

INSIDE TRACK

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**ENVIRONMENT:
THE
ULTIMATE
PUBLIC
ASSET**

Norman Foster
Jiggy Lloyd

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Produced with support from the Esmée Fairbairn Foundation and Defra's Environmental Action Fund.



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The views of contributors are not necessarily those of Green Alliance.

comment



Rebecca Willis
Director

Imagine going to collect the kids from school, and seeing solar panels on the school's new roof, discussed excitedly by pupils and parents alike. Or visiting a friend in hospital and being cheered by the building's careful use of natural sunlight and passive heating, not sterile strip-lighting and air conditioning.

This government wants to be judged on its success in delivering good quality public services. But have our politicians thought about the potential of environmental improvement as a way of creating that all-important feel-good factor? With enough enthusiasm, and a good dose of creativity, our public services could become a beacon for sustainability.

In this edition of *Inside Track*, Norman Foster tells us that buildings matter more than we think. As his inspirational (and very energy-efficient) Reichstag building shows, good design gets people talking and thinking about their environment in a way that the best eco-label just can't hope to manage. And incidentally, it makes them work harder, too. Jiggy Lloyd, whose company, AWG, builds and manages public buildings under the PFI (Private Finance Initiative) system, says that some intelligent commissioning from government could help create sustainable public buildings to be proud of.

Meanwhile, at the local level, Woking Borough Council has done a huge amount to engage people in debates – and practical action – on climate change, as their article explains. On page four, Charlotte Marples unveils a Green Alliance publication suggesting a new way forward for health policy, which concentrates on keeping people and environments healthy, rather than picking up the pieces when we are sick.

In the months ahead, we hope that government will spot the missing link between public services and good quality environments. The recent Better Buildings Summit united John Prescott, Patricia Hewitt and Margaret Beckett behind a desire to make buildings work better for us and our environment. Charles Clarke's efforts at the Department for Education and Skills, resulting in a new Action Plan on Sustainable Development, are another welcome step forward. But there are plenty more opportunities out there.

Look out for those solar panels – they may be coming soon to a school or hospital near you.

the private life of public affairs

Not a week goes by that we don't read protestations from industry bodies in the broadsheets about the latest EU Directive or inflation-linked tax rise back home. Governments are understandably reluctant to get branded as anti-business, so the tone of such lobbying can make or break policy to protect society and the environment.

In Green Alliance's latest pamphlet, *The Private Life of Public Affairs*, Simon Caulkin and Joanna Collins examine why public affairs has not kept pace with corporate social responsibility.

The gap between the public stance of progressive companies and their tacit endorsement of hostile lobbying by trade associations creates serious business issues. It undermines companies' corporate responsibility aspirations and reputations, and holds up informed debate.

Using two prominent examples – the current attempt at reforming EU chemicals policy and the problematic introduction of the climate change levy – we show that the arguments commonly employed by lobbying

groups against government intervention to secure environmental improvement are highly questionable.

At European and often national level, for example, arguments about 'competitiveness' assume far more importance than they deserve. Far from costing jobs and holding business back, constructive intervention can provide powerful incentives for innovation to enhance environmental performance. Companies are then well placed to develop new markets and exploit first-mover advantage overseas. Perversely, this means that some trade associations, who oppose such intervention, are working against the long-term interests of their members.

Pioneering companies do see that environmental regulation and green taxes would strengthen their competitive position. By pushing other companies to internalise more of their environmental costs, a level playing field would be created, disqualifying free riders. Some leading companies are forming informal alliances with like-minded firms in other industries to advance their cause.

Yet, while many companies are happy to campaign negatively, few will ask government to take action. With the exception of a very few vociferous champions such as The Body Shop and the Cooperative Bank, they are extremely uncomfortable about breaking ranks to push for more interventionist policy, even when they are far ahead of the pack.

Through our ongoing work on business engagement in public policy, Green Alliance will be identifying opportunities for joint advocacy with leading companies, especially where there are potential business opportunities from raised environmental standards. Together with Forum for the Future, SustainAbility, WWF and the New Economics Foundation, we shall also be exploring with company leaders how good governance can breach the gap between CSR and public affairs, and deliver the transparency we need to put an end to the private life of public affairs.

For more information on this project, please contact Joanna Collins jcollins@green-alliance.org.uk

new publications from Green Alliance

annual review 02/03

Who we are and what we do, our aims, achievements and activities in the year just gone. Call 020 7233 7433 to receive a copy.

the private life of public affairs

Why hasn't public affairs kept pace with corporate social responsibility? We scrutinise the role of trade associations and call on company leaders to be a positive voice for

change. Price £10. View summary at www.green-alliance.org.uk

a green bill of health: a new agenda for health and environment policy

The way we manage and interact with our environment affects our health but little or no attention is paid to the links. This collection of essays from health experts and commentators calls for a broader view of public health.

Price £10. Read the introduction at www.green-alliance.org.uk

All Green Alliance's publications can be ordered through our website, www.green-alliance.org.uk. Alternatively contact the office on 020 7233 7433 or email sflood@green-alliance.org.uk.

a green bill of health:

Can a good environment help save an ailing NHS?
Green Alliance's **Charlotte Marples** explains how.



Healthy environments are essential for healthy people yet despite the importance we all place on our health, little thought and few resources go into tackling the environmental reasons we get sick.

It is no surprise that the role of environment in public health is often neglected. Health and well being is about more than how effective we are in treating the sick. Of course increased spending on the NHS is welcome and long overdue. But extra funding on healthcare is only part of the story.

The real measure of a sustainable society is not how much money we spend on gleaming new hospitals but how many people stay well.

Public health has long been the poor relation in the NHS. Yet whilst the headlines continue to be dominated by waiting times and foundation hospitals, a quiet revolution is taking place in primary care - the health front line including family doctors, dentists and health visitors - the first port of call for most of us when we are ill.

As part of the ongoing programme of modernisation in the NHS, 303 Primary Care Trusts (PCTs) have been created in England which will command three quarters of the NHS budget.

As independent local organisations, PCTs will be able to tackle the broader determinants of health and sickness and work towards improving the overall health of their local communities. These new organisations provide a real opportunity for taking a more rounded view of what keeps us healthy and what makes us sick.

We need a more creative approach to tackling the considerable public health challenges we face. We are all aware that asthma is on the increase, cases of obesity are soaring and concern is

mounting about the chemicals present in everyday household products. The evidence is now beginning to stack up to support the view that our health and well being cannot be detached from our social and

physical environments. We cannot continue to have unhealthy housing, food and transport systems and then expect to simply buy some health later.

As recent studies point to persistent health inequalities in the UK, it is clear that environmental inequities are at the root of many of them. And if unhealthy environments are bad for our health, then they are also pretty bad for our wealth. As rates of chronic diseases such as asthma, diabetes and lung

“The real measure of a sustainable society is not how much money we spend on gleaming new hospitals but how many people stay well.”

a new agenda for health and environment policy

disease rise so too does the financial toll on the NHS. For example the big degenerative diseases alone cost the NHS an annual £13 billion.

In September, Green Alliance launched a new pamphlet, *A Green Bill of Health: A new agenda for health and environment policy*, which explores some of the links between health and the environment. The pamphlet maps out how we might develop cost effective ways of improving public health via better environmental protection.

A step change is needed in the way that we think about health policy and our environment. We can't achieve this overnight but there are a number of quick policy wins. For example just half an hours exercise a day can significantly reduce the risk of strokes and heart disease but unless parks and cycle paths are safe and well maintained, people will not use them. Rejuvenating run down public spaces would cost relatively little money but could lead to big improvements in quality of life and reduce NHS expenditure.

But we cannot expect health promotion and environmental initiatives to thrive at the local level unless they are accompanied by change in Whitehall. The need for more joined up government has become a mantra, the automatic solution to all policy problems. This time, though, it really might be part of the answer. There is currently no clear 'home' for

environmental and health issues at national level. Ten government task forces were created as part of the NHS plan, yet not one of these considers the environmental reasons for ill health. An eleventh task force could be set up to do just that. It could draw up a truly joined up agenda for the Department of Health, DEFRA, ODPM and the Home Office. Without this clear steer from the centre, the many good initiatives being implemented at local level will remain at the margins of health policy.

The new PCTs do offer a real possibility for better integrating health and environment at the local level. They need support and encouragement to do so. Establishing links with local stakeholders responsible for transport, planning and countryside management could be facilitated through the Environment Agency which has a remit to improve well being throughout England and Wales.

The ongoing programme of change in the NHS offers an opportunity to take a broader look at public health policy. We need to think about how to build health impacts into the decisions that affect our everyday lives, how we move around, what we eat, where we live. These decisions are taken outside the NHS but it is the NHS which will bear the consequences in the long term. Tackling all the factors which impact on health is a huge task but as attention finally turns towards health promotion, it is clear that investing in the environment would be a good place to start.

health and environment facts

- Air pollution causes up to 24,000 premature deaths a year
- A ten per cent increase in exercise could save 6,000 lives as well as £500 million annually
- By 2050 it is predicted that climate change will lead to 10,000 extra cases of food poisoning, 2,000 extra cases of heat related deaths and 5,000 extra cases of skin cancer in the UK each year
- Healthcare costs are set to double in real terms by 2020
- Since 1972 the annual average distance walked by children under fifteen has fallen by nearly 30 per cent
- The cost of physical inactivity in the UK has been estimated at £8.2 billion per year (premature mortality, sickness absence and direct healthcare costs for the NHS)

For more information on this project, please contact Charlotte Marples cmarples@green-alliance.org.uk

A Green Bill of Health: A new agenda for health and environment policy is available from Green Alliance, price £10. Order the publication or view the introduction at www.green-alliance.org.uk

valuing design



Norman Foster explains why good design means creating a better place for us all to be in and urges government to set high standards for our public buildings.

Any discussion about design is for me one about values because I believe there is a moral responsibility to design well – to design responsibly. To design is to question and to challenge. Design can explore the new and build on the past. It can transform patterns of health, living and working. Before we make any part of the world that we inhabit we first have to design it. That holds true for a city, its infrastructure, buildings, public spaces, services, furniture and equipment. Above all, design is a human act, a response to the needs of people, both material and spiritual.

There are many myths propagated about design. The most common of these is that good design costs more. Contemporary capitalism measures everything in terms of performance indicators. There is a tendency to concentrate on quick returns rather than looking at enduring value, which frequently means focusing on capital costs rather than the whole-life value of an asset. Design quality is frequently the first casualty. But I would argue that quality is an attitude of mind: it not how much, but how wisely you spend that counts.

In my experience, the most desirable qualities of a building are often things that were not envisaged at the outset: they may have been inspirational, or they may have grown out of a dialogue as the project developed. They almost

certainly make the building a better place to be in or to pass through. I would characterise this as ‘lifting the spirits’.

Unfortunately, new civic architecture is rarely assessed in terms of quality: it is far more likely to be measured in terms of the financial bottom line. Factors such as environmental performance and the well being of the building’s users are ignored because they are invisible to the accountant’s eye. But I have an absolute conviction that good design can be gauged in economic terms. The challenge is to think long-term.

If you compare the capital costs of a building with its running costs, discounted over 25 years (the length of a typical institutional lease), you make some interesting discoveries. The first is that capital costs amount to only 41 per cent of the total, compared to 59 per cent for running costs, which includes everything from heating and lighting to cleaning the windows. The ratio of capital costs to running costs is roughly 1:1.5. It follows that if you can reduce running costs over the life of a building - for example, by introducing energy saving strategies - the argument can be made for a marginal increase in capital costs. An investment in mixed-mode air conditioning, solar panels, and so on, though initially expensive, will more than pay for itself in the long-term.

Alternatively, compare capital costs with operating costs – mostly staff-related – and you find that the latter account for 86 per cent of the total, with capital costs at only 5.5 per cent. In other words, staff costs outweigh building costs by a factor of 17 to 1. Take that a stage further and look at the building as a driver of productivity. It is generally accepted that a well-designed workplace can bring about a cultural change in an organisation - ‘lifting the spirits’ can translate into increased profit margins. Assume a six per cent improvement or the ability to achieve the same output levels with six per cent fewer staff and you discover that the building has more than paid for itself over the period. Or put it another way: a three per cent increase in long-term productivity justifies a 50 per cent increase in the initial building budget.

As hierarchies within companies flatten, as ideas replace manufactured goods as the principal output of an economy, and as intellectual interaction becomes the means of production of those ideas, the way that individuals relate to each other becomes critical to success. This should lead to a concentration not on pounds per square foot, but on what one chief executive calls ‘IQ per square foot’.

If I were to characterise what is likely to be the most poetic element of a building, I would call it the ‘five per cent factor’, those characteristics which may cost only a fraction of the total, but which mark it out as special and unlock the full potential of the investment to the benefit of the client. Let me cite just one example, the Reichstag, the German parliament in Berlin. It is a building that can be discussed on many levels. It confronts the issue of how historical structures can be adapted to suit new requirements. It offers a manifesto for how we can satisfy our future energy needs, burning environmentally friendly ‘bio-diesel’ instead of fossil

fuels and generating its own energy. But the public perception of it would probably be the cupola, whose image appears every day in the media and which attracts three and a half million visitors each year. The idea of making the seat of government accessible to the public in this way was never a part of the competition conditions. Yet it has completely transformed the image of the political process and become iconic both of the city and the open nature of the German democratic process. The cost of the cupola was only five per cent of the total construction cost. But its true value is out of all proportion to the sums involved.

“We need politicians with courage to set the highest goals for the design community, and the society they serve, to follow.”

Far from wondering how we can afford to invest in design, I would ask how we can afford not to? The contribution that design can make in renewing the physical and social infrastructure - without which no society can be sustained - is profound and far-reaching. But design is not static, it is evolutionary. Design solutions must be re-evaluated and updated as technology allows or circumstances demand. Some of the problems we face today – such as global warming - are caused by irresponsible design strategies from the past.

In industrialised societies, buildings consume half the energy produced, transport and industry account for the rest. Given the link between energy production, pollution and climate change, there are strong arguments in favour of reducing energy demands. We know that our buildings can be run

using clean, renewable energy sources, the Reichstag is a prime example. Yet many otherwise socially and environmentally aware organisations still occupy buildings that would hardly pass their own investment criteria.

In a wider context, the search for sustainable design solutions means addressing the issue of our ever-expanding cities and their infrastructures. There is a direct correlation between urban density and energy consumption. As cities grow horizontally rather than vertically, people are forced to travel greater distances between home and work. To break this cycle, we have to build more densely and - a vital coupling - achieve a higher quality of urban life. Look around the world and you find that that denser, ‘traditional’ cities promote environmentally friendly patterns of travel, such as walking and cycling, rather than driving.

While architects cannot solve all the world’s ecological problems, they can design socially responsible buildings that run at a fraction of current energy levels and they can influence transport patterns through urban planning. However, much of the environmental damage being wrought by the unsustainable patterns of the past is ‘invisible’, and so the return on the investment required to correct the situation can look unrewarding. There can be a dangerous tendency – as we may now be seeing in the United States – for industrialists and politicians to hedge or do nothing. Designers can advocate with passion, but in the end they are only as good as those who lead. We need politicians with courage to set the highest goals for the design community, and the society they serve, to follow.

For more information visit www.fosterandpartners.com

sustainability for your money?

Jiggy Lloyd looks at the potential contribution of PFI to sustainable development, but warns that government targets must be fed into procurement specifications

There is a *Punch* cartoon with the caption “And how much did that cost the ratepayer?”

Even without the illustration, the caption alone confirms a national obsession with money spent on our behalf by the public sector.

The current level of expenditure is - we are told - at record levels. Total investment stands at about £42 billion compared with £26 billion in 1990. Public Sector Net Investment will rise to 2.1 per cent of GDP by 2005/06 compared with 0.6 per cent in 1997. On top of that, Private Finance Initiatives (PFI) and Public Private Partnerships (PPP) are set to make a steady contribution in the region of 12-15 per cent of the total investment figure.

New hospitals, schools, prisons are popping up all over the place. Only a hermit will not have noticed the activity. A lot of money is being spent and the rate (or bill) payer is right to ask *Punch's* question.

Public expenditure is for society's benefit. Most of the time, we focus only on the direct benefits. A new hospital equals more operations; a better bus station equals a better journey. But there are other benefits too. For example, the location can encourage sustainable transport, while materials and upkeep have minimal embedded energy.

The procurement of public infrastructure is a huge opportunity

for the Government to deliver its own sustainable development strategy. So, how can departments spend our money on assets and infrastructure to help us live more sustainably?

more than one way of spending money

Very simply, there are different ways in which public procurement takes place: conventional procurement; framework contracting; and the Private Finance Initiative (PFI).

In conventional procurement much depends on the specification. If a client specifies that the building's grounds be watered with mains water for its life, and not a water recycling system, that is what will happen. There may be some opportunities to propose alternatives but in competitive tendering it is essential to conform to the specification.

Framework contracting is more promising because the framework contractor and client can work together through the design and specification for each project.

With PFI, the focus is not on purchasing a particular asset but procuring the service that the asset provides. A health trust will not procure a hospital but a given clinical capacity. The Highways Agency will not specify a road but the number of vehicles to be catered for. The service specification will cover a long period, typically 30 years or more. The PFI consortium is responsible for providing the service. This means constructing and

maintaining a new asset, but can involve investing to improve an existing asset.

public procurement

In the conventional and framework approaches, creating a new asset that contributes to sustainable development depends on the client's own objectives and the commitment of the contractor.

A contractor's commitment, technical ability and skill in introducing good ideas are not to be overlooked. But we need to look at how strong the requirements are that stem from the public bodies procuring the assets in the first place.

At a pre-qualification stage potential contractors are asked questions about their policies and practices. Influencing the specification, Best Value Performance Indicators applied by central government to local authorities reflect national sustainable development targets. Additionally, many local authorities have strong requirements of their own. In Birmingham, work to manage the City's council housing is directly linked to the 'Decent Homes Target' and, in line with the city's sustainability strategy, paints used in building maintenance are solvent-free.

The public sector is subject to climate change targets allocated to departments and agencies. There seems to be a connection between this and the challenging BREEAM ratings now specified for new hospitals.



In some places, on some issues, procurement of new public assets is contributing to sustainable development targets for the country as a whole. But the picture is very patchy. Despite high-level government commitment to sustainable development, Public Service Agreements and targets for Greening the Government Estate, there is much less evidence of sustainable development in requirements for publicly-funded projects than should be expected.

does PFI do it better?

The PFI approach has merits. The consortium has a long-term whole-life relationship with the asset. Gone are the tensions between those responsible for the capital investment and those saddled with operating costs, they are the same. In highways maintenance PFI has encouraged the design of roads with a thinner layer of final tarmac coating with a consortium mindful of the benefits of having less black-top to dispose of when excavating. The PFI arrangement for the provision of

Perth and Kinross Council's new headquarters enabled the choice of natural ventilation; had it been a conventional contract, the decision might have been different.

It seems that PFI has the potential to do something for sustainability. And there are real-life instances of this being the case. But sadly it does not resolve all the issues.

First, there is the effect of discounting. In projects with a large, initial capital outlay and a long thin tail of operating costs, discounting can make life-time savings small or invisible in comparison with capital costs. However, not all projects are like this. In the NHS it is typically estimated that the first four years of operating costs exceed the construction costs of the facility, so there is commercial and sustainability logic associated with building hospitals that are energy-efficient. Recent changes to the Treasury's treatment of the discount rate are helpful to the consideration of long-term benefits. But discounting remains a powerful force reflecting human nature to disregard the future in favour of the present.

Second, there is the question of uncertainty. You can only account for future costs that you know about. Costs that are uncertain are harder to handle. The possibility that carbon-based energy will be more expensive than carbon-free sources in 15 years' time could be stimulating widespread installation of solar panels on new public buildings. But Treasury

rules discourage the PFI consortium from catering for things that might happen. So unless the public sector client sets specifications to address the sustainability issues which society faces, once-in-a-life-time opportunities are lost. This requires the current generation of rate payers to make decisions on behalf of the next. Which is what sustainable development is all about.

specification is important

If the ratepayer is to get the best out of the expenditure on new infrastructure, we need more than contractors and PFI consortia with commitment to sustainable development. Ambitions and targets expressed at high-level in government need to cascade through Treasury, department, departmental agency, to the place where new assets are procured. They must be as evident in the specification as they are in ministerial speeches.

This is necessary whatever the procurement method. PFI has some characteristics that make it a natural bedfellow of sustainability, but it is not the panacea. Even in PFI arrangements, public policy must be expressed in the requirements for new infrastructure, with the future in mind.

Jiggy Lloyd is Group Director for Sustainable Development at AWG plc. AWG owns, creates and manages infrastructure (in the utility, government, property and transport sectors) in the UK.

Green Alliance's project *Building Sustainability into the Private Finance Initiative* will explore the reasons for the lack of sustainability considerations in PFI so far, and suggest ways forward, to ensure that future PFI initiatives maximise the sustainability potential of this new model. For further information contact Rebecca Willis. rwillis@green-alliance.org.uk

While world leaders continue to debate environmental issues on a global scale, Woking Borough Council has been tackling global warming locally. Below they explain what they have achieved and how.



an innovative climate at Woking

Environmental issues have always been amongst Woking's top priorities thanks to positive cross party political support. In addition, local people have also encouraged this agenda by identifying a clean, healthy and safe environment as one of the key Community Strategy aims for the future of Woking.

Concerned about the effect of CO₂ emissions, Woking Borough Council has been taking practical steps to introduce energy efficient schemes in its buildings and housing stock ever since 1990. In recognition of its ground-breaking approach to sustainable community energy systems and the practical steps it is taking to tackle global warming, the Council was awarded a Queen's Award for Enterprise in 2001.

Now the Borough intends to build on its energy services success and has developed a climate change strategy taking account of the Royal

Commission on Environmental Pollution's recommendations that more needs to be done to reduce CO₂ emissions 60 per cent by 2050.

The strategy is one of the most comprehensive yet to be developed in the UK and covers the whole spectrum of the Borough's energy uses: power, heat, water, waste disposal and transport for local authority, home and business users and will help the Council to meet its Home Energy Conservation Act (HECA) obligations.

Councillor Jim Armitage, Leader of the Executive explains: "We are really only just beginning with this. Woking has always been at the forefront of environmental matters and we are determined to develop one of the most comprehensive strategic approaches to Climate Change in the UK. Doing nothing is not an option, we have already achieved a 10.2 per cent reduction in CO₂ emissions compared

to 1990 levels. The Council will be continually developing effective measures to ensure a 'carbon neutral' approach for the borough in the future."

lots done

In 1999 the Council formed Thameswey Limited and Thameswey Energy Ltd.

Thameswey aims to promote energy efficiency, energy conservation and environmental objectives by providing energy and or environmental products and services. This includes a condensing boiler scheme in partnership with British Gas, which is now being taken up by a number of other local authorities too.

The scheme offers local residents an opportunity to purchase an energy efficient condensing boiler or complete central heating systems at a reduced price. Residents save not only on the

cost of the boiler but also on future heating bills. Councils benefit as they can credit the CO₂ savings to their HECA return.

Thamesway Energy pioneers energy efficient heating, and power, on a different scale. It aims to build, finance and run combined heat and power stations of up to five megawatts output to provide energy services and distributed heating and cooling networks to institutional, business and residential customers.

The Woking town centre Combined Heat and Power (CHP) station, a Thamesway Energy concept, is the first commercially operating energy station of its kind in the country. It provides heat and power to the Civic Offices and a number of commercial customers such as the Holiday Inn. As well as gaining sustainable energy, customers also benefit from reduced fuel costs too.

Another first for Thamesway Energy is the UK's first fuel cell CHP system. This technology generates 50 per cent more electricity than the conventional equivalent without burning any fuel.

The fuel cell is designed to support heating and power systems for Woking Park's lighting and leisure pool. Excess heat in the summer can also be used to power the pool's air conditioning, cooling and dehumidification requirements. The CHP station is designed with scope for surplus electricity to be exported.

There's an equally sunny outlook for sheltered housing residents. Brockhill is the first building in the UK to use combined photovoltaics and CHP energy, converting daylight into electricity with the possibility of achieving 100 per cent sustainability in electricity.

lots still to do

The Council is now turning to examine long term 'Zero Waste' refuse disposal methods that will be sustainable in the

future. It has developed a wide-ranging strategy which begins with education and prevention and aims to reduce the Borough's landfill requirements to less than ten per cent of its original weight.

The strategy incorporates the three 'R's of the waste hierarchy: reduction, recycling and recovery. The strategy has six main components:

- a twin bin collection of waste from households;
- a Materials Reclamation Facility (MRF) where recyclable materials are separated; a shredder reduces the rest and removes the non-organic content; organic waste will be put through a dewaterer; the residual from both streams will be used in energy recovery;
- composting of garden waste;
- anaerobic digestion - the sludge from the dewaterer will be processed in a type of giant compostor; the products of this process will be 75 per cent water and 25 per cent will be a solid inert residue which will be mixed with compost and used as soil conditioner;
- a thermal treatment centre will feed off all residual waste; the products of this process are 25 per cent ash and clinker for which there is a growing market in the construction industry; the gas produced will pass directly to the fuel cell;
- fuel cell - gas is passed directly from the anaerobic digester and gasification plant and into the fuel cell; this technology will eliminate the emissions associated with energy from waste; the products of the fuel cell are electrical energy and heat; the heat will first be used to drive turbines to produce more electricity and the residual heat will be used to support processes in the plant and to supply local residents; the only by-product is water.

For further information about Woking's energy efficient schemes contact Lara Curran at Woking Borough Council on 01483 743444 or email lara.curran@woking.gov.uk

some of Woking's green achievements to date

- Woking is believed to be the only UK authority to have so far adopted a comprehensive climate change strategy on a scale that is likely to meet The Royal Commission on Environmental Pollution's targets of 60 per cent reductions of CO₂ equivalent emissions by 2050 and 80 per cent by 2100.
- The Council is recognised as the most energy efficient local authority in the UK with the highest score ever under the Institute of Energy's Energy Efficiency Accreditation Scheme. The Council has already achieved an average National Home Energy Rating of NHER 8 for its public sector housing stock and is now aiming to increase this still further to NHER 9
- Through its Environmental Charter and energy efficiency policies the Council has introduced a number of innovative measures to protect the environment and reduce pollution to make Woking a cleaner, greener borough. It has adopted numerous energy and water saving techniques for Council-owned buildings and public places; the revenue saved as a result of these award winning schemes is reinvested in other environmental measures to further improve energy efficiency. The recycling fund has enabled savings of four million pounds over nine years to be made, resulting in current annual savings of nearly £700,000 a year.
- Since its energy efficiency and environmental policies were implemented in 1990/91 (the base year), the Council achieved its five year target to reduce energy consumption by 20 per cent in four years. Following this success it implemented a new target to reduce energy consumption by a further 20 per cent in six years, i.e. a total of a 40 per cent target reduction between 1991/92 and 2000/01

a debate for a decade

Green Alliance is an independent charity. Its mission is **to promote sustainable development by ensuring that the environment is at the heart of decision-making**. It works with senior people in government, business and the environmental movement to encourage new ideas, dialogue and constructive solutions.

staff

director	Rebecca Willis
policy co-ordinator	Charlotte Marples
senior policy officer	Ben Shaw
policy officer	Jennie Oldham
policy officer	Joanna Collins
development co-ordinator	Karen Crane
environment and website manager	Rachel Butterworth
membership officer	Catherine Pamplin
office manager/ PA to the director	Paula Hollings
publications & finance officer/GGN assistant convenor	Sarah Flood
GGN convenor	Kate Hampton

Contact each staff member at:
initialsurname@green-alliance.org.uk

**programmes adviser
to Green Alliance** Julie Hill

office

Green Alliance, 40 Buckingham Palace Road,
London SW1W 0RE

t: 020 7233 7433
f: 020 7233 9033
e: ga@green-alliance.org.uk
w: www.green-alliance.org.uk

Green Alliance is a registered charity number
1045395, company limited by guarantee,
registered number 3037633.

From ruddy ducks to fresh-faced fishermen, via global democracy and green taxation, our *Decade of Environmentalism* debate put former environment ministers John Gummer and Michael Meacher through their paces. Between them, the two clocked up a decade of service as environment minister, and the evening provided a chance for them to reflect on how far we've come since the Rio Earth Summit of 1992. Despite differing political inclinations, the two presented a remarkably united voice, and issued a challenge to their successors to carry the green mantle forward. Many thanks to RSPB, our joint hosts of this event, and to Roger Harrabin, BBC environment correspondent, for chairing.



new members

Green Alliance is pleased to welcome the following new individual members:

Franklin Agbotui

Felicity Fairbairn

Alex Morrell

Nick Reeves

Bea Rose

William Stephens

Please contact Catherine Pamplin for more information on membership
cpamplin@green-alliance.org.uk



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