world.”<sup>8</sup>

Shortly after, on 4 March 1933, catching an emerging mood of the time, Franklin Roosevelt used these words in his inaugural presidential address, “If I read the temper of our people correctly, we now realize as we have never realized before our interdependence on each other; that we cannot merely take but we must give as well,” before dedicating himself to a “disciplined attack upon our common problems”.

If you had Googled ‘declaration of interdependence’ in January 2006, you would have found 46,000 references. The earliest clear example of such a specific initiative relates to attempts to promote racial tolerance in the US in the mid-1940s. The American writer and philosopher Will Durant led a campaign that culminated in his ‘Declaration of INTERdependence’ entering the Congressional Record in 1949.



After that, the Canadian author and guru Marshall McLuhan saw the writing on the wall for the next great wave of economic globalisation led by communication technologies. “The new electronic interdependence,” he wrote in 1962, “recreates the world in the image of a global village”.<sup>9</sup>

Since then, the use of the idea has exploded. Among many others, there are now declarations of interdependence for the transportation community ([www.thedeclaration.org](http://www.thedeclaration.org)), from food companies ([www.wholefoodsmarket.com](http://www.wholefoodsmarket.com)), and to promote management consultants ([www.agilemanagement.net](http://www.agilemanagement.net)). If anything, the idea risks being trivialised.

Many, though, capture the spirit of the idea. Environmental group the David Suzuki Foundation launched one at the 1992 Earth Summit in Rio de Janeiro.<sup>10</sup> And another admirably brief and to the point from little-known US group, the Co-Intelligence Institute, begins: “We hold this truth to be self-evident / We are All / In This / Together.”<sup>11</sup>

So much voluntary activity has spilled over into the official domain. A UN conference on human rights in 1993 produced the Vienna Declaration and Programme of Action, which stated that, “All human rights are universal, indivisible, interdependent and interrelated.”

Perhaps the last word on the unavoidable modern fact of interdependence goes to Kofi Annan speaking in 2004 in the face of gathering international crises: “Today, no nation or group of nations, not even the most powerful, can protect itself from threats by turning itself into an impregnable military fortress. No army can prevent capital movements, stop the spread of AIDS, reduce the impact of global warming, halt the flow of information, or reverse the spread of radical violent ideologies which threaten us all... For good or ill, we live in an age of interdependence, and we must manage it collectively.”



To some degree, everybody's way of life has an environmental impact, including those of the very poor. Yet, by examining our patterns of relative interdependence in more detail, it becomes easier to see the difference, for example, between the greenhouse gas emissions from burning fuel wood in Tanzania, and the exhaust fumes coming out of a family's second car, perhaps an SUV, in Surrey. This is often characterised as the difference between survival emissions and luxury emissions.

Understanding patterns of trade in ecological resources is important for several reasons. Trade may mask a nation's abuse of the global commons. This holds true today for resources like fossil fuels and open sea fisheries. Using ecological accounting makes it possible to search out the shadowy boundaries of the global commons, and makes them visible on the otherwise misleading spreadsheets of the market economy. It can also help reveal how ecologically unequal exchange may be neither socially nor economically sustainable.

In extreme cases, substantial reliance on ecological imports can undermine a country's economic viability and sovereignty, leaving it politically fragile, and even resented by the other nations who supply it. Fossil fuels and water are two obvious cases in point.

Trade, of course, has many benefits and is voluntarily and enthusiastically pursued. All nations today are increasingly interdependent on traded goods.

But ecologically imbalanced trade is risky. Just as nations closely monitor their financial balance of trade and debt to keep healthy and stave off the threat of economic collapse, so, too, they will benefit by measuring their ecological balance of trade to prevent their state of ecological self-sufficiency falling to critically low levels.

There is no imperative that States should be ecologically autonomous. Too much focus on autonomy, for example, can neglect the vulnerability of the global commons.

Total ecological autonomy is not the ideal nor is it even physically possible. Healthy trade can benefit all parties. But where there are large imbalances, critical unsustainability can follow and just such a danger is revealed in this portrait of the UK's interdependence.

The UK can use natural resource accounting to learn what assets we have, and what we use from others. New biophysical metrics, such as energy, matter, and the ecological footprint, can illuminate the unequal ecological exchange between the UK and the world and help us to understand the ways in which countries act as ecological creditors and debtors. It may, in fact, be the only way in which we can bring the economy into contact with the real world.

## Cultural flows

One of the most obvious, though highly variable, cultural flows between the UK and the rest of the world occurs through tourism. The Government estimates that tourists coming to the UK in 2004 stayed a total of 204 million person-nights earning the country £16 billion. There was, however, far greater outbound tourism with 567 million nights stayed away and £24 billion spent overseas.<sup>12</sup>

But rather than on exotic holidays, it is around our doorsteps, and on a daily basis that we in the UK experience our global cultural interdependence.

## Food

To see how interdependence can enrich our lives look no further than food. Without even considering our great Mediterranean imports, pizza and pasta, the UK has thousands of restaurants selling global cuisine. There are over 10,000 Indian and 8,000 Chinese restaurants in the UK and hundreds of others serving Thai, Mexican, Caribbean, Japanese, Korean, and Middle-Eastern food. In total, 38 per cent of the UK fast-food market is ethnically non-European in origin.<sup>13</sup>

We take the exotic range of cuisine on our doorsteps for granted but it is now under threat as a direct consequence of changes in how the Government wants to manage our interdependence. As of early 2006, a proposed immigration bill could cut off the supply of workers who keep the non-European restaurants in business. The Home Office wants to introduce a points system designed to severely restrict entry to the UK of low-skilled workers from outside the EU in favour of EU workers. Asian community leaders warn that the move threatens the future of Indian and Chinese restaurants.<sup>14</sup>

## Film and television

The flow of cultural products from the worlds of art, literature, film, fashion, and television across national borders also stimulates our senses, brings pleasure, and excites curiosity. Without it the dynamic creative exchange necessary for a culture to flourish would probably be lost.

Film and television, and their various product tie-ins, dominate the modern cultural landscape. The largest features on that global landscape are made in the English language. Even as many people might feel swamped in movie releases from the US Hollywood machine, between the years 2000 and 2004 there were 654 foreign language films released in the UK making up one-third of all releases. Together they took £116.4 million at the box office.<sup>15</sup>

Reflecting the dominance of the English language, which has been successfully exported for centuries, the cultural flow in the opposite direction is much greater. Even accounting for the famously parlous condition of the UK film industry, over 280 million tickets were sold in Europe for UK (or UK co-production) films over the same period, 2000–2004. In 2004 alone, more than £1,256 million was taken at the box office for UK, and UK co-production films.<sup>16</sup> In the UK, in the same year, non-EU/US films took £23 million at the box office.<sup>17</sup>

The most recent figures show that while our cultural trade balance in the film and television industry is deeply in the red with regard to North America, it is strikingly in our favour in terms of economic and cultural dominance with all other regions (see Tables 3, 4 and 5).

**Table 4: Imports and exports of film industry 2004 (£m)**

Imported from	No. of Films	Exported to	No. of Films
USA	61 6	USA	398
Europe	126	Europe	263
Africa	0	Africa	10
Other America	5	Other America	4
Asia	3	Asia	22
Australia/Oceania	2	Australia/Oceania	146

**Source:** Office of National Statistics, 2005<sup>18</sup>

**Table 2: Ethnic Restaurants in the UK\***

10,709 Indian
8,095 Chinese
683 Thai
228 Japanese
200 Mexican
156 Middle-Eastern
135 Indonesia/Malaysian/Singaporean
105 Tex-Mex
90 Caribbean
49 Vietnamese
48 Korean

**Source:** Mintel, 2002

\*excluding pizza & pasta

**Table 3: Country of origin of non-UK films released in the UK in 2004**

US and US co-production:	178
Europe:	71
India:	55
Rest of the world:	54
<b>Total films:</b>	<b>358</b>

**Source:** UK Film Council, 2005

**Table 5: Imports and exports of TV programmes 2004 (£m)**

Imported from	No. of Programmes	Exported to	No. of Programmes
US/Canada	568	US/Canada	340
Europe	488	Europe	189
Latin America	13	Latin America	16
Africa	6	Africa	16
Japan	2	Japan	13
Other Asia	9	Other Asia	45
Australia/Oceania	14	Australia/Oceania	44

**Source:** Office of National Statistics, 2005<sup>19</sup>

### Sport

The 2006 World Cup in Germany is a reminder of how sport can be the driving force of the global entertainment industry. It has countless dedicated television channels, magazines and endless pages of newspaper print. Its stars cross over into the other world of celebrity and their activities fill the burgeoning celebrity press. Success and failure can change the outcome of national elections. Sport is also a perfect example of the complex web of our global cultural interdependence.

Some of the more bizarre outcomes of the global trade in athletic muscle can be seen when in August 2003, Kenya's finest steeplechaser went to bed for the last time as Stephen Cherono. The next morning, he awoke four months older as Saif Saaeed Shaheen of Qatar, according to his new passport. When he won the steeplechase at the Zurich Grand Prix the same month, he could not remember his new name. Since 2000, Qatar has acquired several Kenyan distance runners and an entire team of Bulgarian weightlifters. Its regional rival, Bahrain, has also been shopping in Africa. In 2002, three more Kenyans, Abel Cheruiyot, Leonard Mucheru and Gregory Konchellah, became Bahrainis. These examples were far from anomalous. The 'transfers of allegiance' list in the IAAF's monthly newsletter reveals a flow of sporting talent from poor to rich countries: Angola, Cameroon, Gabon, Senegal, Morocco, and Kenya to France, Jamaica and Guyana to Canada, Nigeria to Spain, Portugal and Germany, and Somalia and Eritrea to the United States. This naturalisation of athletic talent is only the latest manifestation of the muscle trade.<sup>20</sup>

The figures (see Table 8) for the English football Premiership show how far we've come from a time when the majority of sportspeople playing for a place-based team actually came from that place. Now, agents, promoters, clubs and corporations from rich countries scour the poor world for athletic resources. Although other countries and companies still scramble for Africa's mineral wealth, its athletic raw material is now also up for grabs. Belgium once grew rich on Central African rubber; now the football club Royal Antwerp works with Manchester United to harvest African players from 'farm clubs' for European sides.

Such schools, like the baseball academies set up by North American baseball clubs in the Dominican Republic, exist to enhance the playing power and economic wealth of rich-world sport. "Of the 311 players making up the 16 national squads in the 2002 African Nations Cup," writes the academic John Bale, "193, or 62 per cent, were employed full-time in Europe. In the cases of Cameroon, Nigeria and Senegal, every squad member was domiciled in Europe."

**Table 6: Most non-UK players at an English premier ship football team (October 2005)**

<b>Arsenal</b>	
UK players	5
Non-UK players	28
Percentage non-UK	85%

**Source:** nef estimates based on FPA 2005

**Table 7: Ten English teams with 50% or more non-UK players (October 2005)**

Arsenal
Bolton
Portsmouth
Liverpool
Chelsea
Fulham
Tottenham
Manchester United
Blackburn
Charlton

**Source:** nef estimates based on FPA 2005

**Table 8: Non-UK Players in the English Premier League (October 2005)**

<i>Continental breakdown of origin</i>	<i>Number of players</i>	<i>Per cent of total</i>
UK	287	50%
Europe	200	35%
SS Africa	28	5%
Mid East & N Africa	8	1%
Asia	7	1%
North America	10	2%
Latin America & Caribbean	20	3%
Oceania	13	2%
<b>TOTAL</b>	<b>573</b>	<b>100%</b>

**Source:** FPA 2005<sup>21</sup>

Bale describes the phenomenon as the ‘brawn drain.’ In parallel to other economic dynamics he sees, the global centre of the football industry creating wealth at the expense of clubs in nations at the periphery. African leagues are de-skilled; any athletic development is at best dependent.

The recent spate of athletic identity transfers suggests that global standing in sport is at least as important to a nation’s sense of self as membership of the international political top table, like the UN Security Council. But in terms of interdependence, there is the danger that sport communicates to the poor majority of the world’s population the unfortunate message that only freakishly gifted individuals are welcome in the global system. The athletes themselves often suffer: sportsmen and women returning home to countries with sometimes weak states, poor police forces and endemic poverty often find the wages of global sport create both insecurity and a sense of dislocation. Generations of athletes are driven abroad, and the young in the developing world are given a model of emigration and standard-bearing for rich-world paymasters by their local heroes. That the model is relevant to only an infinitesimally small and prodigiously gifted minority merely makes it more pernicious.

Sport retains the ability to integrate nations. It can generate iconic moments, or world memories, and be the first sign of renewed peace and security, from a football match on Christmas Day between the trenches or the return of an Afghan football stadium to its original sporting purpose. However, the prestige and airtime commanded by a handful of official global sports ensure that local folk sports get devoured and the biodiversity of human movement, parallel to the cultural diversity of languages, is diminished and impoverished. Modern, global sport is also an enemy of diversity: it standardises space and time, fixes and polices uniform rules, clones and distributes playing surfaces.

Sport has certainly become one of the key means of interaction between cultures today. In his recent history of the Olympic Games, David Millar points out that the Olympic rings are the most recognised symbol in the world, with 78 per cent recognition. They are ahead of the Shell logo at 72 per cent, the McDonald’s arches at 66 per cent and the Mercedes symbol at 61 per cent. Millar quotes Dick Pound, President of the Olympic Games Study Commission, “Take away sponsorship and commercialism from sport today and what is left? A large, sophisticated, finely-tuned engine developed over a period of 100 years – with no fuel.” The worldwide sports market is estimated to be worth around \$500 billion per year, more than double the total external debt of Sub-Saharan Africa. Global sports sponsorship alone was worth \$26 billion in 2003<sup>22</sup> and the UK spent over £4 billion on sports equipment.<sup>23</sup>

Modern sports programmes devour budgets way beyond most poor countries, yet Kenya's runners, Colombia's cyclists, and Mexico's boxers, inspire Western audiences, sell tickets and attract TV viewers. In return, the rich-world invests little in their production and offers the producer countries no means of profiting from their exports. The sense of one-way traffic is acute. When Arsenal manager Arsene Wenger appeared on television during the BBC-sponsored Sport Relief fundraiser, with no apparent irony, Wenger presented a cheque on behalf of the whole Premiership to go to projects for the world's poor for just over £100k – about one week's pay for a single top Premiership player. Sport matters, but run along current lines, it, too, is unsustainable, just like our over-exploitation of natural resources. The global trade in muscle is just the latest extractive industry taking more than it puts back.

## People flows

Not only UK sport depends on a substantial supply of global talent. Without migrating workers coming to the UK, our supermarket shelves would not be filled, our schools would have insufficient teachers, and our hospitals would be short of nurses and doctors. But it goes further than that. Migrant workers clean our offices, build our houses, and then look after house and baby. They wait in hotels, sell sex, and dig for cockles. Global interdependence reaches into every aspect of our lives.

It is another example of how the UK depends on both highly skilled labour – trained at the expense of overseas education systems – and people with fewer qualifications who are prepared to do the necessary jobs that we do not want to do.

Today's illegal migrant labourers are often called economic refugees. Yet, who were the first economic refugees? They could well be seen as the second sons of Britain's imperial aristocratic families who, denied a direct inheritance, were sent out to make their fortunes in the furthest corners of the empire.

Expatriate employees of the British East India Company sought economic advantage abroad and could enjoy larger houses, more servants, bigger feasts and greater moral lassitude than they could get at home. But we did not just export our superfluous aristocracy. As an observer in Barbados noted in 1655, "England doth cast forth its rubbish: rogues and whores and such like people are those which are generally brought".<sup>24</sup>

Like their modern successors, the economic refugees of the 17th and subsequent centuries, also known as settlers or colonists, were often reluctant travellers, largely driven by economic or social necessity. Modern elite economic refugees are the employees of European and US multinational companies stationed in subsidiary offices in developing countries.

And there is not always a rosy picture of helpful international give and take. Sometimes it can mask harsh and exploitative economic relationships in which there is far more take than give. And sometimes it can lead to very poor countries losing their precious and scarce supply of expensively trained doctors, nurses and teachers to our own health and education systems, which are already unrecognisably far better off. The result can be circular migration patterns. For example, nurses trained in Jamaica may move to work in the United States and have the vacuum left behind filled by nurses from Sub-Saharan Africa or by development charities from Britain or France.

As if to rub salt in the wound, one reason nurses, teachers and other professionals often feel compelled to leave their own, economically weak countries is because their domestic systems have been undermined. Doctors are not attracted to work in hospitals that lack medicines and basic equipment. This, in turn, is often a consequence of the bad deal handed to their country by the global economy and the result of frequently broken promises and bad advice from international financial institutions and rich-country governments.

## A new global feudalism?

Invisible to most people as they go about their daily lives, labourers from overseas – often underpaid, unprotected and overworked – provide much of the muscle that moves the UK economy. Story after story reveals a serfdom of a particularly brutal modern kind, lacking even the medieval sense of reciprocity and paternalistic responsibility. In the 14th century serfs could enjoy up to 80 public holidays per year and take enough time off to go on long pilgrimages. Fifteen weeks work per year could secure a livelihood and, along with a little military duty, the protection of the lord. Demand for labour in the UK is so high that it has led to a burgeoning trade in illegal migrant workers. They can be sold into bonded labour, paid below the minimum wage, be forced to live and work in dangerous and appalling conditions, and suffer bizarre deaths.

Zhang Guo Hua dropped dead after working a 24-hour shift in a Hartlepool factory putting the word Samsung onto microwave ovens.<sup>25</sup> Three young men were killed in a van crushed at Evesham by the 7.03 train travelling from Hereford to London on 7 July 2003. Various reported as Kurds, Iraqis or Arabs, they were part of Britain's burgeoning army of migrant labourers – picking onions in the west Midlands in the midst of a heat wave.<sup>26</sup> Fifty people were suffocated among boxes of tomatoes in the back of a lorry.<sup>27</sup> A 47-year-old Ukrainian working as a cleaner in London's Café Royal was found dead in a broom cupboard where he often slept overnight. He sent home all he earned to relatives.<sup>28</sup> Infamously 19 Chinese people died in the mudflats of Morecambe Bay, drowned on a miserable February day picking cockles.<sup>29</sup>

Migrant labour in all its forms, legal and illegal, is a key characteristic of economic globalisation. There are approximately 120 million migrant workers worldwide with many of them travelling between developing countries in Asia and Latin America.<sup>30</sup> According to the World Bank, developing countries' income from remittances was \$160 billion in 2004, substantially more than double an average year's global aid budget, but still worth only around \$30 per person.<sup>31</sup> But the distribution of benefit from remittances is also a mirror of global inequality. Whilst money leaving the UK in a year to be sent home was estimated at \$1.3 billion, a much larger sum, \$6.4 billion arrived in the UK in the form of remittances from UK residents working overseas.<sup>32</sup> This, by comparison to similar earnings in developing countries, is worth around \$100 per person, more than three times as much.

The profile of this workforce is increasingly female and doing work that is typically dirty, dangerous and difficult. But at the other end of the migrant labour flow, developing countries are losing 10–30 per cent of their qualified workers to places like Britain where they keep our hospitals and schools running.

Migrant labour in the UK increased 44 per cent over a seven-year period up to 2004. Some of it is managed through seasonal agricultural schemes, enabling workers to find jobs in labour-intensive low-wage sectors, such as tourism, domestic help, agriculture, meat and fish packing. Much of it is illegal or informal.

In Britain there are approximately 3,000–5,000 gang masters, of which at least 1,000 are illegal, providing no protection to their workers. Altogether they control up to a possible 100,000 workers, predominantly linked to the agricultural and horticultural industries, and the processing and packaging of food. Long chains of subcontractors, commercial confidentiality, and contractual obfuscation mean that household-name retailers can hide behind veils of plausible denial.<sup>33</sup>

Like so many things it is a trend that crossed the Atlantic. Wal-Mart, now owner of UK supermarket Asda, was taken to court in the US by nine cleaners who were working illegally. They claimed that Wal-Mart knew their status and conspired with the cleaning firm to keep their pay low. In the UK the company was fined £850,000 in February 2006 by an employment tribunal for discriminating against trade union members.<sup>34</sup> In 2003 the Parliamentary Select Committee on the environment, food and rural affairs took evidence of a catalogue of horrors among migrant labourers: workers sleeping ten to a room and living in buildings with no toilet, kitchen or washing facilities. People working in packing houses for supermarket-ready-prepared food were being paid just above half the minimum wage. Unlike the pace of life in rural, feudal Britain, a modern supermarket pack house will keep going 364 days a year using shifts to work around the clock.<sup>35</sup>

## Tying people to places

It is easy to forget what a recent invention the passport is. Under William the Conqueror's "Norman Yoke", no one was allowed to leave England without the King's express permission, but that was slightly different to today's tightly controlled international borders. The word "passport" was first mentioned in England in 1548 and referred specifically to soldiers in the act of warfare. During the 18th and 19th centuries governments across Europe tended to be *laissez-faire* about passport or other paper identification controls. The modern system of border controls only really began to emerge around the time of the First World War in 1914. But passport and nation-state-based border controls may have already passed their high-water mark. In the enlarging European Union old national passports have been replaced by a standard member-state-format. Passports designed for travel within trading blocks may become the model for border control.

On the Committee, Labour MP Austin Mitchell accused the head of the fresh produce consortium, "The people you represent – the Tescos, the Sainsburys, the Asdas – by constantly screwing down the price they pay for their produce in order to screw up their own profits, are basically the cause of the problem." The Committee accused the supermarkets of a see-no-evil approach and of encouraging illegal labour by driving prices to suppliers down to the point where legal workforces were unaffordable.<sup>36</sup>

As voluntary attempts at control have failed, the pressure to regulate has grown. Under a rallying cry of 'no legislation means exploitation' in January 2004, Jim Sheridan MP introduced a Private Members' Bill with the support of the T&G Union calling for the registration of gang masters. Legislation could follow the move three years ago to control the private security industry. In 2001, the Private Security Industry Act introduced a statutory registration and licensing scheme. A scheme for gang masters was actually introduced in 1973 but then dropped by the Conservative Government in 1994.<sup>37</sup>

There is plenty of economic incentive for the Government to do what is necessary to make migrant workers acceptable to the general public. Home Office research shows that in a single year migrants, including asylum seekers and refugees, contributed £2.5 billion more to the economy than they cost in taking up services. Their presence in the local economy can actually drive up general wages and employment. In the United States, the National Research Council estimated that first-generation migrants cost the country \$3,000, but that the second generation gave back many times more to the national coffers, \$80,000.<sup>38</sup> Even the right-wing US think tank, the Cato Institute, sings the praises of migrant workers, calling them the 'lubricant to our capitalistic economy'.<sup>39</sup>

Ironically, the cheap immigrant labour that helps generate surplus profits for the big supermarkets is also one of the last bastions preventing the spread of ghost towns in Britain under the dominant boot of the same supermarkets. As in the countryside, immigrant labour is prepared to work in parts of our towns and inner cities that others have given up on.

Ethnic minority groups generally have a high propensity to set up businesses or to be self-employed. According to the Global Entrepreneurship Monitor, such in the UK are far more likely to start up their own business than white people. Asian people, for example, are twice as likely to be involved in autonomous start-ups as their white counterparts; while Caribbean people are three times as likely and Africans nearly five times as likely to be involved in a start-up company as white people.<sup>40</sup> There are complex socio-economic reasons for this, partly connected to the prejudice that minorities have faced, making them keen to be more independent. And, it is partly to do with the pre-existing entrepreneurial mind-set it takes to establish a life abroad in the first place, making such groups more disposed to the risks of new ventures.

Double standards prevail among governments who argue on the one hand for the free movement of goods and capital, whilst imposing ever-more severe restrictions on the movement of people. The criminal element of migrant labour is driven partly by the unrealistic expectations of cheap goods created by retailers, and partly by an over-restrictive and inconsistent immigration policy.

**Table 9: Doctors registered to practice in the UK by region of training**

Number	Regional origin	Percent of total registered to practice in the UK
24,362	South Asia Sub	11.5%
15,855	Europe	7.5%
8,959	Sub-Saharan Africa	4.2%
4,708	Middle East/North Africa	2.2%
2,332	Other Asia	1.1%
3,408	Oceania	1.6%
1,080	Latin America and the Caribbean	0.5%
318	North America	0.2%

Source: GMC 2005<sup>41</sup>

**Health**

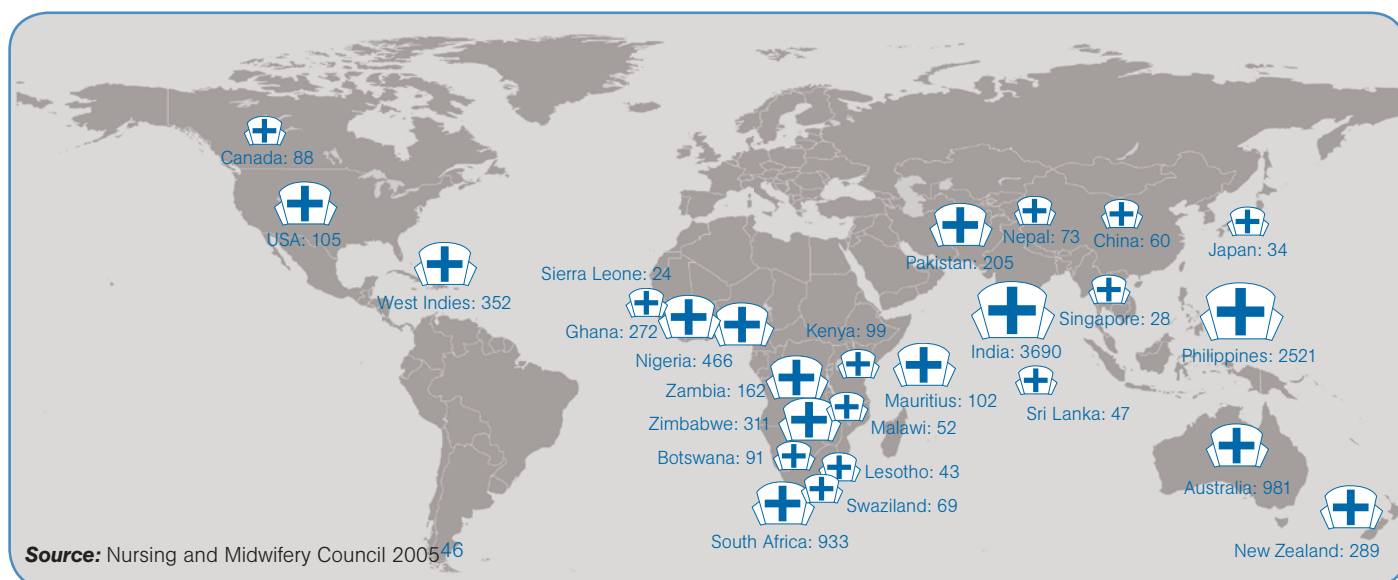
One estimate done for the WHO suggests that over one in ten (at least 12 per cent) of the doctors trained in India now live in the UK. It also shows that Pakistan loses half of its medical-school graduates every year; and that in Ghana only about one-third of medical school graduates remain in the country.<sup>43</sup>

According to another study over a period of 35 years, nearly half of South African medical graduates, (up to 47 per cent) emigrated. Most ended up in the US or other Commonwealth countries (42 and 45 per cent respectively) while only one in twenty ended up elsewhere in Africa.<sup>44</sup>

Some developing countries, like India and the Philippines, have an active policy of training and exporting health professionals. Even so, the ratio of doctors to patients in India is not high. The health systems of countries like Botswana, Zambia and Malawi are more likely to lose domestically trained health workers as a consequence of dire economic necessity, and have their over-stretched health systems suffer as a result. Perhaps indicative of a guilty conscience, while the UK has absorbed a rising number of health professionals from developing countries, UK health-related bilateral aid went up by 52 per cent between 2000 and 2004.<sup>45</sup>

Rules under the General Agreement on Trade in Services create another problem. According to them it is illegal to discriminate between countries when recruiting. Consequently, a policy of not taking staff from foreign health services that were already understaffed could fall foul of international economic law.

**Figure 2: New admissions to 2004/5 Nursing register qualified overseas: by country**



Source: Nursing and Midwifery Council 2005<sup>46</sup>

**Table 10: New registrations of overseas-educated doctors (non-EEA) with GMC (and per cent of total new registrations)**

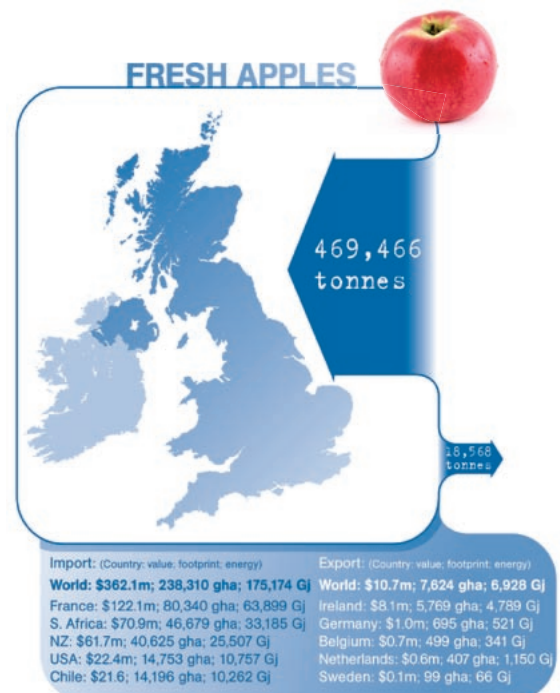
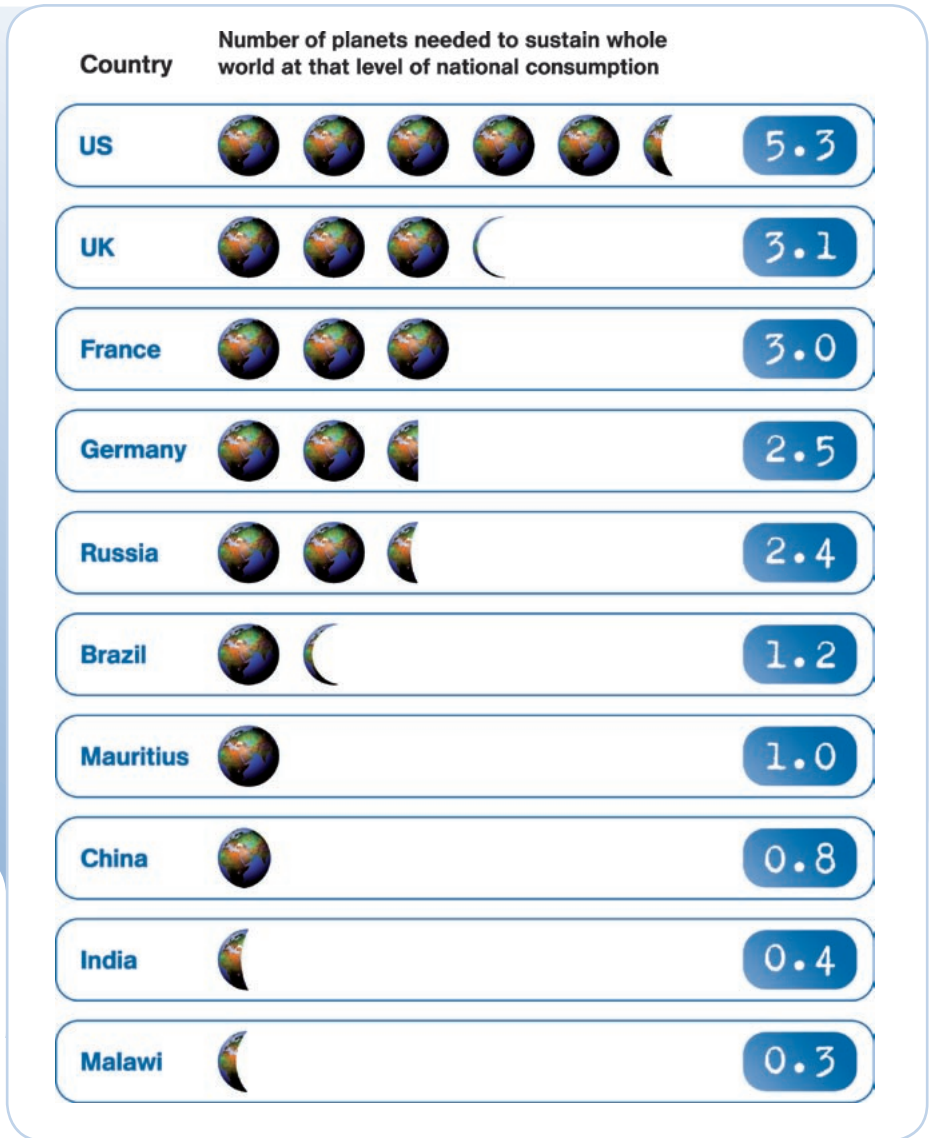
Year	Doctors
2002	4,456 (44%)
2003	9,336 (60%)
2004	5,683 (44%)

Source: GMC 2005<sup>42</sup>



# UK interdependence: how many planets have you got?

These graphs show the nature and scale of the UK's dependence on the rest of the world. They also reveal the big and growing burden our lifestyles place on the global environment. If copied by the whole world's population, more than three planets like Earth would be needed to meet the demand for resources. Globally, humanity is already consuming more than can be replaced by natural regeneration. Taking a typical calendar year, humanity begins over-consuming on 23 October – the world's ecological debt day. The UK by itself goes into ecological debt much earlier, on 16 April. The images show the challenge of increasing interdependence in a highly unequal world. Finding solutions means drawing new survival maps for life on an island planet.



\* Includes cocoa and chocolate products

# The UK goes shopping: where the things we consume come from



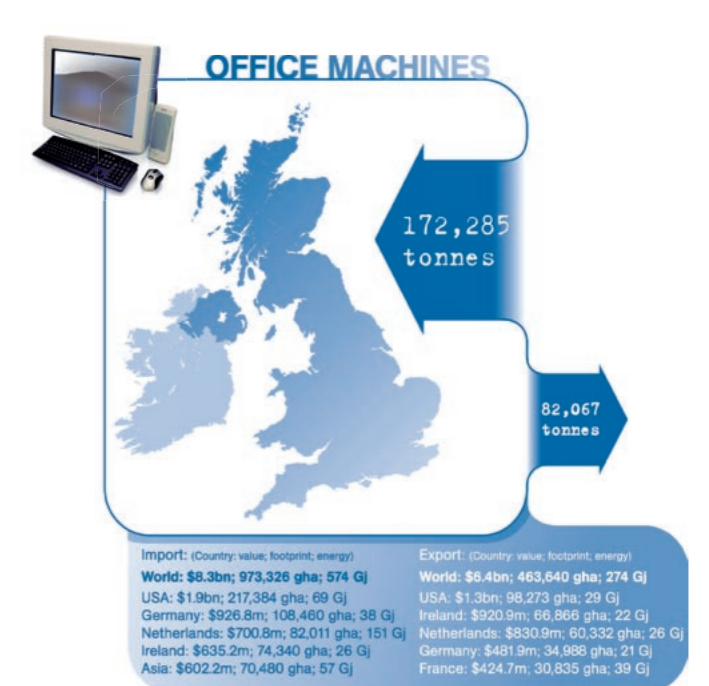
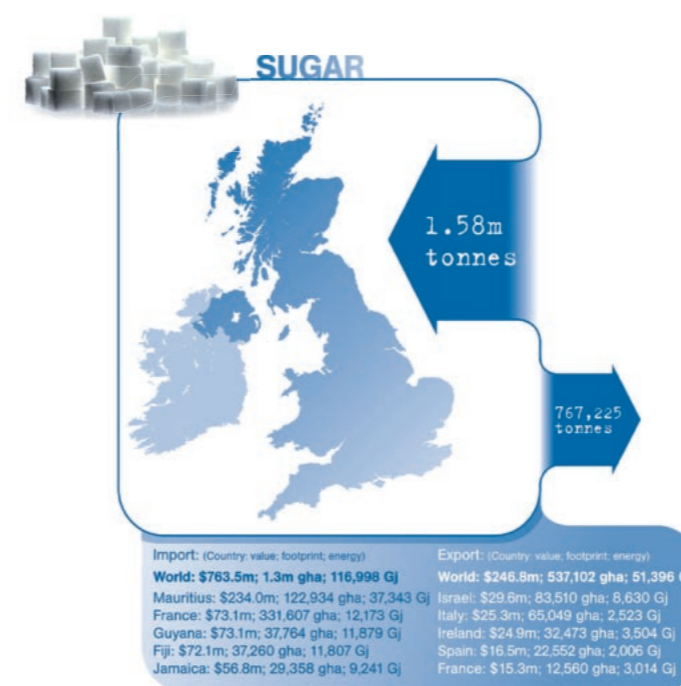
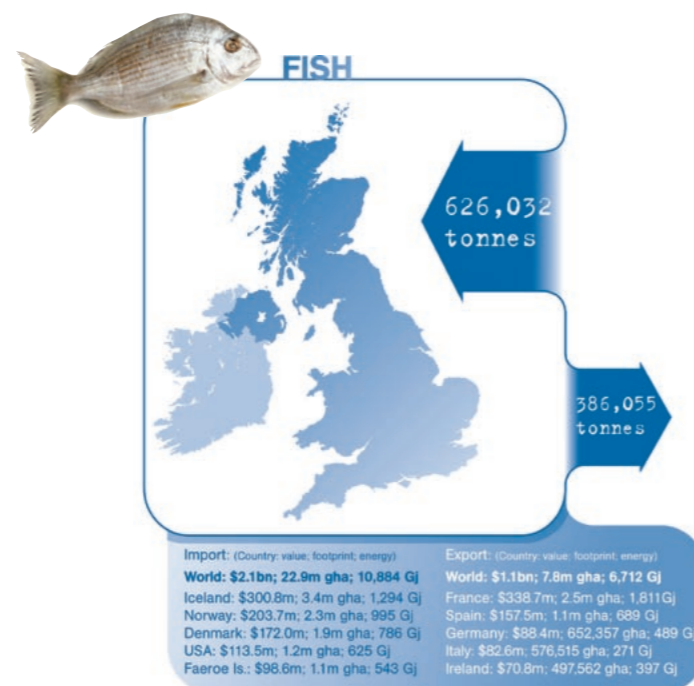
Product	Tonnes	Product	Tonnes
Iron ore	>1m, 100k-1m, <100k	Copper ore	>100, 10-100, <10
Other ore	>100k, 10-100k, <10k	Aluminium ore	>100k, 10-100k, <10k
Uranium ore	>100, 10-100, <10	Oil	>1m, 100k-1m, <100k
Other petroleum products	>100k, 10-100k, <10k	Gas	>100k, 10-100k, <10k
Coal	>1m, 100k-1m, <100k	Coal & coke	>100k, 10-100k, <10k
Coffee	>10k, 1-10k, <1k	Tea	>10k, 1-10k, <1k
Oranges	>100k, 10-100k, <10k	Other citrus	>10k, 1-10k, <1k
Bananas	>100k, 10-100k, <10k	Apples	>100k, 10-100k, <10k
Grapes	>10k, 1-10k, <1k	Nuts	>10k, 1-10k, <1k
Other fruit	>100k, 10-100k, <10k	Fish	>100k, 10-100k, <10k
Sugar	>100k, 10-100k, <10k	Soy oil	>100k, 10-100k, <10k
Soy beans	>100k, 10-100k, <10k	Palm oil	>100k, 10-100k, <10k
Palm nuts	>10k, 1-10k, <1k	Wood products	>100k, 10-100k, <10k
Raw lumber	>100k, 10-100k, <10k		

The average UK citizen exerts an ecological footprint in almost every nation on the globe. From sugar plantations in the South Pacific, to cocoa bushes in Ghana and laptop assembly lines in Hong Kong, the UK's deep connections with its trading partners tie its success to the well-being of these countries. Daily, ever more products on UK shelves come from abroad.

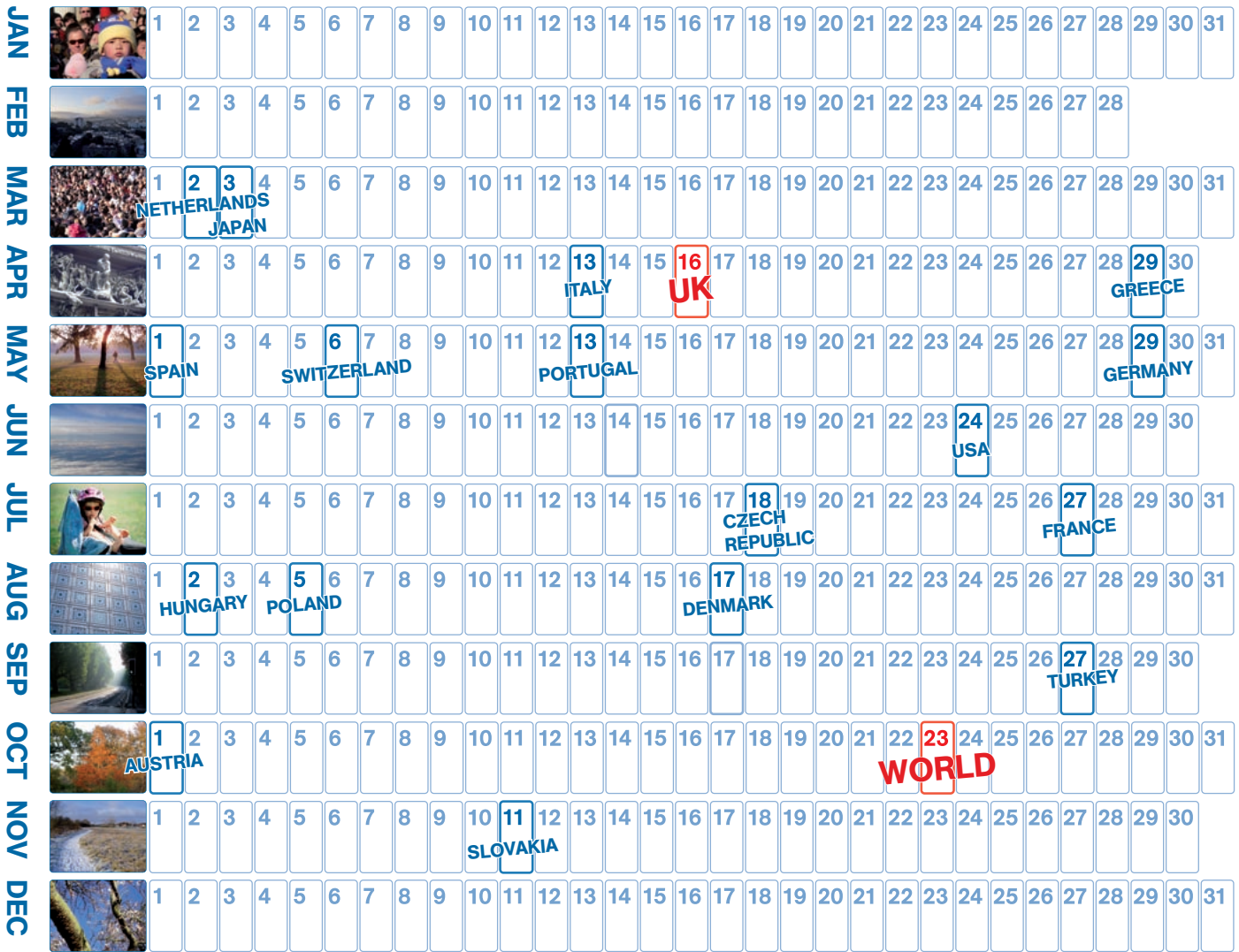
This world map illustrates the source and scale of imports for a selection of goods that contributes significantly to the UK's ecological footprint. The products shown in the individual UK import/export maps have particularly high environmental impacts associated with their

production. However, the way that these impacts are felt in each of the producing regions differs. Badly run coffee plantations, for example, can pose a serious threat to rainforests and biodiversity, but, if well managed, they can also operate sustainably.

\* Europe as a source of products is shown disproportionately large because adjustments are not made for re-exports due to the complications of tracing certain goods. This may create a bias suggesting that more raw resources come from European ports when in fact it was merely their most recent port of call on their way from the original source.

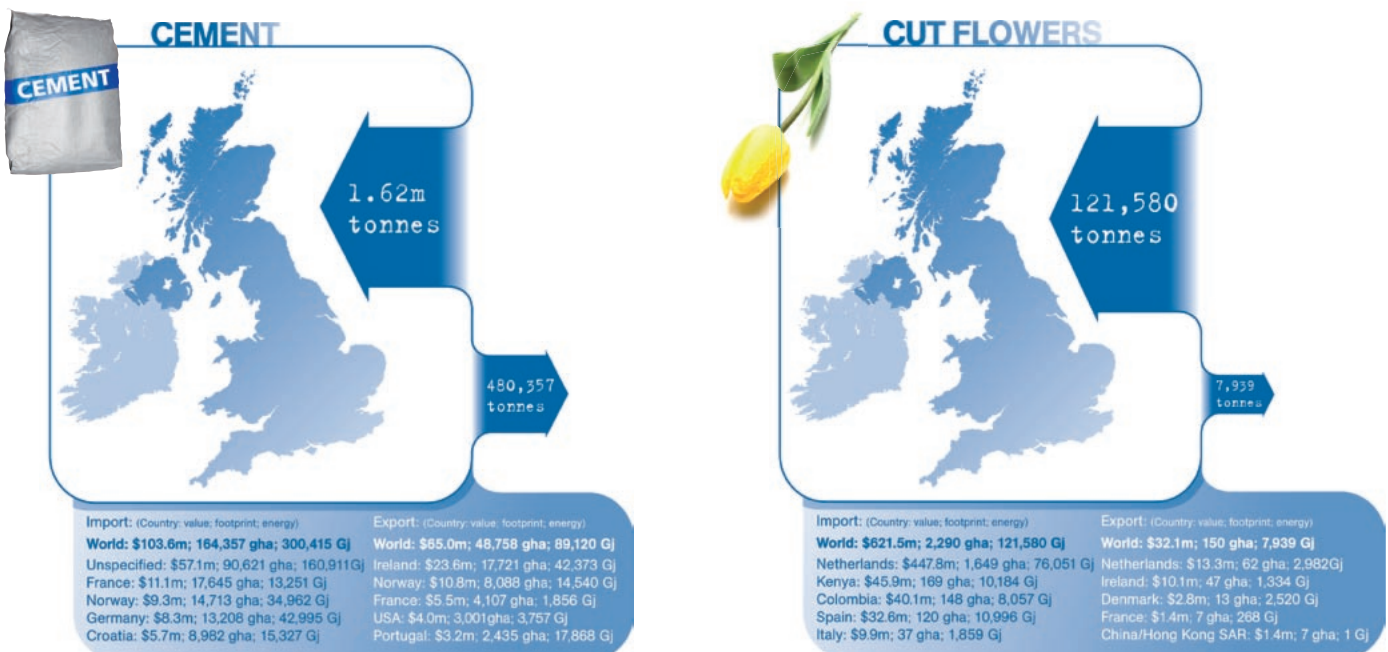


# Ecological debt day calendar



The calendar shows the day in a typical calendar year when, in effect, the UK stops relying on its own natural resources, and starts to live off the rest of the world. At current levels of natural resource use in the UK, the average person begins living beyond their environmental means and goes into ecological debt on 16 April. As our total consumption grows, that date moves ever earlier in the year. In 1961 it was 9 July, advancing to 14 May in 1981. Ecological debt days for a selection of other developed economies are also shown.

The planet can tolerate a little give and take without environmental collapse as long as, in total, humanity lives within its overall ecological budget. But the world as a whole is also now living beyond the capacity of its ecosystems to regenerate and goes into ecological debt on 23 October, causing long-term environmental degradation.



## Technical note: ecological footprints – a measure of interdependence

Several indicators are available to measure aspects of the ecological content of trade. They can measure the ecological weight, or value, of trade flows in terms of matter, energy, or land. The crude tonnage of goods traded can be looked at, and to this can be added the additional weight of material involved in getting the final product. For example, to extract Uranium as fuel for nuclear reactors the waste ore would be included in the footprint, or, when fishing for tuna, the dolphins caught and killed would also be part of the impact. Widening the criteria still further requires a measure of all of the energy involved in producing and delivering a product to the final consumer – so-called embedded energy. This is the energy measure shown in the UK import/export maps as Gj.

The ecological footprint, which is used in this report, measures how much land area is required to sustain a given population at present

levels of consumption and technological development. The footprint is a conservative measure of the land area needed to sustain the flow of a given natural resource, whether a food crop or a building material. It is measured in global-average hectares or gha, which includes the land area used both to provide the inputs for the product and to absorb any related waste.

Data are from the UNSD COMTRADE database and the National Footprint Accounts (2005 Edition) from the Global Footprint Network. NB: Europe as a source of products is shown disproportionately large because adjustments are not made for re-exports due to the complications of tracing certain goods. This may create a bias suggesting that more raw resources come from European ports when in fact it was merely their most recent port of call on their way from the original source.

**Table 11: Increase in UK health-related bilateral aid by region (£m)**

	Total	Africa	2-year Increase	Asia	2-year Increase
2002/03	313.5	123.5		84.2	
2003/04	333.3	148.3		97.3	
2004/05	363.2	145.4	17.7%*	134.0	60%*

Source: DFID 2005<sup>47</sup> \*nef estimates

In the last two years, the pejorative term ‘health tourist’ – used to refer to people who travel to the UK to be treated as patients – has entered the political language. Considering the degree to which our health service has come to depend upon staff trained in often very poor countries, its use is heavily ironic.

The issue became a major UK political debate in the summer of 2003, a time when no UK hospital was complaining about the burden of overseas visitors. In a further irony, the non-UK nationality second most likely to access our health services was the United States, according to academic research commissioned by the BBC.

The fuss about economic refugees and health tourists – what could be cast as negative interdependence – seems to rest upon a basic misrepresentation. It pictures the UK as a fundamentally benevolent and innocent nation carrying an unfair burden of the world’s displaced or of people crossing borders cynically to seek personal advantage. In fact, according to the United Nations High Commission for Refugees, around three-quarters of the world’s 20 million conventional refugees are actually hosted by developing countries.

### Education

Echoing the growth of overseas recruitment in the health sector, between 2000 and 2004 overseas teacher recruitment went up by 256 per cent.<sup>49</sup> From August 2000 to July 2005 there were 18,564 new work permits issued for teachers.<sup>50</sup> UK bilateral aid in the education sector, again echoing health, rose 34 per cent in the same period from £204 million in the year 2000/01, to £274 million in 2004/05.<sup>51</sup>

**Table 13: Number of non-UK teachers working in English schools**

	2000	2001	2002	2003	2004
Primary	1,180	1,750	2,940	3,910	3,890
Secondary	1,840	2,300	4,700	6,450	6,850
Special	170	250	370	500	620
Total*	3,190	4,300	8,010	10,860	11,360

\*Source: nef estimate based on DfES 2005<sup>52</sup>

**Table 12: New admissions to nursing register from abroad over time**

Year	No of Admissions
1998/99	3,621
1999/2000	5,945
2000/01	8,403
2001/02	15,064
2002/03	12,730
2003/04	14,122
2004/05	11,477

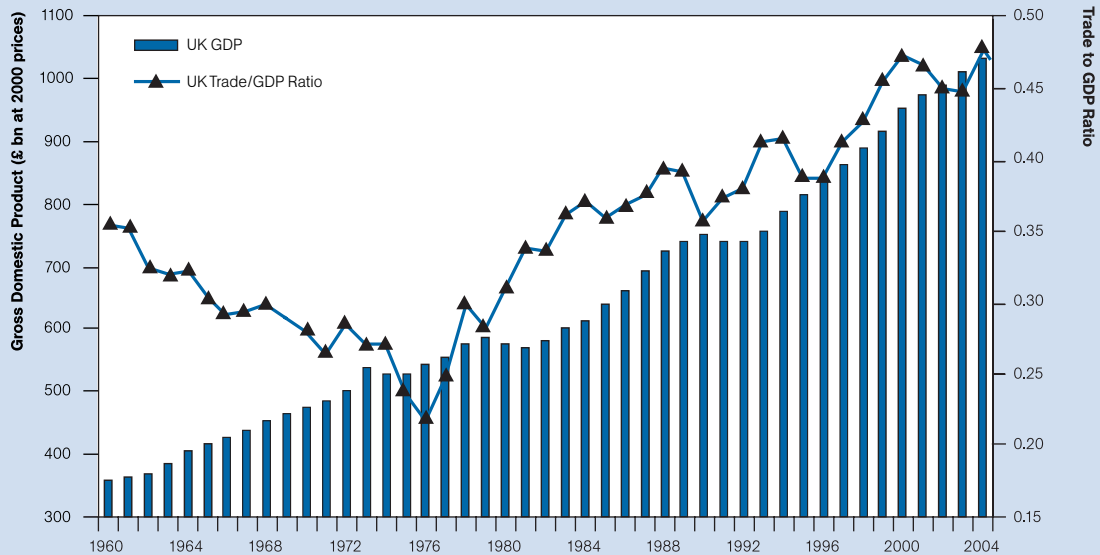
Source: Nursing and Midwifery Council 2005<sup>48</sup>

**Table 14: UK bilateral aid in the Education sector (£m)**

Year	Amount
2000/01	203.8
2001/02	147.1
2002/03	167.3
2003/04	222.7
2004/05	274.0

Source: DFID 2005

**Figure 3: The rising share of international trade in the UK's income**



Source: nef estimates based on Office of National Statistics 2005 and World Bank 2005<sup>53</sup>

## Trade, Energy and Financial flows

To understand the unplanned consequences of how we live, consider one ecologically significant product that is invisible to most consumers: palm oil. The UK imported over 700,000 tonnes of it in 2004. It is grown to earn foreign currency, traded internationally, and needs energy throughout its production cycle. Palm oil is a key ingredient in inexpensive chocolate, and oil and wax from the palm kernel tree are used to add bulk and shelf-life to a variety of products from food to cosmetics. Palm-tree plantations make good economic sense in Southeast Asia where the tree grows quickly. Fuelled by increasing demand from abroad these plantations are expanding rapidly. But quick expansion and a monoculture approach is creating serious problems, including destruction of the rainforest and other unique ecosystems, local pollution, and social conflicts rooted in the increasing power of agribusiness.<sup>54</sup>

Understanding the impact of ecological footprints sometimes means having to visualise long and complex supply chains. For example, a thread connects chocolate to palm trees to shrinking rainforests in Southeast Asia, but it is not easy to see. Just as difficult is visualising the links between a shrimp salad served in London and the loss of mangrove forests in Bangladesh, which once provided valuable buffers against storms and floods.<sup>55</sup> But these, and many other environmental connections like them, are growing in size, number and complexity as the world becomes ever more interdependent.

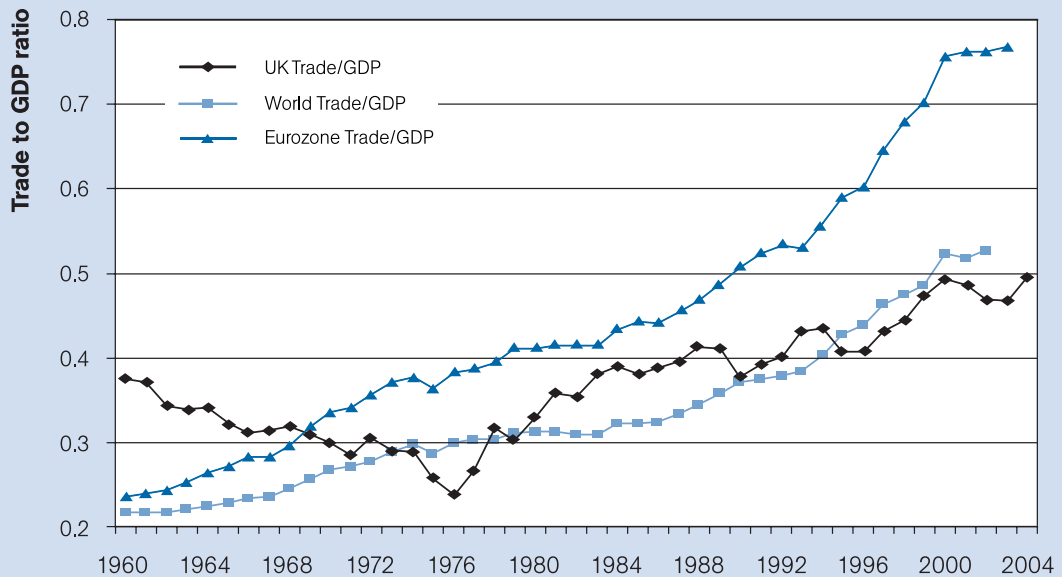
### Trade

How the UK trades with the world indicates our shifting pattern of interdependence. Since the mid-1970s, international trade has made up a growing share of our national income, its ratio rising by 77 per cent in the three decades up to 2004. It now accounts for nearly half the value of our GDP. In other words, for the last three decades our economy has grown increasingly interdependent with the rest of the world (see Figure 3).

In the 40 years from 1964 to 2004 imports to the UK trade increased by an enormous 257 per cent, and continues to rise by over 3 per cent per year.<sup>56</sup>

This picture is repeated at both the European and global levels (see Figure 4). Interdependence is growing. The widening veins and arteries of economic

**Figure 4: Growing global economic interdependence through trade**



Source: nef estimates based on Office of National Statistics 2005 and World Bank 2005<sup>57</sup>

## Colonial shadows in the UK's sugar trade

**Table 15: Top sugar importers supplying the UK**

Source*	Amount (\$m)
Mauritius	\$234
France	\$73
Guyana	\$73
Fiji	\$72
Jamaica	\$57
Ireland	\$36
World	\$ 763

Source: UN COMTRADE; \* Combined sugar and sweeteners.

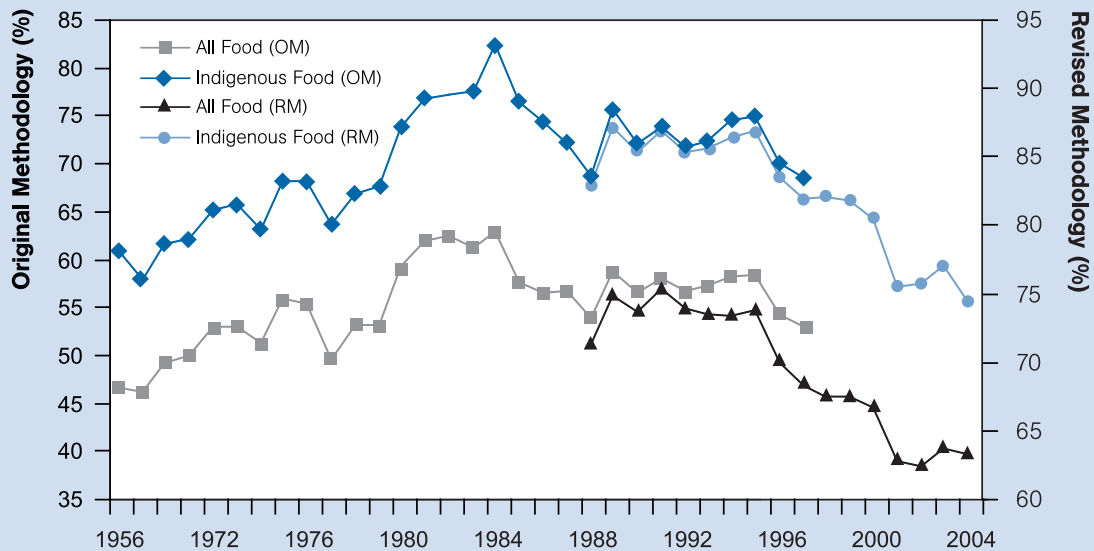
Healthy eating may be increasingly fashionable, but the UK has not lost its sweet tooth. We consume an average of 50kg of sugar per person every year – that is almost one large kilo bag (2.2lbs) per week. Half of this comes from sugar beet plantations in the UK, but the other half arrives from abroad (see Table 15).

Sugar imports come predominantly from sugar cane plantations in developing nations – often, former French and British colonies. Sugar is an example of an important resource that still follows the ancient trade routes of the colonial era. Small and developing nations are particularly vulnerable as suppliers. Sugar cane is a water-intensive crop, and plantations where environmental laws are weak can easily create water stress around them.<sup>58</sup> While the volume of the sugar trade is not enormous, the impacts it has on the smaller, sensitive economies which produce it, can be. Changes in price and the international sugar trading regime can have sudden and severe impacts on commodity dependent exporters.

globalisation are both financial flows and the trade in goods and services. This interdependence, however, depends on the oil that flows through the system to fuel it. Projected problems with the supply of oil in the medium-to-long term, introduces a key frailty to the system – a kind of fossil fuel sclerosis – in which the deepening lines of interdependence, instead of fostering economic cooperation, actually transmit economic distress signals.

Key issues arise, such as the competition for land use between growing food for export or domestic consumption. Another emerging clash that will be intensified by the imminent peak and decline of global oil production is between growing crops for food or planting the land with crops to produce bio-fuels. These conflicts stand to divide poor consumers from wealthy consumers, and further divide rich countries and poor countries.

**Figure 5: The UK's falling food self-sufficiency**



Source: Defra 2005.<sup>59</sup>

As the UK's reliance on trade has grown, its traditionally high level of self-sufficiency in growing its own food has fallen. This shows that our 'absolute' dependence on the rest of the world's ecosystems to feed ourselves is also growing.

The value of food, animal feed, and drink exports in 2003 was £9.9 billion, up 11 per cent over the previous year, whereas comparable imports went up 10 per cent to £21 billion, widening the trade gap in the sector to £11 billion.<sup>60</sup>

### Lorries passing in the night: ecologically wasteful trade

Rarely heard in the rush to praise international trade as a panacea for all our economic problems, are the many, often nonsensical, examples of lorries passing in the night loaded with almost identical goods heading in opposite directions. The full environmental impact of burning fuel is not included in their price. This means that although there is a large environmental impact from freight transport, there is little economic incentive to reduce it. The consequence is that conventional economists will not even raise an eyebrow if they come across figures showing that while the UK exports half a million kilos of gingerbread in a year, it imports exactly the same amount, give or take a few kilos. But in a world of interdependence, whose economic activities are set within environmental limits however flexible they may be, this is ecologically wasteful trade.

Table 16 gives a fairly random selection of the lorries, ships, and planes crammed with nearly identical products passing each other on the global highways as they perform the 21st-century equivalent of shipping coals to Newcastle.

The more striking examples are: in 2004 the UK imported 17.2 million kilos of chocolate-covered waffles and wafers and exported 17.6 million kilos; we imported 10.2 million kilos of milk and cream by weight, from France and exported 9.9 million. The figures for the same trade with Germany were 15.5 million kilos and 17.2 million. Germany sent us 1.5 million kilos of potatoes and we sent them, yes, 1.5 million kilos of potatoes. We imported 43,000 scarves from Canada and exported 39,000. Drink is swilling around the international markets. The UK imported £310 million worth of beer in 2004 and exported £313 million worth. For spirits the figures were £344 million and £463 million respectively.

Just as we imported 44,000 tonnes of frozen boneless cuts of chicken, we exported 51,000 tonnes of fresh boneless chicken. From an environmental perspective, it would seem that someone somewhere is pulling a chicken's leg.

**Table 16: Ecologically wasteful trade (2004)**

<b>Product</b>	<b>Trade Partner</b>	<b>Import</b>	<b>Export</b>
Gingerbread (30-50% sugar)	<b>Total</b>	<b>465 tonnes (t)</b>	<b>460t</b>
Chocolate-covered biscuits (small packs)	Germany	1,145t	1,728t
Chocolate-covered biscuits (large packs)	Denmark	214t	676t
	France	1,874t	3,288t
	Netherlands	1,983t	836t
Sweet Biscuits (>8% milk fat)	Germany	188t	264t
	Italy	135t	73t
	Australia	155t	592t
Chocolate-covered waffles/wafers (small packs)	<b>Total</b>	<b>17,204t</b>	<b>17,590t</b>
	Austria	281t	249t
	Germany	1,955t	1,822t
	Ireland	3,545t	3,548t
Potatoes (fresh, not new)	Germany	1,541t	1,485t
	Ireland	23,219t	40,786t
	Spain	19,230t	43,381t
Fresh boneless chicken cuts	France	3,952t	5,417t
	Ireland	1,858t	3,688t
	Netherlands	24,261t	13,204t
Frozen boneless chicken cuts	Denmark	5,751t	2,091t
	France	7,119t	4,166t
	Ireland	3,952t	2,739t
	South Africa		10,879t
Milk and cream	France	10,241t	9,913t
	Germany	15,479t	17,212t
Butter	Netherlands	2,665t	4,336t
	USA	20t	34t
Milk powder (< 1.5% fat) large packs	France	5,906t	1,970t
	Germany	3,589t	2,946t
Milk powder (>27% fat) large packs	Ireland	2,017t	1,095t
Wheat flour	Germany	2,513t	2,712t
	Netherlands	3,553t	3,996t
Alcohol		Beer £310.4m Cider £28.9m Spirits 343.7	Beer £313.1m Cider £19.4m Spirits 463.2
Woven wool scarves/shawls	Italy	209,134 No	152,015 No
	Canada	42,842	38,952

**Source:** uktradeinfo 2005

Other issues for concern are thrown up by the trade data. For example, in spite of continuing concerns about the damaging effects on local markets in very poor countries, the UK still exported 28,000 tonnes of concentrated milk and milk powder to Sub-Saharan Africa in 2004, worth £35 million.<sup>61</sup>



## Perverse financial flows

*'I sympathize with those who would minimize, rather than those who would maximize economic entanglements among nations. Ideas, knowledge, science, hospitality, travel – these are things that of their nature should be international. But let goods be homespun wherever it is reasonable and conveniently possible, and above all, let finance be primarily national.'*

**John Maynard Keynes, 1933**

The UK aid budget has increased steadily with Gordon Brown in charge of the Treasury, reflecting the Chancellor's public commitment to international poverty reduction. The aid budget has gone from \$4.5 billion in 2000 to \$6.2 billion in 2004.<sup>62</sup> But such figures do not necessarily represent a simple picture of more aid getting to the poorest people. For example, of the nominal increase in aid since 2000/1, one-quarter has been targeted at just three countries: Iraq, Afghanistan and Pakistan.<sup>63</sup> Forthcoming research is also likely to show that the UK aid budget has one of highest shares of spending among European donors going to non-aid items. Something else has been happening, too, which hints at the complex, interdependent world of international financial flows.

Money deposited in UK banks that has come from developing countries has also risen, and by a much larger amount. While much of the money coming into the UK stems from developing countries that are not financially poor in the sense of Sub-Saharan Africa, some of it does. And even then, intriguing questions hover above this quite dramatic increase in deposits to UK banks.

In 2005 alone the amount surged by well over \$115 billion to reach a total of \$385 billion.<sup>64</sup>

Deposits from several African nations have risen noticeably over the last five years, for example: Cameroon by 516 per cent (total deposit in 2005, \$271 million), Ethiopia by 103 per cent (\$379 million) and Nigeria by 47 per cent (\$7 billion). Elsewhere the money deposited in UK banks from Bolivia has risen over 600 percent in the last five years. From standing at just \$56 million in 2000, in 2005 alone, the figure leapt by \$72 million to a total of \$398 million. The prospect of a popular leader drawn from the indigenous population taking political control may well have sparked capital flight among the old elite of European ancestry. Something similar happened when Luiz Inacio Lula da Silva came to power in Brazil in October 2002. Over the course of that year, Brazilian money in UK banks virtually doubled from \$3 billion to nearly \$6 billion, and now stands at \$8.4 billion.

The stories from India and South Africa are even more striking. In five years, starting in 2000, Indian deposits went from \$8 billion to \$30 billion, and South African deposits from \$5 billion to \$21 billion. Both India and South Africa have been liberalising their economies, potentially making it easier for domestic finances to leave the country.<sup>65</sup>

The last three decades witnessed a growing deregulation of how money moves around the world. As international financial interdependence has grown, an increasingly large amount of money due to governments in tax to pay for public services has gone missing. Both at global and national levels sums of money that dwarf spending on the Millennium Development Goals are evading legitimate tax authorities through a network of tax havens, complex accounting manoeuvres, and with the advice and support of the major accountancy firms.

According to the recent research by campaign group the Tax Justice Network, approximately \$11.5 trillion of assets are held offshore by high-net-worth individuals. It estimates that the annual income from these assets could be \$860 billion, and the tax lost because they are held offshore' could exceed \$255 billion each year.<sup>66</sup>

The same group has also measured the UK's Corporation Tax Gap, in other words, the difference between the expected rates of tax that UK companies

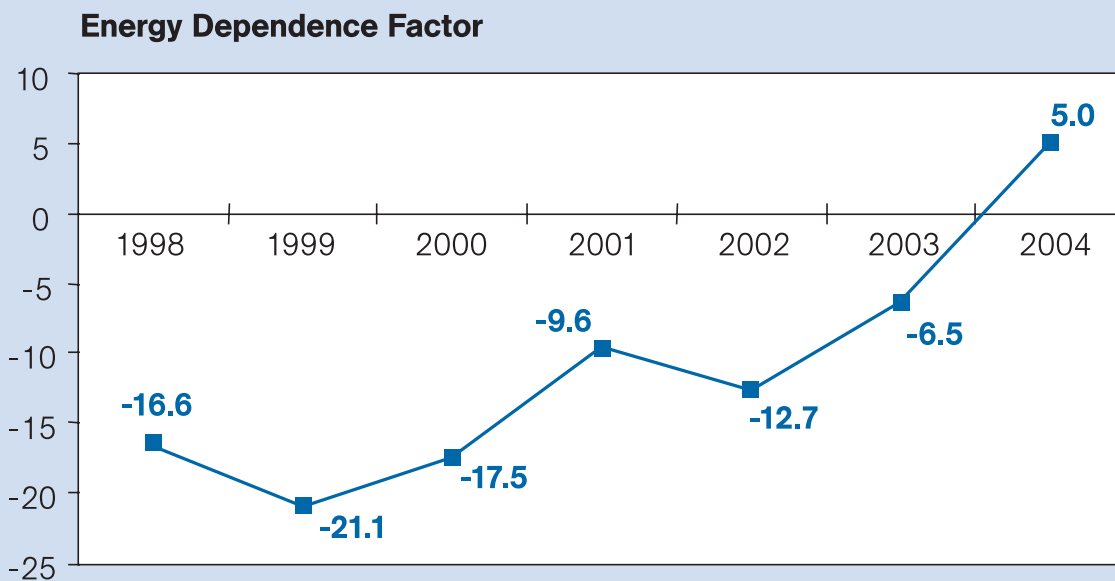
**Table 17: Annual increase / decrease in UK bank deposits from developing countries (\$m)**

Year	Amount \$m
1999	-5,222
2000	44,457
2001	9,657
2002	-6,057
2003	28,893
2004	58,812
2005	115, 235

Total deposits 2005 = \$385 billion  
(2005 = Q1–Q3, annual rate)

**Source:** Bank of England, 2005. Annual change in amount (increase/decrease) deposited in banks in the UK by people, companies and public sector institutions from developing countries, made up of net deposits, plus effects of exchange rate changes on existing deposits.

**Figure 6: Energy Dependence / Independence last 7 years: in 2004 the UK ceases to independently meet its domestic energy needs**



**Source:** nef estimates based on DTI 2005, "DUKES Table 1.1-1.3"<sup>67</sup>

\* Defined as: Net Imports ÷ Energy Demand x 100, a negative number means that the UK is energy independent because we indigenously produce more than we use. Of course energy independence does not equate with sustainability.

should pay and the tax that those companies have actually paid. The gap between the expected and actual amounts rose by over 3 per cent between 2000 and 2004. Looking across all UK companies, it may now equal £9.2 billion per year – more than the total revenue from UK stamp duties and between one-quarter and one-third of income from corporation tax in 2004/5.<sup>68</sup>

### Energy and carbon emissions

At just 22 weeks old, an average UK citizen will be responsible for the equivalent emissions of the greenhouse gas, carbon dioxide, which someone in Tanzania will generate in their whole lifetime. The UK uses a lot of energy and is the source of substantial greenhouse gases entering the atmosphere. Not only do we add more per person to the problem of climate change than the vast majority of the world's population, but as a nation, it is growing more dependent on importing fuel.

In spite of the enormous and politically charged focus on the Middle East, when it comes to fossil fuels the UK's real special relationship is with Norway. The Scandinavian country is our single largest supplier of natural gas, providing us with 82 per cent of our imports, as well as meeting half of our demand for imported petroleum products. South Africa, Russia, and Australia are respectively our three largest suppliers of coal, emphasising the sheer geographical spread of how our energy demands are met; Colombia comes next.<sup>69</sup> Since the closure of our own mines, four different continents stepped into the breach to provide the bulk of our supply; China is tenth on the list.

The UK still exports substantial amounts of crude and refined oil, with the US being the main export partner accounting for one-quarter of export trade followed by mostly European trading partners: the Netherlands, Germany and France.

Decline of our domestic fossil fuel industries led to the UK no longer meeting its own energy demand in 2004. But the fact that before 2004, the UK was energy independent did not mean that it had a sustainable energy supply in the environmental sense. Even after pioneering many renewable energy technologies, and being surrounded and covered in some of Europe's most

**Table 18: 2004 imports of natural gas and manufactured gases**

Country	Tonnes*	% of total imports **
Norway	4,946,047	82.3%
Belgium	801,632	13.3%
Sweden	64,965	1.1%
Germany	60,720	1.0%
France	48,843	0.8%

\* uktradeinfo 2006<sup>70</sup>

\*\* nef estimate based on uktradeinfo

**Table 19: Imports of enriched Uranium (U235) in 2004**

Rank	Country	Value of imports (£)	Amount imported (tonnes)
1	Russia	£134,793,763	1,089.8
2	France	£99,155,208	249.6
3	Netherlands	£63,482,437	183.5
4	USA	£50,236,101	166.2
5	Germany	£30,606,336	55.9
6	Sweden	£650,410	6.3
7	Spain	£104,799	0.3
TOTAL	All combined	£379,029,054	1,751.5

**Source:** uktradeinfo 2006

Note: The UK does not export U235

The UK does not seem to import raw/natural uranium ore for processing and refining.

abundant supplies of renewable energy like wind, wave and tidal power, the UK is still overwhelmingly dependent on fossil fuels.

Fears about the UK's falling energy independence have begun an active debate about how best to build a more self-reliant energy-supply system, whether by restarting the UK's nuclear programme or investing more in renewables.

The potential for domestic renewable energy in the UK is huge. Estimates vary enormously according to different assumptions. But, based on available technology, and without counting the enormous gains that could be made from energy conservation and demand management, it is estimated that wave power could meet 15 per cent of electricity demand, and tidal power an additional 6.5 per cent. Solar cells are capable of providing at least 5–10 per cent of electricity needs, with solar thermal units providing around half of a UK household's annual hot-water requirements. Theoretically Britain has enough wind to meet its electricity needs eight times over. Practically, a combination of offshore and onshore wind could provide at least 35 per cent of the UK's electricity, even with the national grid's limitations. Wind energy expert Professor John Twidell goes further suggesting that onshore wind could meet 31 per cent of the UK's projected electricity needs in 2030 and offshore a further 51 per cent. Because of different technological learning curves the costs of renewables are also set to fall dramatically compared to nuclear. There is no domestic supply of the enriched Uranium, used as fuel for the UK's remaining nuclear power stations, so it is imported. Russia, France, the Netherlands, the US, and Germany are our main suppliers, although the Uranium ore is often mined elsewhere. Kazakstan, just across the Caspian Sea from Iran, is the world's third-largest producer of Uranium ore.

Conventional energy statistics hide the true picture of our energy use. Enormous amounts of energy are embedded in the items that we import, buy, and consume. Whether food or manufactured goods, energy was used to grow and make the things we shop for, and to transport them here to the UK. Because this embedded energy use is invisible in normal economic accounts, it is included in the calculation of our national ecological footprint, providing a truer picture of our global, environmental interdependence.

In 2006, **nef** calculations based on Treasury statistics show government income from the fossil fuel sector, at £34.9 billion, is greater than revenue from council tax, stamp duty, capital gains tax, and inheritance tax combined. While in February 2006, Shell reported record profits of £13 billion and BP £11 billion, because these figures do not count environmental costs, the real ebb and flow of profit and loss, the nature of our economic and environmental interdependence is different.

**Table 20: Direct carbon emissions of FTSE 100 Companies in 2003/4 fiscal year**

Sector	Amount (metric tonnes CO <sub>2</sub> -e)	Per cent of global total
UK total*	656 million	2.2%
FTSE 100 companies (direct emissions only)	480 million	1.6%

**Source:** Henderson Global Investors 2005

\*Calendar year 2003.

Treasury estimates suggest that the environmental damage per tonne of CO<sub>2</sub> could be around £20. Combining the emissions that stem from BP's direct activities and the sale of its products leads to 1,458 million tonnes of CO<sub>2</sub> equivalent entering the atmosphere with a damage bill of £29 billion. Subtracting that from its profit puts it £18 billion in the red, effectively bankrupt. The same calculation puts Shell £4.5 billion in the red. In total, around 10 per cent of global CO<sub>2</sub> emissions from fossil fuels stem from just these two UK-based firms, potentially making the City of London, in effect, the carbon capital of the world.<sup>71</sup>

According to the city firm Henderson Global Investors, "The combined product emissions from all the oil, gas and coal sold by FTSE 100 companies is likely to be close to 15% of the global total from all fossil fuels."<sup>72</sup>

### **“Away”: Where the Waste Goes<sup>73</sup>**

Last Spring the 'WEEE Man' paid a visit to central London. Seven meters tall and weighing in at just over three tonnes, it was a pile of electronic junk – from dishwashers to mobile phones – moulded into the form of a giant mechanical man. WEEE Man was constructed in order to highlight the problem of the growing stream of electronic waste, and also to raise awareness of its namesake, the new EU WEEE legislation. The WEEE directive is a piece of legislation designed to redirect e-waste, which contains relatively large quantities of lead, cadmium, and other toxic substances, safely into licensed disposal facilities and recycling plants. WEEE is scheduled to come into effect in the UK in July. Electronics manufacturers and retailers will become responsible for ultimately taking back and safely disposing of any electronics product they sell.

Hopes are high that this legislation will sharply reduce the global black market in hazardous e-waste. Horrific conditions have been documented in the slums of Hong Kong, Delhi, and Lagos, where unregulated e-waste recycling is a booming cottage industry. The region of Guiyu in China, near Hong Kong, is a textbook tragedy: workers melt the lead out of unwanted computers over open flames without gloves or masks. Water now has to be trucked in to the town as the river and wells have become poisonous to fish and people.

While the WEEE directive will help bring e-waste under control, continuing financial pressures still make countries with weak environmental regulation tempting dumping grounds for unwanted rubbish. Recently, concern has risen about ageing ships. As new rules enforce changing over to double-hulled oil tankers, the older single-hulled ships are being scrapped. But there are few licensed dismantling facilities in EU, and a willing grey market is all too happy to relocate the dangerous scavenging operations to India or Africa. As the UK's imports grow, so too, ultimately, will the quantity of waste it emits. Ensuring that waste is properly disposed of, and not simply dumped on those nations least equipped to handle it, will always remain an environmental priority.

# Conclusions

“We must learn to live together as brothers or perish together as fools.”

**Martin Luther King, Jr.**

Economic globalisation has been seen as a one-way street. Interdependence has grown deeper and more complicated. Some things raise questions about how lasting this dynamic will be. For example, the coming peak and long-term decline of worldwide oil production will first increase the cost and then drain parts of the global economy of the life blood it needs to keep moving. Then, again, the pattern of the UK's global interdependence will change. In order to manage that change, rather than have it manage us, it will be important for national governments to have the necessary economic tools. This creates a challenge.

The dilemma was put clearly as long ago as 1972, by Sicco Mansholt, then the President of the European Commission: “Will the EEC become a powerful agent for improving living standards and opportunity in solidarity with less fortunate countries? Or will it remain a select inward-looking club of some of the world's richest nations? Will it continue to produce ‘bigger, faster and more’ for ‘some’ to the detriment of the global environment and the welfare of the ‘rest’?”

Today the UK is part of a Europe committed to bigger, faster, more economic growth which is being delivered by the removal of controls on the movement of goods, money, and services across borders. Freeing-up the movement of the global workforce, although part of the original plan, has run into more difficulties.

All this creates a major problem. Just as the UK and other countries around the world need more tools to handle the tensions surrounding interdependence, their freedom to manage economic and cultural flows across borders is being increasingly taken away. It is as if we were all on a motorway, rapidly filling with traffic headed in both directions, but lacking any road signs, speed limits, warnings, or rules of the road. Suddenly we realise that the steering wheel no longer responds to our touch. The policies that are pushed by governments focus on increasing international competitiveness. But the reality of interdependence demands cooperation rather than competition. Competition for resources in an already over-exploited global environmental commons is a recipe for disaster.

From a domestic perspective, careful official monitoring is needed to ensure that things do not come to the UK at the expense of the environment in other countries. UK consumers can also play a positive role. By choosing products that are produced according to appropriate standards, they can encourage economic activity towards a path of sustainable development. The recent wave of ethical consumerism shows potential. But as much as we can consume better, nothing can hide the fact that in the UK we also need to consume less.

The irony is that a large body of evidence shows that increased consumption, beyond a level that the UK passed long ago, does nothing to increase our level of well-being. So, having a larger ecological footprint is not even increasing our personal satisfaction.<sup>74</sup>

Interdependence can be both a blessing and a curse. The difference between the two will be our ability to manage it for collective benefit. To do that, we need new survival maps for an island planet.

# Notes

## Statistical sources

The calculations used to arrive at trade statistics combine the UN global trade dataset from the UNSD COMTRADE database (2005) with the *National Footprint and Biocapacity Accounts* from Global Footprint Network (GFN 2005, Monfreda 2004). The flow maps for visualisation are generated using an algorithm described by Phan (2005),<sup>75</sup> following the original flow maps of Charles Minard (1862).

## Annex 1

A detailed explanation of the evolving science and methodology for calculating the ecological footprint is given in the paper: *National Footprint and Biocapacity Accounts 2005: The underlying calculation method (2005)*, by Mathis Wackernagel, Chad Monfreda, Dan Moran, Paul Wermer, Steve Goldfinger, Diana Deumling, and Michael Murray available at: [www.footprintnetwork.org](http://www.footprintnetwork.org). A summary can be found in the report, *Europe 2005: The Ecological Footprint*, published by the Global Footprint Network and WWF available at the same web address.



## Measuring human demand on the biosphere – the ecological footprint

Nature can keep up with the demands of the human economic activity it supports, with all its associated consumption of resources and dumping of waste, but only as long as it stays within the regenerative capacity of the biosphere, the living part of the planet.

Ecological-footprint accounting measures the extent to which the ecological demand of human economies stays within or exceeds the capacity of the biosphere to supply goods and services. These accounts help individuals, organisations, and governments to frame policies, to set targets, and to track progress toward sustainability.

Such accounting is possible because resource and waste flows can be tracked, and most of these flows can be associated with the amount and the type of biologically productive areas required to maintain them. The footprint of a population is the total amount of biologically productive land and water area that it requires to produce the resources it consumes and absorb the waste it generates, using current technology. Since people consume resources and ecological services from all over the world, their footprint is the sum of these areas, regardless of where they are located on the planet.

The ecological footprint can be applied at scales ranging from single products to households, organisations, cities, regions, nations, and humanity as a whole. The footprint is used by governments, businesses, and organisations to measure and manage sustainability efforts, from communication and planning to implementation and evaluation of results.

Calculations in this report are based on the latest ecological footprint accounts from 2005. These new accounts have generated the most accurate ecological footprint results to date, which are now available through the year 2002. The greatest improvement since the previous edition has been the addition of detailed trade statistics, which allow us to more accurately track imports and exports of footprint and biocapacity at the national level.

## The current global footprint

The Earth's biologically productive area is approximately 11.2 billion hectares, or 1.8 global hectares per person in 2002 (assuming that no capacity is set aside for wild species). Global hectares are hectares of biologically productive area with world-average productivity. This standardised measurement unit, or 'ecological currency', makes comparisons of demand and supply possible across the world.

The footprint measures the amount of area required to sustainably produce a flow of products. This may be larger than the area actually used to produce the product. For example, products from a forest being harvested at twice the replenishment rate would be calculated as having a footprint twice the area actually used. CO<sub>2</sub> emitted in the production of goods for export is added to the energy footprint of the importing nation.

In 2002, humanity's demand on the biosphere, its global ecological footprint, was 13.7 billion global hectares, or 2.2 global hectares per person. Thus in 2002, humanity's ecological footprint exceeded global biocapacity by 0.4 global hectares per person, or 23 per cent. This finding indicates that the human economy is in ecological overshoot: the planet's ecological stocks are being depleted faster than nature can regenerate them. This means that it is eroding the future supply of ecological resources and operating at the risk of environmental collapse.

### **Background**

Created by William E Rees and Mathis Wackernagel in the early 1990s, the ecological footprint methodology has matured considerably over the past twenty years. Development and standardisation of this accounting method are currently coordinated by Global Footprint Network which **nef** (the new economics foundation) is part of. It was, founded in 2003, and has 50 partner organisations. More on the science and methodology used to create ecological footprint accounts can be found on Global Footprint Network's website at [www.footprintnetwork.org](http://www.footprintnetwork.org).

# Endnotes

- 1 Measured by GDP the UK has the world's fourth-largest economy, after the United States, Japan and Germany. Figures are GDP (2004) from World Bank Statistical Tables [www.worldbank.org/data](http://www.worldbank.org/data)
- 2 Ibid.
- 3 All figures: uktradeinfo 2005.
- 4 The figures are for net ODA, minus technical assistance expressed in 2003 prices and exchange rates: source DFID 2006.
- 5 Bank of England, 2005.
- 6 All figures: Bank of England, 2005.
- 7 Norton, WW (1962) *Norton Anthology of English Literature*. Fifth Edition, Vol. 1, p. 1107.
- 8 Gandhi, MK (1929) *Young India*, March 21.
- 9 McLuhan M (1962) *Gutenberg Galaxy*.
- 10 The declaration can be found at: [http://www.davidsuzuki.org/About\\_us/Declaration\\_of\\_Interdependence.asp](http://www.davidsuzuki.org/About_us/Declaration_of_Interdependence.asp)
- 11 Tom Atlee, Co-Intelligence Institute, Eugene, Oregon US, <http://www.co-intelligence.org/interdependenceday.html>
- 12 Cardiff Business School (2004) *UK Tourism Satellite Account – First Steps Project*. Department for Culture, Media and Sport: Cardiff.
- 13 *Ethnic takeaway and other fast food*, Leisure Intelligence (August 2002). Mintel International Group: London.
- 14 Travis, A (2006) 'Migration bill could be threat to curry houses' 30 Jan 2006, *The Guardian*.
- 15 UK Film Council (2005) 'Foreign Language Films at the UK Box Office', *Research and Statistics Bulletin*, Vol. 3 (1), September 2005. UK Film Council: London, 9 14.
- 16 (Dollars converted using average exchange rate for 2004) UK Film Council (2005) *UK Film Council Statistical Yearbook: Annual Review 2004/05*. UKFC: London.
- 17 Ibid.
- 18 Office of National Statistics (2005) *International transactions of the UK film and television industries, 2004*. National Statistics First Release. 28 October, 2005. ONS: London.
- 19 Ibid.
- 20 Simms A and Rendell M (2004) 'The global trade in muscle', *New Statesman*, 9 August.
- 21 FPA (2005) *F.A. Premier League Professional Player Nationality Analysis*, October 2005.
- 22 SportBusiness (2003) *Maximising the value of sponsorship*, SportBusiness.
- 23 Euromonitor (2005) *Sports equipment in the UK*, Euromonitor.
- 24 Dunn, RS (1972) *Sugar and Slaves: The Rise of the Planter Class In the English West Indies, 1624-1713*, Institute of Early American History and Culture, University of North Carolina Press: North Carolina, USA.
- 25 Pai, H-H and Leigh, D (2004) 'Tragic death that uncovered the shadowy world of Britain's hidden Chinese workers', *The Guardian*, 13 January.
- 26 See, for example, *The Guardian*, 'Three killed in rail crash', 7 July 2003; and BBC News Online, 'Attack on farm worker 'abuse' ', 18 September 2003, <http://news.bbc.co.uk/1/hi/england/hereford/worcs/3118860.stm>
- 27 See, for example, BBC News Online, 'Lorry driver 'smuggled dead immigrants' ', 28 February 2001, <http://news.bbc.co.uk/1/hi/uk/1194455.stm>
- 28 See, for example, BBC News Online, 'Body found at top restaurant', 31 December 2003, <http://newswww.bbc.net.uk/1/hi/england/london/3358645.stm>, and BBC News Online, 'Café cleaner 'died in basement' ', 28 April 2004, <http://news.bbc.co.uk/1/hi/uk/3668077.stm>
- 29 See, for example, *The Scotsman*, 'Cocklers drowned 'due to negligence of gangmaster' ', 20 September 2002, <http://news.scotsman.com/topics.cfm?tid=1083&id=1964982005>
- 30 Stalker P (2000) *Workers without frontiers – The impact of globalization on international migration*, ILO: Geneva and Lynne Rienner Publishers.
- 31 World Bank (2006) *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*. Washington: World Bank.
- 32 Received remittances estimate 2004 \$6.4 billion: *Global Economic Prospects 2006: Economic Implications of Remittances and Migration*. Washington: World Bank, 2006. Sent remittances estimate 2001 \$1.3 billion: *Global Development Finance 2003: Striving for Stability in Development Finance*. World Bank: Washington DC, 2003.
- 33 Brown C (2004) 'Disgrace of Britain's slave workers' *The Scotsman*, 7 February <http://thescotsman.scotsman.com/uk.cfm?id=149762004> and Thompson, T (2004) 'Rise of the gangmasters', *The Observer*, 15 February <http://observer.guardian.co.uk/asylum/story/0,1084,1148604,00.html>
- 34 *Asda faces £850,000 tribunal cost*, <http://news.bbc.co.uk/1/hi/england/wear/4702236.stm>
- 35 Parliamentary Select Committee on the Environment, Food and Rural Affairs (session 2002 2003) *Gangmasters*, First report.
- 36 Lawrence, F (2003) 'Illegal food workers exposed' *The Guardian*, 17 May [http://www.guardian.co.uk/uk\\_news/story/0,3604,957757,00.html](http://www.guardian.co.uk/uk_news/story/0,3604,957757,00.html)
- 37 Keter, V and Barclay, C (2004) *The Gangmasters (Licensing) Bill*. Bill 17 2003-04, House of Commons Library, Research Paper 04/17, 25 February.
- 38 Gott, C and Johnston, K (2002) *The migrant population in the UK: fiscal effects*, Home Office: London.



- 39 Palast G (2001) 'Asylum seekers? Try 'human capital' ', *The Observer*, 3 June <http://www.guardian.co.uk/Columnists/Column/0,,500470,00.html>
- 40 Harding, R (2004) *Global Entrepreneurship Monitor United Kingdom 2003*, GEM & London Business School: London.
- 41 General Medical Council. GMC: London, 2005.
- 42 Ibid.
- 43 Chanda, R (2001) 'Trade in Health Services'. Paper prepared for the Working Group on Health and International Economy of the Commission on Macroeconomics and Health, World Health Organization: Geneva.
- 44 Weiner, R, Mitchell, G and Price, M (1998). "Wits medical graduates: where are they now?" *South African Journal of Science*, Vol. 94: 59–63, February.
- 45 **nef** estimate based on *Statistics on International Development 2005*, DFID: London.
- 46 The Nursing and Midwifery Council (2005) *Statistical Analysis of the register: 1 April 2004 to 31 March 2005*.
- 47 DFID (2005) *Statistics on International Development 2005*. DFID: London.
- 48 The Nursing and Midwifery Council (2005) *op cit*.
- 49 **nef** estimate based on DfES (2005) 'Statistics of Education: School Workforce in England 2004 Edition', *National Statistics Volume, Department for Education and Skills*. The Stationery Office: London.
- 50 Work Permits (UK). *Work permits issued to teachers from August 2000 to July 2005*, Home Office: London, 2005.
- 51 DFID (2005) *op cit*.
- 52 DfES (2005) *op cit*.
- 53 Office of National Statistics (2005) 'Exports and imports of goods and services', <http://www.statistics.gov.uk/STATBASE/tsdataset.asp?vlnk=219>, accessed on 26 January 2006; Office of National Statistics (2005) National accounts: 'GDP: expenditure at current market prices'; <http://www.statistics.gov.uk/STATBASE/tsdataset.asp?vlnk=208>, accessed on 26 January 2006; World Bank (2005). 'WDI Online', <http://publications.worldbank.org/WDI/>, accessed on 26 January 2006.
- 54 Roundtable on Sustainable Palm Oil: [www.sustainable-palmoil.org](http://www.sustainable-palmoil.org)
- 55 Earth Island Institute Mangrove Action Project [www.earthisland.org/map/aqclt.htm](http://www.earthisland.org/map/aqclt.htm); WWF Shrimp Farming [www.worldwildlife.org/cc/aquaculture\\_pubs.cfm](http://www.worldwildlife.org/cc/aquaculture_pubs.cfm); WWF Brazilian Soy Farming Sustainability Impacts [www.assets.panda.org/downloads/sustainabilityassessmentenglish.pdf](http://www.assets.panda.org/downloads/sustainabilityassessmentenglish.pdf)
- 56 Office of National Statistics (2005) 'Exports and imports of goods and services', <http://www.statistics.gov.uk/STATBASE/tsdataset.asp?vlnk=219>, accessed on 26 January 2006;
- 57 Ibid.
- 58 WWF Scotland, *Sugar and the Environment*. Online at [www.wwf.org.uk/core/about/scotland/sc\\_0000001317.asp](http://www.wwf.org.uk/core/about/scotland/sc_0000001317.asp)
- 59 Defra (2005) *Agriculture in the United Kingdom 2004*, The Stationery Office: Norwich. [http://statistics.defra.gov.uk/esg/index/list.asp?i\\_id=054](http://statistics.defra.gov.uk/esg/index/list.asp?i_id=054), accessed on 26 January 2006.
- 60 Ibid.
- 61 All figures: uktradeinfo 2005.
- 62 The figures are for net ODA, minus technical assistance expressed in 2003 prices and exchange rates: source DFID 2006.
- 63 Estimate based on DFID (2005) *op cit*.
- 64 Bank of England, 2005.
- 65 All figures: Bank of England, 2005.
- 66 Tax Justice Network (March 2005) *The Price of Offshore*, available at: [http://www.taxjustice.net/cms/upload/pdf/Price\\_of\\_Offshore.pdf](http://www.taxjustice.net/cms/upload/pdf/Price_of_Offshore.pdf)
- 67 DTI (2005) *Digest of UK Energy Statistics (DUKES 2005)*, Department of Trade and Industry: London.
- 68 Tax Justice Network (2006) *Mind the Tax Gap: How companies could help beat poverty*, available at: [http://www.taxjustice.net/cms/upload/pdf/Mind\\_the\\_Tax\\_Gap\\_-\\_final\\_-\\_15\\_Jan\\_2006.pdf](http://www.taxjustice.net/cms/upload/pdf/Mind_the_Tax_Gap_-_final_-_15_Jan_2006.pdf)
- 69 uktradeinfo (2006) *The Interactive Trade Database*, HM Revenue & Customs: London, accessed on 17 January 2006.
- 70 uktradeinfo (2006) *op cit*.
- 71 Government Economic Service Working Paper 140, '32 Estimating the Social Cost of Carbon Emissions', [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk); *BP Sustainability Report 2004: Making the right choices*, BP (April 2005); *The Shell Report 2004: Meeting the energy challenge – our progress in contributing to sustainable development* (2005); Henderson Global Investors (2005) *The Carbon 100: Quantifying the Carbon Emissions, Intensities and Exposures of the FTSE 100*. Henderson Global Investors: London.
- 72 Henderson Global Investors (2005) *The Carbon 100: Quantifying the Carbon Emissions, Intensities and Exposures of the FTSE 100*, Henderson Global Investors: London, June.
- 73 WEEE Directive: [www.dti.gov.uk/sustainability/weee/](http://www.dti.gov.uk/sustainability/weee/); Basel Action Network: [www.ban.org](http://www.ban.org); AP Article on Guiyu: [www.mindfully.org/Plastic/Export/Tech-Trash-Poisons-China28feb02.htm](http://www.mindfully.org/Plastic/Export/Tech-Trash-Poisons-China28feb02.htm)
- 74 Shah, H and Marks, N (2004) *A well-being manifesto for a flourishing society: The power of well-being 3*, **nef** (the new economics foundation): London.
- 75 Phan, D, Xiao, L, Yeh, R, Winograd, T, and Hanrahan, P (2005) 'Flow Map Layout' in *InfoVis 2005* (Publication pending.)

# Interdependence Day

## *New maps for an island planet*

### What?

The Interdependence Day project aims to find new ways to respond to the fact of an interdependent world. It includes a mix of research, events, publications, and new creative work, all grown from collaborations between researchers, the public, academics, artists, campaign groups, and the media. For more information see [www.interdependenceday.co.uk](http://www.interdependenceday.co.uk).

### Who?

Interdependence Day is a collaboration between organisations and individuals committed to a better public understanding of the fate of the planet, and the people with whom we share it. This include includes a partnership between the Open University and **nef**.

### Why?

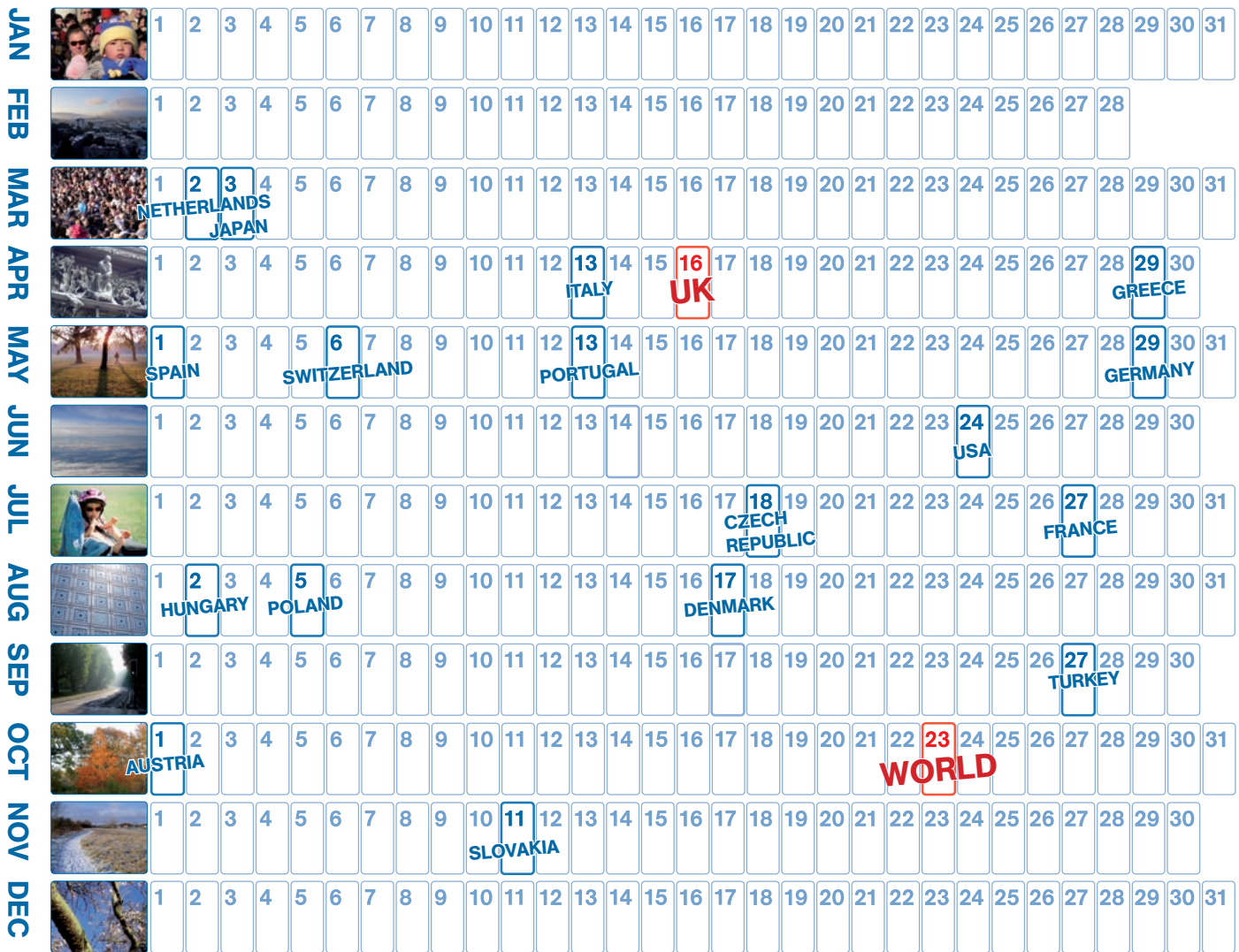
Demands to save the planet from environmental catastrophe, or to act on poverty are often daunting in scale and distant from daily life. But there is good news. In a globalised world, the interdependence of all living things grows clearer by the day. And, all over the world, people are responding to a growing awareness of their interdependence in a variety of creative and innovative ways. Interdependence Day will provide a focal point for the sharing of ideas that will help us all to greater awareness of the responsibilities and possibilities our interdependence offers. The Interdependence Day project seeks to refresh debates about the policies, choices, actions, and technologies that promise to change our world for the better. It will create some thinking space that will allow society to address difficult questions about globalisation and environmental change.

### Going public

Launched on 1 July 2006, the Interdependence Day public event gives people a chance to look at the world from a new angle. It considers new ways of debating and acting on the key challenges of environmental change and globalisation including: well-known speakers offering Declarations of Interdependence, a fast-paced solutions workshop to Save the World in Sixty Minutes and a mini film festival where filmmakers showcase their work. It also includes creative side-events covering arts and poetry workshops, music, performance, a Doctor's Surgery where appointments are available to diagnose and solve the world's problems, and an Earthly Sins confessional. The public event has displays offering state-of-the-art design and technology for sustainability.

The Interdependence Day Project is led by Dr Joe Smith, Open University. For more information, contact Jan Smith on [j.f.smith@open.ac.uk](mailto:j.f.smith@open.ac.uk) or 01908 654 456.

# Ecological debt day calendar



The calendar shows the day in a typical calendar year when, in effect, the UK stops relying on its own natural resources, and starts to live off the rest of the world. At current levels of natural resource use in the UK, the average person begins living beyond their environmental means and goes into ecological debt on 16 April. As our total consumption grows, that date moves ever earlier in the year. In 1961 it was 9 July, advancing to 14 May in 1981. Ecological debt days for a selection of other developed economies are also shown

The planet can tolerate a little give and take without environmental collapse as long as, in total, humanity lives within its overall ecological budget. But the world as a whole is also now living beyond the capacity of its ecosystems to regenerate and goes into ecological debt on 23 October, causing long-term environmental degradation.

**This report was written by:** Andrew Simms (nef policy director), Dan Moran and Peter Chowla

**Thanks to:** Petra Kjell, David Woodward, Joe Smith, Ruth Potts, and Corrina Cordon.

**Edited by:** Mary Murphy

**Design by:** the Argument by Design – www.tabd.co.uk

**new economics foundation**  
 3 Jonathan Street  
 London SE11 5NH  
 United Kingdom  
 Telephone: +44 (0)20 7820 6300  
 Facsimile: +44 (0)20 7820 6301  
 E-mail: info@neweconomics.org  
 Website: www.neweconomics.org



Registered charity number 1055254  
 © 2006 nef (the new economics foundation)  
 ISBN 1 904882 08 0