

Deciding the fate of rubbish



Siân Berry, Peter Jones, Ben Ferguson and more



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It's time to deal with our waste

It is easy to think of waste as nothing more than the stuff that goes out in our binbags. In fact, as the waste guru Peter Jones explains here (overleaf), waste is generated, at enormous levels, right across the life cycle of our society. We are careless with resources and, as a result, our management of waste is failing to work as well as it could.

Getting people to recycle and compost is a vital way of making good that failure. Looking at innovative ways of using waste – for example, to produce energy – is another. But no real progress can be made without proper minimisation strategies, which means encouraging industry (coercing it, if necessary) to reduce waste along the supply chain.

This will reduce the amounts of rubbish being poured into our landfill sites. It will also give British firms a competitive advantage in the 21st-century, in a world where resources are going to be increasingly expensive and fought over.

But does our government have any real appetite for getting industry to shoulder its share of the burden? So far, the responsibility for waste reduction has been laid heavily on the shoulders of local authorities and consumers. The government does not even keep complete figures for commercial and industrial waste. It is just not good enough. The time has come for a truly radical change in the way we approach our rubbish. ●

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We're only beginning to understand where waste actually comes from, and how to go about reducing it

Closing the circle

By Peter Jones

In 1858, the year that became known as the Great Stink, the untreated sewage that flowed down the Thames had become so unbearably smelly that the House of Commons hung sacking drenched in chloride of lime at the windows, and members of parliament were eventually forced to abandon their sessions altogether.

As sure as night follows day, regulations were passed to cope with Britain's increasing sewage problem. The Victorians were famous for getting to grips with the drainage problems of large cities that were entering the modern, toilet-flushing world. But the regulatory framework they brought in didn't take waste into account – at that time, it was just something burned in grates, behind factories or in power stations. It wasn't for another hundred years or more that we began to think that we were really going to have to do something about our waste.

In 1999, the EU brought in the Landfill Directive, which attacked our motley approach to waste management and would see off the first generation of inefficient and polluting incinerators installed in the 1970s. While the UK signed up, however, we retained a quirky approach to the philosophy that now, ten years on, has come back to haunt us.

At the time, the foundation of our Anglo-Saxon approach was different from the rest of Europe in two important ways. First, we chose a regulatory framework based on

where waste originated rather than what it was – leading to a dog's breakfast of exceptions and exemptions that became a lawyer's paradise.

And second, with our government unwilling to interfere in an efficient, low-cost regime, landfill carried on being the preferred exit route. By 1996, it had at least been recognised that the cheapness of landfill was a brake on innovation, so taxes were introduced to level the field to meet 2010 diversion targets. Unfortunately, at £7 per tonne, the tax was woefully unsuccessful until swingeing annual increases – eight years late (in 2005) – began to redress the balance in favour of innovation. Politically, this timorous approach was probably grounded in the uncertainty of the new, particularly when

It takes 20 tonnes to produce every tonne of consumer goods we buy

the latter was presented as the European model of community-based incinerators delivering combined heat and power at subsidised cost. Such models were seen as being, at best, unworkable in the urban UK arena and at worst a form of political suicide, given our disastrous first foray into incineration in the 1970s, when incinerators were found to be spewing worrying quantities of dioxins – which many people considered a grave health hazard – into the atmosphere.

Global warming awareness charged the

debate with a new urgency, along with the realisation that our species was reaching an upper limit of capacity to live off one "Spaceship Earth". At the Wuppertal Institute, the Rocky Mountain Institute, and the Stockholm Environment Institute, innovative minds were coming to the idea of circular material flows within the earth's system – the "closed loop", as it has become known.

The great difficulty was, and is, the absence of coherent systems of measurement. In 1996, while at Biffa we were embarking on research into the UK's waste, it became obvious to me that putting together an integrated data capture network on material flows was going to be essential if we wanted sound policymaking, diverting around (then) 110 million tonnes of "stuff" from geological to operational use. We used the money from the landfill tax for a £10m programme to analyse material flows by region, industry sector and material type culminating in the publication in 2006 of *The Mass Balance Movement*, which began the huge work of collating this information.

And what our studies demonstrated is that, in order to produce the 60 million tonnes of food and drink, clothes, road fuel, furniture, electrical goods, cars and all the other stuff that we consume, we take around 1,200 million tonnes from the global commons. Which means that it has taken 20 tonnes to produce every tonne of consumer goods we buy. The waste is quite extraordinary.

Worse still, as we consume, we dispose – obvious in the case of food, but implicit



Unpackaged was founded in 2006 on a market stall in the belief that “there is a better way to sell food”. Now a “pretty shop” at 42 Amwell Street, EC1

in the case of all else. The suspicion is that the net accumulated mass of physical “wealth” – the things we buy that we actually keep, such as books, furniture and houses – is less than 3 per cent each year. Parallels with the financial economy are striking, with 3 per cent growth rates, and inflation that equates to the growing rate of atmospheric and physical outputs failing to be absorbed by the natural system.

Does the legislative executive in Westminster really understand what is going on here? And what needs to be done about it? Only partly. On the upside is the growing realisation that delivering improved resource efficiency means less in for the same out. That comes from innovation in terms of engineered products (developing economies will not need to go through technology stages now seen as resource-inefficient, such as fixed-wire

communications networks), engineered consumption (car shares, leasing systems rather than purchasing) and engineered systems – which is where waste comes in.

In the 21st-century, resource-efficient nations will have an advantage: being able to make more with less in a resource-constrained world. Whole-systems thinking is the only way forward – and waste is the best place to start. The entry point for different companies into this concept may differ; it may come through producer responsibility – where manufacturers find it cheaper to recover raw materials from last year’s sales rather than buying them in a global market. It might come from the waste companies converting what they collect into materials (recyclate), such as electricity, gas or synthetic road fuel, and so on, in a world where fossil carbon prices will prove bullish.

But market investment in this process in the UK is being fatally slowed down because there is still no integrated database

showing these material flows. And there is still no single framework for modelling alternative solutions in terms of avoided fossil carbon emissions – which would be a good way of linking our waste to the wider climate-change imperative.

Also missing are two links in political understanding. First, the countries that buy in early to this concept of resource utilisation are buying in to a global competitiveness ticket for jobs and wealth creation in the next Industrial Revolution. Second, in a UK where taxes on employment and consumption are reactive and limited, taxes on resource use and carbon could be proactive and fruitful.

So, next time you are stuck behind that dustcart or your recycling man whinges about your quality of waste, just remember the bigger picture! Waste need not be waste at all. ●

Peter Jones OBE was a director of Biffa and now represents Boris Johnson on the London Waste and Recycling Board

New technology offers ever more ingenious ways to turn the detritus of life into valuable forms of energy

Garbage into gold

By Sarah Lewis-Hammond

Digestion? Composting? Steaming? After years of it being seen literally as waste, in the past few years industry is finally waking up to the potential of our rubbish. “We’re looking at a kind of industrial revolution,” says Richard Kirkman, head of technology for Veolia Environmental Services. “We’re making factories to make raw materials from waste, to put those materials back in the economic cycle. That’s our business model.”

One of the most interesting prospects in waste disposal is anaerobic digestion (AD), which is suitable for easily biodegradable matter. Waste is sealed in oxygen-free and bacteria-rich conditions where it is digested. The end product is methane, which can be used in gas-fired power stations or fed into the gas supply, and a rich organic fertiliser for use in agriculture. AD is, essentially, hi-tech composting, needing only half the space and a third of the time to complete the process.

One government report suggests that by 2020, AD-derived biogas could, through electricity generation and domestic gas supply, account for 10-20TWh of the UK’s heat and power. At the upper end of the scale, that equates to 7.5 per cent of predicted demand.

A £32m New Technologies Demonstrator Programme, launched by the Department for Environment, Food and Rural Affairs (Defra), is also investing in a range of new ideas to help lessen the waste mountain. In-vessel composting, for example, is simply industrial-scale composting performed in a controlled environment, with the air flow and ambient temperature adjusted to sanitise waste and guarantee the quality of the final product.

Gasification and pyrolysis also have exciting potential. In the former, carbon-rich waste is heated in the presence of oxygen to break down hydrocarbons to form a biogas. Pyrolysis is achieved without oxygen to achieve a biogas with a different



Cow dung could be a power resource

GOOD RIDDANCE TO RUBBISH

Poo into power

Faeces, animal or human, make great biogas. Just pop the poop in a methane digester and two weeks later out come fertiliser and methane. Thames Water says it saved £15m and powered 14 per cent of its operations this way in 2008.

Hydrogen from pee

Researchers at Ohio University have found that hydrogen atoms in urea are more loosely bonded than those in water, so electrolysis easier and cheaper.

People power

Systems are popping up, from the Japanese railway generating electricity from the vibrations of passengers going through ticket barriers, to the London nightclub dance floor that turns kinetic energy into electricity.

Tornado power

The Canadian engineer Louis Michaud claims that warm air lost from power stations could be used to create intense vortices, inside which wind turbines would utilise the 200mph tornadoes.

composition. In the days before North Sea gas, coals were subject to the same procedure in order to make fuel. The technology is not new, but the idea of using it for municipal waste is only just beginning to catch on.

Finally, mechanical heat treatment, used as a precursor to other forms of processing, is also being investigated. Piles of waste are steam-heated, sterilising the contents and reducing them to more manageable forms. Paper and card, for example, are reduced to a fluffy mass for further processing, and labels and lacquers are steamed off glass and metal, leaving them ready for reuse or recycling.

For Kirkman and Veolia, the next stage is to remove “the human interface” in material-recovery facilities. He says: “At the moment we have people picking stuff up off conveyor belts.

“In the same way that cars used to be made by people and now they’re made by robots, it’s within our capability to make a sorting centre without people touching anything.”

Control-centre-based touch screens allow a human operator to instruct a robot to move materials, or an infra-red “magic eye” identifies different types of plastic and uses a jet of compressed air to shoot an items into relevant bins.

But in the end, as Steve Lee, chair of the anaerobic digestion task group and chief executive of the Chartered Institution of Wastes Management, points out: “We still talk about waste management as something inevitable. What about waste prevention?”

“We’ve been living an uncontrolled party for the past 50 years and one day historians will look back on this era agog. We understand materials and our responsibility towards them much better now, so we need to start talking about how we can design out waste completely.” ●
Sarah Lewis-Hammond is an award-winning environmental journalist



Recycling and Renewable Power Real Joined-Up Thinking

It has never been more important for the UK Government and devolved institutions to signal that it understands the need for investment to be made in the nation's renewable energy and recycling sectors. Energy from waste, in all its forms, continues to be the largest renewable energy source in the UK, accounting for approximately 30% of its current renewable energy, or roughly 1.5% of its total electricity production. Waste to energy, aligned with higher levels of recycling, is driving resource efficiency and helping Britain meet its increasingly challenging landfill diversion targets.

With decisive leadership from central and local government on the need for essential new infrastructure to be built, service providers and suppliers in the UK can become world leaders in recycling and renewable technologies and provide a significant boost toward ensuring the nation meets its international climate change commitments.

For many local authorities, energy from waste is providing an attractive way of avoiding steeply rising landfill tax. At the same time, given that energy is produced as a by-product of a required waste treatment process, its cost is relatively low. Energy from waste provides important base-load power, and waste sources are also distributed round the electricity grid enabling good viable grid connections. For these reasons, Viridor sees huge potential for increased generation of energy from waste. We estimate that waste could account for a total 6 percent of the UK electricity generation by 2015, compared to 1.5 percent at present.

This proven, low cost base-load source of distributed renewable energy is critically important given the UK's targets of generating 15% of total electricity from renewable sources by 2015 and more by 2020.

Energy from waste is complementary to high levels of recycling, as best practice in the UK and across Europe shows. The demand from businesses, local authorities and the public for more recycling continues to grow. Increased capacity must be aligned with the right skills and experience in order to produce



Sorting process at a Viridor materials recycling facility

Above: Lakeside energy from waste facility

high-quality recyclates to meet the demanding specifications of the nation and global markets for secondary materials. Only this mix will deliver sustainable economic and environmental benefits.

Part of the FTSE 250 Pennon Group, Viridor is today leading investment in the UK's renewables and recycling infrastructure – working in partnership with public and private sectors nationwide to maximise recycling, whilst recovering energy from the residual waste that remains.

Last year the Viridor Laing consortium achieved financial close on the Greater Manchester PFI which is the UK's and probably Europe's biggest ever waste and renewable energy project. Viridor now serves over 80 local authorities, providing essential recycling, recovery and waste services and 'next generation'

infrastructure. Delivery of two of the UK's most advanced materials recycling facilities in 2009, in addition to a series of acquisitions of recycling specialists (such as London Recycling and Intercontinental Recycling Ltd), and a joint venture with Grundons in the £180m Lakeside Energy from Waste facility on the M4 corridor, all demonstrate our intent and commitment in these vital areas.

Of course, it's not just acquisition and new build that will enable growth. Continuing to invest in existing infrastructure is also crucial. Investment is needed now to meet our national targets, right at a time of challenging public sector spending constraint. That's why planning and partnerships are so vital, now more than ever. Viridor is ready to invest even more substantially and continue to drive recycling, renewables and resource efficiency forward.

There are obviously big challenges on the horizon for politicians in the UK and Europe. With some serious joined-up thinking from policymakers across the spectrum, Viridor believes that the UK can be at the forefront of a green revolution and we look forward to getting down to business and getting waste, recycling and renewables sorted.

Toaster catch fire? Printer making odd noises? Don't just throw old stuff away, or hide it in the shed. Why not...

Inspect your gadgets!

By Siân Berry

Moving house last year brought my personal “gadget footprint” into focus in a very uncomfortable way.

It started when I cleared out the old flat and found a small mountain of broken electronics cluttering up the cupboards. I discovered, stashed away and completely forgotten, not one but two broken computer printers, along with an old leaky kettle, a defunct first-generation DVD player and a steam iron whose plug had burst into flames one scary morning a while ago.

At least by hanging on to these items for several years, I could take them to Kentish Town's excellent recycling centre, where they went into a special new skip for “waste electrical and electronic equipment” or WEEE. This reduced my guilty feelings by a small degree. However, having written a whole book to encourage people to mend things, I am determined that, in the new flat, I am going to cut down on my contribution to the electronic waste mountain.

Remembering my “R” principles for reducing waste, my resolution for the new flat is to reuse and repair as many of my gadgets as I can, and so far, I'm doing well. Having bought a new widescreen monitor for the living-room computer (for use in place of a TV, now we watch almost everything on “catch-up” services online), I've found a good home for the old screen at the office of a campaign group. Rather than throw away things that are in working order, “freecycling” such items is an excellent – and charitable – alternative.

Meanwhile, repairing electronic gadgets can be easier than you think. In fact, simply changing the fuse will get most machines back in action in about two minutes flat. But actual malfunctions are often fixable, too. Lamps and other light fittings are the simplest machines imaginable; every part can be repaired or replaced using just a screwdriver, a pair of



Berry: DIY is a pleasure, not a pain...

ELECTRONIC WASTE

E-waste is one of our fastest-growing waste problems, as more and more of us buy or replace toasters, computers, televisions... all the gadgets we love so much.

In the UK we throw away an estimated 1.2 million tonnes of electrical and electronic waste. But in the United States the problem is particularly bad, with e-waste making up 3-5 per cent of the waste stream, mostly heading straight for landfill.

Different estimates have the number of obsolete computers in the US, for example, pegged at between 315 and 680 million units and rapidly growing. And the problems of recycling and managing computer waste are only just being examined. In the meantime, they end up in landfill, or in piles being sorted through by hand, which contain chemicals that Greenpeace has warned can be toxic. ●

pliers and a dose of common sense.

But more complicated machines can also stop working because of something very easy to fix, too. Often the power cord becomes detached or a connection breaks inside the on/off switch. A cheap soldering iron can be used to reattach these wires and enable you to have further years of good service.

Other simple repairs, where parts can be ordered and replaced at home, include door seals on fridges and heating elements for toasters or hairdryers. The good old internet is an excellent resource for the home maintenance of appliances – you can use it to find copies of lost manuals, to track down replacement parts and get into long online conversations about common faults.

And when something really is broken, sending it to landfill is no longer necessary, thanks to the WEEE regulations aimed at reducing the huge number of electronic gadgets we throw away (200 million a year in the UK, at the last count). If you can't trade in your old machine at the shop when you go to buy the replacement, your local council should – like mine – at the very least offer a collection service or a dedicated area at your local recycling centre.

Remember, however, that keeping gadgets going is almost always better than scrapping them. And this is not just for the resources and money you can save, but for many other non-green and non-thrifty benefits.

The fun involved in learning new skills, the pride you feel at being able to fix something yourself, and the simple joy of living a more self-reliant life are just a few of the more personal reasons to try mending things. So, why not give it a go? ●

Siân Berry was a founder of the Alliance Against Urban 4x4s. Her book “Mend It! 400 Easy Repairs for Everyday Items” is published by Kyle Cathie (£16.99)

Businesses predict 'thrift shift' in 2010

The year ahead could see a legacy of improved resource efficiency among the nation's businesses as a result of their experiences during the recession.

That's according to a new report by sustainability experts Envirowise which shows that a large number of organisations have adopted an increasingly 'thrifty' mindset in a bid to secure cost savings and minimise material use.

The Envirowise Business Thrift Shift Report encompasses responses from more than 500 UK companies and reveals that almost three-quarters (73%) of those surveyed have developed a more detailed knowledge of their spending and resource use as a result of the downturn. This includes everything from investment in raw materials, transport and energy, to staffing, equipment and professional services.

For businesses, reduction of spend on raw materials and consumables was the biggest area of cut back (38%), with a large number also minimising their water, energy and transport use. Eighty nine percent of respondents are expecting to be more careful about how they use their resources once recovery comes, suggesting this 'thrift shift' is set to continue.

Simon Drury is Strategic Partnerships Director at Envirowise which offers UK businesses of all sizes free, independent and practical advice on resource efficiency. He said: "Businesses, particularly SMEs, have been facing some serious challenges as a result of the recession and this is perhaps reflected in around 40% of survey respondents reducing staff costs during this period. However, it is also clear that for many companies the current economic difficulty has stimu-

lated a more resource-conscious mindset, galvanising environmental commitments that had perhaps been lower down the business agenda.

"We know from experience that resource efficiency goes hand-in-hand with profitability, so it is encouraging to see better management of raw materials, energy and water forming an important component of the business response to recession in the UK.

"Such an approach does not only lead to financial savings; it can also equip businesses to face increasing levels of environmental legislation and provides an important competitive advantage as customers become

"The recession has served to both focus and accelerate our improvement initiatives"

envirowise }

more environmentally conscious.

"These companies are not only more likely to survive the recession in the short-term, but are also better placed to thrive as the economy begins to recover."

Commenting on the research, David Caro, Chair of the Federation of Small Businesses' Environment & Energy Committee, said: "The downturn has brought increased spending constraints for our members which

have been exacerbated by the problems of accessing credit during these difficult months. Yet this tough economic climate has also focussed attention on increasing resource efficiency, not only to maximise costs savings, but also to meet the growing demand for resource efficient goods and services. There is a growing consensus among the SME community that resource efficiency is not just a symptom of the current downturn but essential to remain competitive in the transition to a low carbon economy."

Phil Hewes, Materials Controller at Derbyshire-based Denby Potteries, described their experience of the 'thrift shift': "Resource efficiency has always been an important aspect of Denby's business as, by our very nature, we are an energy intensive operation.

The recession has served to both focus and accelerate our improvement initiatives. Wasteful activities are targeted, reviewed and measured with the operational teams now acutely aware of the need to improve process yields. If we are to survive then this is a path we must take. Recession has made the route steeper but we cannot afford to turn back or slacken our pace."

The Envirowise Business Thrift Shift Report is available at: www.envirowise.gov.uk/thrift Businesses can access free guidance and practical advice on resource efficiency by visiting www.envirowise.gov.uk or calling the Envirowise advice line on 0800 585794.

The head of the Environment Agency favours tough action against polluters – but won't support punitive action for the sake of it

Carrots, not sticks

By Samira Shackle

The Environment Agency (EA) does not set its sights low, stating that its role is “to protect or enhance the environment, taken as a whole”. And waste – admittedly, not glamorous – is a fundamental part of that whole. *Waste Strategy for England*, published in 2007, placed rubbish – where it comes from, and what we do with it – firmly on the agenda.

I asked Chris Smith, chairman of the EA, how effective he thinks the battle against waste has been so far.

“Broadly, we’re making progress, but there’s still quite a way to go,” he says. “The trend is absolutely in the right direction. If you look at consumers, household waste has dropped by 26 per cent since 2000, and we’ve reached reduction targets two years early.”

But while the increase in household recycling shows an important shift among individuals, other stakeholders named in the 2007 strategy still pose a problem. What about industry – is it getting away with being wasteful? Smith, a former MP for Islington, now a member of the Lords, is diplomatic. “It varies by sector, but some are way ahead of the game on this, supermarket retailers are looking very seriously at what happens to their waste. But they still need to do some thinking about the amount of packaging that they use for their products in the first place.”

He describes a programme at Sainsbury’s that will be in place by the end of the year, whereby all the food that is left over and past its sell-by date is disposed of through anaerobic digestion, which biodegrades the food and produces energy in the process. Other retailers have similar plans afoot.

So, most progress has been in the area of waste disposal – innovative ways of recycling or reusing. But what we really need is a seismic shift in industry to reduce the volume of rubbish produced in the first place. How can this be encouraged?

Smith draws attention to the Waste



Chris Smith: let's incentivise right behaviour

Protocols Project, in conjunction with the Waste and Resources Action Programme (Wrap), which aims to explore whether materials stigmatised as “waste” can be turned into something useful – turning waste cooking oil into biodiesel, for example – which will eventually make it easier for industries to recycle.

Under the “polluter pays principle”, though, the cost of waste disposal and reduction should become the responsibility of the company that creates it. If effectively implemented, it would mean that this cost would be incorporated from the very beginning of the production process, thus giving companies the incentive to make products that involve fewer wasteful by-products. How far has this principle been put into effect in the UK?

“It’s a fundamentally correct principle. So far, it has had its greatest effect in the landfill tax, which raises money but also has an impact on behaviour,” he explains. “It is currently £40 a tonne, and will rise by another £8 a tonne up to 2013. I’m very pleased that both the Conservatives and the present government have committed

to continuing that progressive increase. It’s had a major impact in reducing the amount of landfill waste.”

But is this enough, or do we need to speed up the move towards other solutions? “Well, let’s not run away with the idea that we’ve filled the entire country up. We still have capacity,” he says. “It’s much more important to start with reducing waste in the first place. And energy recovery, by means such as anaerobic digestion, is fast coming up as a real alternative to landfill or incineration. It could eventually provide heat and power for whole local areas.”

If punitive taxes on businesses dumping landfill have been effective, what about a per-household waste tax? The idea was considered, but rejected, by the government in 2007. Smith agrees with that decision. “I prefer carrots to sticks – incentivising right behaviour rather than taxing wrong.”

He draws attention to voucher schemes in some local authorities, which have the potential to be extended. With industry, however, it seems that more often than not, taxing wrong behaviour is a necessity. As it becomes more expensive to dump landfill in the UK, there is the problem of illegal waste exports, which can have a pernicious impact on the developing world. “We’ve been really tightening up what we do on that,” says Smith. “In the first six months of last year we carried out 166 unannounced inspections and placed stop notices on 53 shipments. We’re making it much tougher for people who think all they need to do is hide their waste and send it to Nigeria.”

Undoubtedly, there is still a long way to go. Moves such as this send the right message to unscrupulous businesses. But until industry – the biggest producer of rubbish – really takes responsibility, the efforts of consumers and local authorities could end up a bit of a waste. ●

Samira Shackle is at Newstatesman.com

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Policy Reports 2010

Look out for the forthcoming series of *New Statesman* policy reports addressing the key issues of 2010 from housing to public health, from climate change to national security, from transport to education.



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When Britain signed the EC Landfill Directive in 1999, we should have entered an era in which waste-creators would be held to account

Who puts out the rubbish?

By Ben Ferguson
Infographic by Script & Seal

At the start of the 1990s, the UK's recycling rates were languishing at around 5 per cent. While West Germany passed laws committing its citizens to recycling 50 per cent of its packaging waste by 1995, the UK continued to pile the plastic on to landfill sites for another decade.

The catalyst for change came in 1999, when the Labour government signed up to the EU Landfill Directive – a legal agreement to reduce the amount of biodegradable waste that goes to landfill in European Union member states. Scotland published a waste policy the same year; Wales's strategy was ready in 2002, Northern Ireland's in 2006, and after much toing and froing, in 2007 the Department for Environment, Food and Rural Affairs (Defra) finally published its plan for reducing the amount of waste England creates.

Waste Strategy for England, as it was called, targeted five stakeholder groups that needed to change their behaviour to minimise the waste the country produced, as well as claw back energy by treating the residual rubbish: government, industry, retailers, consumers and the waste industry. Each stakeholder was allocated responsibilities and market-based incentives and goals were established which, if met, would ensure that, by 2020, 50 per cent of England's waste would be reused, recycled and composted.

Government

In 2006 the European Union established a Waste Framework Directive relating to the management of waste across the EU, and committed member states and their

local authorities to reducing the amount of waste they produced. The UK government took this to mean tighter regulation of waste activity and delegated a much greater task to the Environment Agency – whose core role is to enforce environmental standards. It was now expected to take a role in setting these regulations, particularly in industry, while also monitoring targets and standards.

Paying for the green revolution was going to be an issue. A hike in the landfill tax – now at £48 per tonne of waste going to landfill, compared to £7 per tonne in 1996 – was introduced, and the universal charge to every authority, business and household that takes a tonne of waste to

Historically, levels of waste have risen as the economy has grown

landfill has been the most effective fiscal measure brought in to divert waste.

The government gave local authorities the duty of delivering landfill reduction targets by increasing the municipal waste recycled or reused from 27 per cent in 2005 to 53 per cent in 2010. This involved diverting waste from landfill, helped by PFI credits to stimulate investment in waste infrastructure schemes. The councils also had to give businesses and households advice on how to minimise waste. As an incentive, the Landfill Allowance Trading Scheme fined local authorities £150 per tonne of waste that was above their target figures which went to landfill.

Over the past three years, the amount of biodegradable waste that goes to landfill has reduced to beneath 2010 targets, using 78 per cent of its allocated amount. But, as long as landfill reduction remains the only way that our government passes on responsibilities and incentives to local authorities and councils, waste continues to be produced.

Industry

Could this be the year that the government finally holds industry accountable for its environmental impact? Historically, levels of waste have risen as the economy has grown, and the fear has been that, if the biggest polluters were made to reduce waste, this would force the economy to contract.

Moreover, while monitoring household waste (collected by local authorities) is fairly straightforward, central government is still struggling to find an effective way to monitor commercial and industrial waste, which is collected by hundreds of private companies.

But it is waste minimisation that is really becoming a buzzword for industry at the moment, particularly given the current economic climate. The obligations of "producer responsibility", both statutory and voluntary, oblige industry to make products using more recycled materials and fewer newly extracted raw materials, and to design products that are less wasteful in their production and use. Producers should manage the cost of these changes, not simply by handing the costs of eco-design over to the consumer, but by addressing their supply chain and establishing

► separating their waste for recycling.

As consumers are made to believe that minimisation is an upstream issue and beyond their reach, their focus is on recycling and composting. So far, it appears that consumers have done a good job of meeting the demands that borough councils make of them. By November 2009, the proportion of municipal waste disposed in landfill decreased from 54.4 per cent in 2007/2008 to 50.3 per cent in 2008/2009. These successes were a result of an increase in the amount of recycling that households and businesses were doing, which went up from 34.5 per cent in 2007/2008 to 37.6 per cent in 2008/2009.

Yet, while Defra's targets are being met, environmental NGOs argue more needs to be done, citing the rate set in Flanders in Belgium of 74 per cent municipal waste being recycled as the sort of levels for which the UK should be aiming.

However, it could be consumers who ask for more. They must assert their power and take advantage of their status as "partners" in the process of policy development. They must demand greener products and drive eco-design and they must be willing to negotiate the transpar-

ent cost of doing all this, rather than accepting the one they currently pay as part of council taxes and product prices.

The industry

Defra's strategy expects the largely privatised waste industry to work with local authorities and deliver policy demands. Local authorities have to encourage their communities to separate their rubbish

Consumers should be demanding greener products

and attract investment to the waste industry using PFI credits, and the waste industry has a role to deliver a reduction in the use of landfill. A lot of their success relies on the landfill tax escalator – inflating the charge by £8 each year – taking the cost of landfilling from £40 per tonne to economically inefficient levels. Until then, industry, business and households will revert to this option while the recycling will continue to be undercut.

Nevertheless, in order to meet the EU Landfill Directive, local authorities need

to develop waste infrastructure. By entering into a contract with private waste companies, local authorities are given PFI credits to pay for the use of the waste industry's service. Essentially, this is a subsidy for the industry and was aimed at encouraging the development of technologies that would cope with the diversion of waste from landfill in an environmentally friendly way.

In actual fact, and unsurprisingly, local authorities spend PFI credits, as they understand it, "responsibly". Credits are used to fund long-term schemes that investors know will pay off. Experimental technologies such as composting and anaerobic digestion or recycling, which have relatively low value, rarely receive any money. As a result, funding is aimed at conventional incineration – the process of mass-burn in which municipal waste is treated and turned into heat and electrical energy.

Environmental campaigners argue that, while our governments continue to ignore the highest rungs of the waste hierarchy, the private interests of the waste industry will carry on ignoring the environment and more sustainable methods of energy recovery. ●

Independent Thinking from Polity

polity

THE POLITICS OF CLIMATE CHANGE

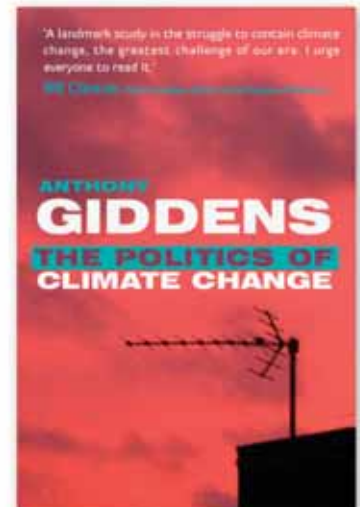
ANTHONY GIDDENS

'A landmark study in the struggle to contain climate change, the greatest challenge of our era. I urge everyone to read it.'

Bill Clinton, 42nd President of the United States of America

Political action and intervention, on local, national and international levels, is going to have a decisive effect on whether or not we can limit global warming, as well as how we adapt to that already occurring. At the moment, however, Anthony Giddens argues controversially, we do not have a systematic politics of climate change. Giddens introduces a range of new concepts and proposals to fill in the gap, and examines in depth the connections between climate change and energy security.

This book is likely to become a classic in the field. It will be of appeal to everyone concerned about how we can cope with what amounts to a crisis for our civilisation.



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Regulation getting in the way of recycling?

Does it sometimes feel like waste regulation is getting in the way of waste recycling?
We do and so do many of our clients who are waste producers.

The UK has adopted EU waste regulations to protect us all from the excesses and bad practice of our industrial past. As a consequence the environment has never been in better shape (save for global warming). Waste Regulation can claim a great deal of credit for the environmental improvement over the past 20 years, but British businesses are responsible for making this happen. Heavy industries, the biggest polluters, simply do not exist anymore or have migrated to other parts of the world with lower production costs and lower environmental standards – UK problem solved, right? Or is the implementation of environmental regulation in the UK accelerating the flight of British manufacturing companies away from our shores?

As a waste recycling company 4Recycling Limited constantly interacts with many regulators. Our policy makers and regulators have adopted EU environmental law in the UK with enthusiasm and slavish observance of, in many cases, poorly drafted regulation. More light touch noises are beginning to emerge and the regulator buzz-word of the moment is “Modern Regulation”. Does this mean we benefit by pragmatic and light touch approach, reduced bureaucracy, lower operating costs and less carbon emissions for no increase in environmental risk? No, what we continue to experience is time wasted arguing about the definition of words in a regulation and not the key environmental outcomes.

In the “noughties” the UK was able to afford to invest heavily in recycling at any cost in order to tackle EU recycling targets. Much progress has been made in the last 10 years at a high cost to British industry and tax payers but cash was available to pay for it. Not so now. A cash-strapped economy will have to “cut its cloth” and have the environmental legislation it can afford. The Environment Secretary, Hilary Benn, gave a paper to the Oxford Farming Conference recently “A New Age of Agriculture” when he announced a new government strategy, Food 2030. He called on the farming community to help reduce greenhouse gas emissions by recycling food waste and utilising waste to grow crops in the UK. This objective is achievable but our recent experience tells us that we need more help from regulators. To reduce the cost burden to British industry regulators need to be prepared to share the risk of waste recycling and to take bold steps with recyclers to encourage and support practical recycling.



If your experiences of regulatory interference with waste recycling are similar to ours we may be able to help you.

Call Colin Rudd at 4Recycling Limited
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ENERGY FROM WASTE A WASTED OPPORTUNITY?

Institution of
**MECHANICAL
ENGINEERS**

The UK produces over 300 million tonnes of waste per year. Traditionally we adopt two simple ways of dealing with this waste: bury it or burn it.

The Institution of Mechanical Engineers believes that waste should not be seen as a problem but rather regarded as a valuable energy resource which could help us meet our national and regional environmental targets.

By developing a network of Energy-from-Waste (EfW) plants, waste could be 'treated' in the same way a coal-fired power station 'treats' coal. An EfW plant should ultimately be seen as a power station or even a Combined Heat and Power (CHP) station.

The Institution of Mechanical Engineers recommends that the Government should redefine waste as an energy resource, allowing the Department of Energy & Climate Change to focus on its optimal use.

Further information can be found in our report, Energy from Waste: A Wasted Opportunity? at www.imeche.org/energyfromwaste

Improving the world through engineering

