

“green alliance... issue **12**
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INSIDE TRACK

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“certain sections of the chemical economy present a virtually unique potential to cause massive loss of life”

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“humanity as a whole is increasingly bound together as a shared community of fate”

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ENVIRONMENT AND SECURITY

Interwoven or overspun?



The quarterly magazine of Green Alliance

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Front cover photo by Alan Bauer www.alanbauer.com

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

comment



Kate Hampton

convenor, green globe network
2003 – 2005

2005 will probably be remembered for its natural disasters. They exposed human vulnerability, including in the richest country in the world, and highlighted the connection between our survival and the protection and restoration of natural defences like mangroves. Security can be defined in many ways but academic argument aside, last year exposed its dependence on ecosystem services in the most extreme circumstances.

While not necessarily making the headlines, other forms of environmental degradation are underlying factors in many situations of conflict and instability around the world, and will assume more importance as the 21st century wears on. From the depletion and pollution of water resources, desertification and collapse of fishing stocks to global warming, it is clear that policy-makers need to take a fresh look at the environmental problems that will make achieving poverty, development and security goals increasingly difficult.

This issue of *Inside Track* shines different lights on environment and security. Tim Hirsch writes about the Millennium Ecosystem Assessment and uses Hurricanes Katrina and Rita to make the compelling case for better communicating the value of ecosystem services; Richard Falkenrath provides a US perspective on chemical safety and security, testing the environmentalists' case for a joined-up approach; and Paul Raskin and Orion Kriegman explain the work of the Great Transition Initiative in setting out citizens' scenarios for an interconnected world. Finally, Nasser Yassin and Peter Ritchie highlight the work of Green Globe Network (GGN) in this area. GGN has embarked on a project with the Institute of Environmental Security to identify how policy makers view the linkages at national and international levels.

Also in this issue, you can read about Green Alliance's *energy season*, a series of events and publications aimed at ensuring that the environment is at the heart of the current energy debate; our work in the pipe-line on the potential clout of the green baby boomers; and our continuing efforts to move the UK towards a 'closed loop' economy.

Kate now works at Climate Change Capital. We are currently recruiting for a new Convenor: please see our website www.green-alliance.org.uk for details.

a new vision for energy

The last couple of years have seen energy prices rise, and a tight winter was predicted in terms of gas supply as both a primary fuel and for generating electricity. This year, the UK moves from being a net exporter to a net importer of energy and by 2020 the UK could be importing up to 80 per cent of its gas needs. Equally by 2020, one third of UK generating capacity will need to be replaced.

The nuclear industry is using this policy window to push the need for increased 'home-grown' nuclear capacity. And on top of the arguments that nuclear is the only reliable option available to fill the energy gap and will ensure our energy comes from 'secure' sources rather than unstable oil-rich oligarchies, comes the environmental one: that nuclear is the only way that Britain can meet its targets for reducing carbon emissions.

The UK is currently set to miss its domestic target of a ten per cent reduction in carbon dioxide emissions by 2010 (on 1990 levels) and latest figures show that the UK is only just on course to meet its Kyoto target, provided emissions don't continue to rise.

Amongst the furore over energy, Green Alliance is working to ensure that the environmental impact of energy generation does not get lost, but nor does the environment argument get used inappropriately.

Is nuclear as clean as it claims? Let alone the waste issue, there is emerging evidence that the mining and

processing of second-grade uranium ore requires large amounts of carbon dioxide emitting energy. Furthermore, punting for nuclear power could actually undermine the fledgling investment in renewables we have in the UK, so could end up increasing emissions from the rest of the energy generation sector.



Will nuclear solve our supply issues? At best, the current nuclear power plants generate about 20 per cent of electricity, which equates to only eight per cent of total energy use. Replacing these stations would have no effect on the gas supply that provides our heat. In a centralised electricity grid system where 67 per cent of the energy put in is wasted as heat, can we really afford to build new power stations from which the heat produced is not captured?

These questions, and more, will be examined during Green Alliance's energy season in the first half of 2006. A series of events and publications will accompany the culmination of months of work on various aspects of energy policy, ending in the publication of our *New Vision for Energy* at a high-profile discussion summit in the summer.

First up will be an externally commissioned report that will feed in to the Energy Review on the effect that a decision to support nuclear might have on the renewables market and emissions in the UK. It asks whether a focus on nuclear power might actually hinder the UK's ability to meet its emissions targets.

We will examine what the government needs to do in the short-term to meet its carbon dioxide targets. *Bridging the Carbon Gap* will focus on progress on the 2003 energy white paper. It will consider how support for renewable energy can be increased and energy efficiency promoted further.

We are also looking at whether carbon capture and storage can be a viable environmental option, both for the UK and abroad, and how it can be supported without taking the focus away from energy efficiency and renewables. Our work will feed into both DTI and Treasury reviews. This project links in with our advocacy work promoting a more robust EU Emissions Trading Scheme, which we believe is the main vehicle by which low-carbon technologies should be promoted.

For the longer-term, building on *A Microgeneration Manifesto* and in consultation with the Energy Entrepreneurs network which Green Alliance still coordinates, we will examine the case for a decentralised energy model, connecting domestic households with their energy use and supply.

The direction of the UK's energy markets is going to be decided in the coming year with the playing out of the Energy Review and Green Alliance aims to ensure that the environment is at the heart of this debate.

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We are grateful to BP, Centrica, The Carbon Trust, Greenpeace Trust, Friends of the Earth, Shell and WWF for supporting this work.

can the baby boomers save the planet?

“she was mildly perplexed that a new generation had re-invented values that were second nature to her own.”

Green Alliance examines environmentalism in the third age

So much green imagery centres around children and young people. Ask people to picture an environmentalist, and they will conjure up an image of someone young, urban and counter-cultural. But the truth may be very different. According to research by MORI, the true environmental activists are not the young but the old: “whilst younger people are often said to care more about the environment compared with older people, in practice older people are more likely to say they recycle or participate in other environmentally-friendly activities.”



This environmental awareness and action amongst older generations might in part stem from a ‘war economy’ mentality. The (young) environmentalist Andrew Simms writes of his mother’s habitual fuel saving, food conserving and recycling, “I think she was mildly perplexed that a new generation had re-invented values that were second nature to her own.” It seems likely that older people with children and grandchildren will have a more acute sense of our responsibility towards future generations and, as a result, may have a different attitude towards the environment.

It may also be because older people tend to have more time, often more disposable income, and less family responsibilities – so are more likely to take action and participate in their

community. In the words of the market research company Experian, “In earlier generations the epithet ‘energetic’ would seldom have been used to describe pensioners who, on their retirement, were expected to spend their declining health sitting in deckchairs in quiet retirement ‘resorts’. Today a more healthy and a more demanding generation of empty nesters often see the immediate post retirement years as an exciting period of liberation from work and family.” No surprise, then, that the National Trust has put time and effort into encouraging ‘third-age volunteering’ – in doing so, the Trust can recruit a cadre of knowledgeable and committed supporters.

Work by Demos shows that the baby boomer generation could become a



powerful political constituency. But if the attention of government and green groups is elsewhere, are the environmental concerns of

older people being ignored? Could a more explicit focus on this age group lead to better support for government action on the environment?

Green Alliance is hoping to answer these questions. Through a process of qualitative research we will explore environmental attitudes and actions amongst older people. Using the outcomes of this process we will look to establish a ‘third-age task force,’ highlighting the issues of most concern, and setting out what government should do to help. This will culminate in the development of a manifesto for change to be presented to government.

This work is in the development stage, for more information contact Russell Marsh, rmash@green-alliance.org.uk

closing the loop

...a new agenda for resource use in the UK



There is plenty going in the areas of waste, resource and product policy at the moment. Waste Strategy 2000 is being reviewed, the European

Commission has just published its Thematic Strategy on Waste Prevention and Recycling, which proposes changes to the Waste Framework Directive, and a consultation on the need for a UK body to take forward product policy came out in December. And this is just for starters. As ever there are plenty of opportunities for

“Extracting resources, using them once and then throwing them in a hole in the ground isn’t a sustainable model, especially given the desire for developing countries to emulate our consumption habits.”

both debate and action. However, will they deliver the policy frameworks that are needed to transform our unsustainable resource use?

Green Alliance’s project *Closing the loop - transforming UK resource use and delivering a sustainable resource economy*, which has been running since April 2005, will address this question. It is a three-year project aiming to develop and build support for policy recommendations that could transform the way we use resources. An ambitious objective perhaps, but one that needs to be addressed all the same.

Moving towards a ‘closed loop’ economy has the potential to reduce the impacts of resource extraction and waste disposal. The principle is simple enough – waste and resources are the same thing, just at different ends of the economy. One is an output from the economy, the other an input. Make the output an input and you have closed the loop. In reality it’s not quite so easy, as the UK’s slow progress towards 23 per cent household recycling has demonstrated.

The need to change the way we use resources is evident. Extracting them,

using them once and then throwing them in a hole in the ground isn’t a sustainable model, especially in the context of the desire for developing countries to emulate our consumption habits.

We conducted a scoping exercise to gain input from a wide range of groups on the specific issues the project could work on under the closed loop economy theme. The results can be seen in the summary scoping paper which is available on Green Alliance’s website, which gives some background on the concept of the closed loop economy and the current policy and environmental context relevant to the project. In the next few months we will be holding a series of events and publishing briefings on the themes identified in the scoping exercise covering:

- International examples of closed loop economy approaches;
- Economic instruments for furthering a closed loop economy;
- Procurement, construction and the closed loop economy;
- Closing the biomass loop – issues around food waste and biomass derived materials.

We are also feeding ideas from the project into the review of Waste Strategy 2000.

So watch this space for developments, as the next edition of Inside Track will feature a series of articles on these themes from Green Alliance staff and external authors.

For more information on this work contact Ben Shaw, bshaw@green-alliance.org.uk.

We are grateful for the support this project has received from Biffa, Defra’s Environmental Action Fund, the Eden Project, the Environmental Services Association, Friends of the Earth, Greenpeace, Interface Europe, Johnson Matthey, Marks & Spencer, Sainsbury’s and Skanska.

**The Millennium
Ecosystem
Assessment makes
explicit our reliance
on the natural
world for our well-
being and, ultimately,
our survival.
BBC Environment
Correspondent
Tim Hirsch has direct
experience of its
conclusions**



Journalists and environmental groups often struggle to communicate the complex linkages between ecosystems, security and human well-being. It all just seems too hard, so we go for the easy option and rely on the emotional response to images of pandas or orang-utans to convey issues such as deforestation.

I am not criticising this – the seemingly-inexorable slide toward extinction of all the great ape species (excluding one, of course, homo sapiens) is something with deep resonance to millions of people, and can offer a valuable hook with which to draw the public into some of the wider issues.

The danger of relying too heavily on this approach is that it can easily lead to crude arguments that animals are in some way being valued above human beings. How often have we seen news

stories mocking the delay of a road project or industrial development promising new jobs because of one rare newt or beetle?

Yet for the past six months, we have had in our hands a rock-solid body of research, in the form of the Millennium Ecosystem Assessment (MA), which documents in compelling detail the direct links between the essential services provided by ecosystems and the well-being of human societies – a key component of which is security.

So the way should now be open for those trying to promote more prudent use of natural capital to claim this as an issue of national security as important to the peace of mind of citizens as vigilance against terrorism or protection from rogue states.

The trouble is, this all still sounds rather far-fetched when expressed in abstract generalities, even when it is backed up with references to sound scientific analysis such as the MA.

It seemed a much more tangible concept, however, when I paid a recent visit to the Mississippi Delta to report on some of the environmental issues raised by Hurricanes Katrina and Rita and their aftermath.

Most of the commentary on this subject has, understandably, focussed on the debate surrounding the connection between the intensity of this year's hurricane season and the influence of human-induced climate change. While fascinating and important, this does not get very far once you acknowledge that yes, the recent science suggests that tropical storms will on average become more intense as sea temperatures rise, but no, you can never attribute any individual storm to global warming.

Much less widely reported, however, has been the connection between the loss of natural energy barriers such as cypress swamps over recent decades due to a range of human activities, and

the vulnerability of coastal communities – not just the city of New Orleans itself – to the full force of the storm surges created by the hurricanes.

The concept of this being a security issue occurred to me as I chatted to a fisherman called Wayne Menendez as he set about the task of righting his 90-tonne shrimping boat left lying on its side on dry land in Empire, Louisiana, a community on the narrow finger of land pushing out into the Gulf of Mexico as the Mississippi River completes its marathon journey to the sea.

On the journey to this wrecked boatyard, I had passed through mile upon mile of utter devastation, seeing lorries propped halfway up trees (this was more than two months after Katrina), wooden houses sitting in the middle of the highway and entire neighbourhoods reduced to matchwood.

It is a cliché to say the area resembled a war zone, but there is no other way to describe it. And the analogy is an apposite one – Menendez clearly felt his life and livelihood had been jeopardised through a collective failure of security by those responsible for the management of the delta in recent decades.

Firstly, he blamed the intensive extraction of oil and gas from the rock layers underneath the Delta since the Second World War for accelerating the subsidence of the entire area. This may sound far-fetched, but it is a phenomenon widely accepted by scientists including researchers from the US Geological Survey.

Second, Menendez recalled the changes in the management of the river since his childhood, when low levees allowed the Mississippi to flood naturally, depositing new layers of silt onto the land and counteracting the natural sinking of the delta. Since then, the levees had been built up



“Much less widely reported has been the connection between the loss of natural barriers such as cypress swamps and the vulnerability of coastal communities ”

the communication challenge

high, and the dredged sediments dumped deep out to sea instead of replenishing the wetland habitats which have been disappearing at an alarming rate.

In the area to the East of New Orleans, the vulnerability had been made even more intense through the construction of a wide shipping canal, the Mississippi River Gulf Outlet. Driven through an area of dense swampland in the 1960s, the canal is only very lightly used by the deep-draught shipping for which it was designed to provide a shortcut.

Scientists at Louisiana State University have developed models estimating that the outlet, together with another canal with which it merges, combined to funnel the storm surge of Katrina into a weapon of 20 per cent greater intensity and at least double the speed as it raced toward New Orleans.

As he mused about the future now facing his family and community, Wayne Menendez mentioned that his boat had in fact been tied up for a year prior to being hoisted onto the dockside by Hurricane Katrina – shrimping had become uneconomic due to rising fuel prices combined with a drop in the price of shrimp due to cheap imports.

And where had those cheap imports largely come from? Shrimp farms on the Indian Ocean coastline, in many cases displacing mangrove swamps and exposing other communities to the full impact of marine forces – such as the tsunami.

Listening to this story and speaking to the dedicated scientists engaged in frustrating attempts over many years to get proper investment in restoring the natural infrastructure of Southern Louisiana, the links between the

proper valuation of ecosystems and the security of human communities seemed far less abstract.

The challenge is to persuade decision-makers and the public to recognise that value without the need of a disaster to demonstrate the costs of environmental neglect.

Tim Hirsch has been environment correspondent for BBC News since 1997. A history graduate from the University of Cambridge, he has worked for the corporation for nearly 20 years. During a sabbatical last year he acted as a consultant for the Millennium Ecosystem Assessment, helping to draft the statement from its Board, entitled *Living Beyond Our Means: Natural Assets and Human Well-Being*.

terror, accidents and



Chemical safety and chemical security should be treated differently, argues **Richard Falkenrath**

It is sometimes a good thing when national-security experts and environmentalists turn their attention to the same issue, but not always. It is, however, almost always interesting.

One debate now taking place in the United States - what to do about the susceptibility of toxic industrial chemicals to terrorist attack - clearly illustrates the dilemmas and confusion that occur at the nexus of security and environmentalism. At the moment, this debate has not yet been seriously taken up in any other country, but that is only a matter of time given the nature of this particular danger.

Chemical safety is of course a long-standing concern of the environmental community. The modern era of US activism in this area began in the mid-1970s as a result of increasing public awareness of the health risks associated with a variety of different commercial chemical processes, as well as a number of high-profile revelations of commercial negligence and extreme cases of environmental contamination, such as Love Canal in upstate New York. These events led to the passage of the unprecedented Comprehensive Environmental Response, Compensation and Liability Act of 1980, also known as Superfund. The Act established federal authority to respond directly to the actual or potential release of substances that may endanger public health or the environment, regularised the liability of companies responsible for such

releases, and created a tax on petroleum and chemical industries to defray federal cleanup costs.

The chemical safety debate intensified after the accidental release of forty tons of gaseous methyl isocyanate from Union Carbide Corporation's pesticide factory in Bhopal, India, on December 2-3, 1984. Most casualty estimates suggest that some 3,000 people perished shortly after the accident, another 150,000-600,000 were seriously injured, and at least 15,000 of those who were injured later died. This horrific event raised awareness of chemical dangers worldwide (including in the boardrooms of major chemical corporations) and increased public pressure on governments to more effectively and thoroughly regulate their chemical industries. The result in the United States was the Emergency Planning and Community Right-to-Know Act of 1986, which required companies to publicise information about hazardous materials on their sites. A 1990 amendment to the Clean Air Act in 1990 took this process one

“The debate...clearly illustrates the dilemmas and confusion that occur at the nexus of security and environmentalism.”

and the US chemicals debate

step further by requiring companies to develop detailed 'risk management plans' (RMPs) for their facilities and submit these plans (by 1999) to the US Environmental Protection Agency (EPA), which then made the information available to the public through the Internet and, for the most sensitive information, controlled reading rooms.

For the past three decades in the United States, the issue of chemical safety, and the federal regulation of the industry, has been bitterly and emotionally contested. The debate has pitted the chemical industry and its allies against the environmental community. Environmentalists generally believe that the existing federal legislation and regulations do not go far enough to protect public welfare, and possess extensive evidence of corporate malfeasance and governmental laxity. The industry is by no means monolithic – the views of individual companies depend greatly on their size, products and production processes, histories, and corporate cultures – and has become significantly more responsible since the 1970s, but has clearly sought to minimise additional costs associated with federal regulation and the latitude of the EPA. There is precious little common ground between the two sides.

The terrorist attacks of September 11, 2001, injected a new element into this acrimonious setting. The attacks

transformed American politics. Suddenly, any issue with a plausible connection to homeland security gained a new sense of urgency, and interested parties could from time to time translate this heightened attention into real-world action.

There is no question that certain sections of the chemical economy present a virtually unique potential to cause massive loss of life if attacked by terrorists in the right way, at the right time. The most dangerous category of chemicals are toxic inhalation hazards (TIH) substances, such as chlorine, ammonia, hydrochloric and other acids, phosgene, and methyl bromide.¹ The manufacture and shipment of TIH substances are integral to all modern economies: one trade group, for instance, estimates that chlorine or its derivatives are used to produce 45 per cent of the US gross domestic product. As a result, they are routinely produced and shipped in vast multi-ton quantities, often by rail through major metropolitan areas. Conservative estimates of the effects of a single terrorist attack on a fully loaded chlorine rail car near a dense, down-wind population typically put fatalities in the high thousands to low tens of thousands; some models estimate casualties in the hundreds of thousands. The security of TIH production and storage facilities, and of TIH conveyance systems, is highly uneven: at certain times, and in certain places, massive quantities of TIH

chemicals can be found in close proximity to a population centre with no security whatsoever. This generally low level of security, combined with mind-numbing casualty potential, puts TIH chemicals in a class by themselves when it comes to an assessment of the vulnerabilities of the homeland.

For a long time, only industry specialists really understood the mass-casualty potential of TIH chemicals (Don DeLillo's *White Noise*, published in 1984, was ahead of its time). In the four years since 9/11, however, a relatively small number of environmental groups, most notably the Greenpeace Toxics Campaign, have succeeded in drawing significant public and political attention to the catastrophic terrorist risks associated with TIH chemicals. Using the RMP data provided to the EPA by chemical companies and other information, these groups have graphically illustrated the areas that are at greatest risk of massive loss of life in the event of a terrorist attack against a particular, nearby chemical facility.

Given the danger associated with TIH chemicals and the increasing public attention to the issue, one would have expected that the post-9/11 US government would have moved decisively to improve chemical security, at least in the TIH domain, as it did with security of passenger aviation. Shortly after September 11, the Administration did act to restrict access to information that could assist

terrorist targeting of high-risk chemical facilities, a move that made good sense from a security perspective but that has been criticised by some environmental groups. Chemical security has not, however, been an area of great federal activism since September 11, 2001. In January 2005, I testified before a Senate Committee that “to date, the federal government has made no material reduction in the inherent vulnerability of hazardous chemical targets inside the United States.” This statement remains true today. One question is why, but an even more interesting one is what to do from here.

First, on the question of why so little has been accomplished, it is useful to separate the areas in which the federal government has current powerful regulatory authority from the area in which the statutory authority of the federal government are more tightly circumscribed, particularly with regards to internal industrial processes and security systems.

The federal government currently has the statutory authority to set and enforce regular standards for chemical transport. Indeed, the shipment of hazardous materials by road, rail, and waterway is already regulated by the US Department of Transportation. These regulations, however, focus on safety and the risk of accidents; they are in no way optimised to safeguard against the threat of deliberate terrorist attack.

So why has the government not moved out sharply with enhanced security regulation of hazardous material, or at least TIH, transportation? It is commonly alleged that the chemical industry has successfully lobbied the Administration against such an effort; I do not believe this to be so. Instead, I believe that the answer lies with senior administration officials responsible for security who have afforded higher priority to other more immediate and urgent issues that were directly implicated in 9/11, such as aviation security, counterterrorism at home and abroad, border security, and intelligence reform. This lack of high-level attention has been compounded by the post-9/11 bureaucratic churn in the US government: hazardous material regulation is a long-standing DOT responsibility, but DOT was distracted by the start-up of the new Transportation Security Administration (TSA). The creation of the Department of Homeland Security, which included TSA, further complicated the situation, since responsibility for chemical security fell into the seam between TSA and an all-new infrastructure protection entity.

In the absence of significant federal action on TIH transportation security, several municipal governments have begun to take matters into their own hands. So far, the District of Columbia City Council has taken this effort the furthest by passing an ordinance forbidding the shipment of the most dangerous TIH chemicals through

downtown Washington. This action has been opposed by the federal government as well as the railroad and chemical industry, and is currently being litigated in federal court. Given the significant issues of interstate commerce at stake, the fragmented municipal regulation of TIH shipments is an extremely problematic approach to the problem, but the vacuum at the federal level makes these municipal actions at least understandable.

The federal government does not currently have sufficient statutory authority to set and enforce security standards at chemical plants and storage facilities.² To do this, the administration requires new legislation. President Bush has said several times that he supports such legislation, though his subordinates have from time to time given mixed messages and his Administration has not expended political capital to press the matter. Several US Senators, notably Susan Collins, Joe Lieberman, and Jon Corzine, have also prominently supported chemical site security legislation. Even in the Senate, however, it is clear that the issue is at best a middle-tier legislative priority. In the House, such legislation has almost no support whatsoever, particularly in the very busy committee of primary jurisdiction, the Energy and Commerce Committee.

Unless there is an attack against a chemical target in the next year, it is highly unlikely that the 109th Congress

“After September 11 2001...any issue with a plausible connection to homeland security gained a new sense of urgency”

will pass chemical site security legislation. Again, the obstacle is not principally direct industry opposition: the American Chemistry Council supports chemical site security legislation. The main problems are that the throughput of the US legislative process is quite limited and that none of the key “gatekeepers” (the major leaders in the House and Senate as well as the chairman of the committee of primary jurisdiction in the House) attach high priority to new chemical site security legislation; their positions probably range from “not persuaded” to “opposed in general principle.”

There is, however, a more fundamental issue slowing the progress of chemical site security legislation through the US Congress. Many in the chemical industry, and many of their political allies, fear that chemical site security legislation will lead to the more powerful and extensive chemical site safety regulations that have long been sought by the environmental community. This concern has manifested itself in the debate over whether new chemical site security

legislation should confer to the federal government the authority to require the adoption of “inherently safe technology” at any particular facility: the industry generally opposes such power, while environmental groups generally support it.

If the US Congress is to pass chemical site security legislation in the absence of a terrorist attack against such a target, it is critical that the legislators untangle chemical site security from chemical site safety. This is no simple task – the dividing line between security and safety is an artificial, blurry one at best – but it is politically essential. The key is to design a regulatory framework that reflects the fact that the most dangerous potential terrorist targets, such as TIH storage tanks and railcars, represent only a very small percentage of the total chemical economy, and thus can be powerfully regulated at acceptable cost. Risk varies greatly across different chemical sites and conveyances; the security requirements imposed on each site or conveyance should be calibrated to the terrorist risk of mass-casualty secondary effect it presents (I have outlined one proposal for doing so in my aforementioned Senate testimony³). While complex, legislation along these lines could over time significantly reduce the vulnerability of the US homeland to mass-casualty terrorist attacks – and might just muster sufficient support to make it through the US Congress.

1. Flammable and explosive substances are a separate category. These too present significant dangers, though not in the same class as TIH chemicals.
2. Some have argued that the general duty clause of the Clean Air Act confers sufficient authority on the federal government; I do not agree.
3. [http://hsgac.senate.gov/_files/SHSGAC TestimonyonHazmato42705.pdf](http://hsgac.senate.gov/_files/SHSGAC%20TestimonyonHazmato42705.pdf)

The environmentalists who have long supported more comprehensive federal regulation of the chemical industry will probably have significant reservations with a tightly focused approach of this sort. I have no doubt that there are significant and important issues of chemical safety and environmental contamination that require further attention and governmental action: the recent benzene and nitrobenzene spill into the Songhua River in China makes this clear enough. My expertise, however, is in protecting the homeland from catastrophic terrorist attacks, and from this perspective it is clear to me that there is no more urgent protective priority than improving the security of mass-casualty potential targets, most notably TIH chemicals. This relatively new agenda should be decoupled from the long-standing agenda of chemical safety, environmental contamination, and public health. Both agendas are important, but progress on one should not be held back by problems with the other. Chemical security should proceed on one legislative and regulatory track, chemical safety on another.

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great transitions...

Paul Raskin and Orion Kriegman, Founder and Organiser of the Great Transition Initiative, set out visions and pathways for a hopeful future

People and the biosphere are growing more connected, and humanity as a whole is increasingly bound together as a shared community of fate. Out of the turbulence of transition, very different forms of global society could emerge. The future is both deeply uncertain and highly contested. It is not difficult to imagine a gloomy time of social and ecological crises for the coming decades. Yet, it is also possible to turn toward a global society that reflects universal social and ecological values, respects differences, and defeats the scourges of destitution, war, and environmental destruction. Getting there depends on the emergence of an aware and engaged global citizenry acting together. To that end, the Great Transition Initiative develops and communicates scenarios that bring a message of hope and possibility for this planetary phase of civilisation.

Alternative Futures

A scenario is a story rooted in quantitative and qualitative analysis, constructed with detail, rigour, and imagination. GTI organises alternative scenarios into three broad categories: Conventional Worlds, Barbarisation, and Great Transitions.

Conventional Worlds are futures that evolve gradually from today's dominant forces of globalisation –

economic interdependence deepens, dominant values spread and developing regions converge toward rich-country patterns of production and consumption. Two variations are Market Forces, a neo-liberal vision in which powerful global actors advance the priority of economic growth, and Policy Reform, in which governments are able to harmonise economic growth with sustainable development objectives, such as the Millennium Development Goals.

But if market and policy adaptations are not sufficient to blunt social polarisation, environmental degradation, and economic instability, the danger of a deepening global crisis looms. Out of the turbulence, some form of Barbarisation scenario could consolidate. This could take the form of an authoritarian Fortress World scenario, a kind of global apartheid with elites in protected enclaves and an impoverished majority outside. Another is Breakdown, where conflicts and crises spiral out of control, waves of disorder spread across countries and regions, and institutions collapse.

Great Transitions are transformative scenarios. Their defining feature is the ascendancy of a new suite of values – human solidarity, quality-of-life, and respect for nature – that support a revision of the meaning of

“Great Transitions are transformative scenarios... that support a revision of the meaning of development”

development. Human solidarity is the foundation for a more egalitarian social contract, the eradication of poverty, and democratic political engagement at all levels. The emphasis on quality-of-life brings an emphasis on human fulfillment in all its dimensions, rather than the false metric of GDP. Deep respect for nature fosters a sensibility that understands humanity as part of a vibrant community of life, and the basis for true sustainability. Finally, this is a pluralistic vision that, within a shared commitment to global citizenship, celebrates diverse regional forms of development and multiple pathways to modernity.

Global actors

Many social actors are shaping the character of globalisation. Two powerful agents of change – intergovernmental organisations and the private sector – are beginning to consider the challenge of sustainability. But will governmental and business organisations re-invent themselves in time? Global civil society, another critical actor, has exploded over the past two decades. Today, thousands of international NGOs address an immense range of issues, while the annual World Social Forum, which attracts over 100,000 each year, is an expression of global rumblings for “another world”.

But despite its achievements and promise, global civil society lacks unity of vision, a shared identity, and strategic sophistication. Today’s civil society efforts remain too dispersed, diffused, and small scale. Success stories of community action do not

“For every person mobilised by their priority issue, thousands more are concerned about the future but lack the context to express that concern”

“Despite its achievements and promise, global civil society lacks unity of vision, a shared identity, and strategic sophistication”

scale up to new pathways for global development. The general public is increasingly aware of emerging dangers, but in the absence of compelling alternative visions and systemic movements, apprehension can lead to apathy and resignation.

The formation of a coherent global citizens movement for a Great Transition remains a work-in-progress. It would connect across issues, themes, and regions as it grows increasingly clear that incremental thinking and action are insufficient for addressing challenges. Those fighting for human rights, and those fighting for ecosystem protections, those seeking to forestall global warming, and those struggling to escape from poverty must all recognise that their success is interdependent and requires a systemic shift. The energy for such a movement comes from both the push of necessity and the pull of desire: concern over the perilous drift of global development and the hope of forging an attractive future for oneself, one’s descendants, one’s fellow human beings, and the community of life.

Crystallising Hope

How will a global citizens movement take shape? This is the question that GTI aims to address by providing a systemic and long-range framework for thinking, analysis, and action. For every person mobilised by their priority issue, thousands more are concerned about the future but lack the context to express that concern. This we call the “latency hypothesis”. Like a super-saturated liquid, in which a mere tap on the glass precipitates sugar crystals, we live in a super-

saturated cultural moment. GTI’s ideas have resonated with people all over the world, tapping into the latent hunger for hope, unity and vision. By offering rigorous and inspiring scenarios, GTI responds to the manifest desire among many engaged people, and the latent desire among many more yet to be engaged, for plausible visions of hope.

Launched in 2003, GTI is a growing network that draws on the rich experience of its diverse international participants, now numbering about 200. A Coordinating Unit at the Tellus Institute in Boston facilitates a two-prong program of research to deepen the scenarios and outreach to bring the message to world-wide audiences. A GTI Paper Series, *Frontiers of a Great Transition*, will be published in 2006 that will articulate a Great Transition vision and pathways for getting there, while taking a fresh look at such critical issues as economic visions, global governance, ecology, gender, values, human well-being, and sustainable communities. To find out more about GTI go to www.GTInitiative.org where you can read *Great Transition: The Promise and Lure of the Times Ahead*.

Dr Paul Raskin is President of the Tellus Institute which he founded in 1976. He also founded the Global Scenario Group in 1995 and the Great Transition Initiative in 2003. His path-breaking work with the GSG culminated in the influential essay *Great Transition: The Promise and Lure of the Times Ahead*, which offers a rigorously grounded case for an alternative paradigm for global development in the 21st century.

Orion Kriegman, the Organiser for the Great Transition Initiative, has focused his career on organising international civil society networks for social change. Orion holds a Masters in Public Policy and Urban Planning from the Kennedy School of Government, Harvard University.



The Institute for Environmental Security describes the environment as “the most transnational of transnational issues”. **Nasser Yassin**, of Green Globe Network, explains

It is estimated that seventeen conflicts between 1990 and 2002 were related to the exploitation of natural resources, and nine of these were in Africa. Whether scarce or abundant, natural resources can be a triggering agent or a fuelling factor for conflicts between and within states and across sub-regions.

When resources are stressed and scarce, two resulting phenomena emerge: ‘resource capture’ and ‘ecological marginalisation’¹. Resource capture develops when the powerful group shift resource distribution in their favour resulting in conflict and disputes as in the case of Darfur, Sudan, where conflict has erupted between herders seeking pastoral land and farmers maintaining their farms. Ecological marginalisation, on the other hand, is manifested in unequal access to resources leading eventually to migration of people to a fragile region and thus chronic poverty as in the case of Ethiopia.

Where resources are abundant, the availability of mineral wealth is a potent predictor of conflict and economies with around a quarter of

GDP coming from natural resource exports are ‘acutely’ at risk of civil conflict². The basis of this approach to conflicts can be summarised in Indra de Soysa’s³ words that civil wars have “fewer martyrs than opportunists”. In Sierra Leone, for example, diamonds have been associated with dictatorship, civil war and one of the lowest per capita incomes in the world (\$140).

A 2005 OECD report lists resources that are feeding or have fed conflict: natural gas in the Indonesian province of Aceh; diamonds in Angola, the Democratic Republic of Congo, Liberia, and Sierra Leone; oil in Angola, Central Asia, Chad and Nigeria; timber in Brazil, Cambodia, Indonesia and Malaysia; and illegal drugs in Afghanistan and Colombia.

Another key dimension for environment and security is the issue of climate change. There is an overwhelming consensus that climate change and the rapid warming in Earth’s atmosphere will have serious implications for human security. The UN Intergovernmental Panel on Climate Change envisages that “global

environmental security

warming will trigger enormous physical and social changes”. Shortfalls in water, for example, will have drastic effects on irrigation and drinking water, jeopardising agricultural productivity and food security of many nations, principally vulnerable ones.

Since the Bruntland Report in 1987, the area of environment and security has attracted a wealth of researchers and NGOs looking at the linkages between these two areas. No systematic explanation for the environment-security nexus has emerged yet. But there is a momentous consensus that the outcomes of environmental degradation on human and nations' security could be disastrous.

Green Globe Network's work

States and governments have prioritised the security agenda over the environment. This has become clearer in the last three years since 11 September 2001 brought high 'security anxiety' into the world. There is a pressing need to mainstream the issues of environment and security into government policies and practices. Among the priorities is to create the space for the environment, development, foreign policy, disaster and security policy communities to interact and cooperate, and it is in this arena that the Green Globe Network has been getting involved.

In 2004, GGN co-convened The Hague Conference on Environment, Security and Sustainable Development that successfully moved the environment and security agenda out of the purely academic realm into a more policy-

“climate change will jeopardise the food security of many nations, principally vulnerable ones”

“civil wars have fewer martyrs than opportunists”

oriented arena. GGN is now working with leading international think tanks to develop a cooperative, policy-relevant research programme to assess environment and security policies, programmes and projects funded by select OECD countries and International Government Organisations. The project will focus on examining the approaches that government departments make and bringing the right people together at the right time to provide substantive and strategic contributions to work in this important area.

1. See Homer-Dixon and publications of the Project on Environment, Security and Population
2. See Paul Collier and the Conflict Program at the World Bank
3. Journal of Peace Research 2002; Volume 39:4

What is Green Globe Network?

GGN was founded in 1997 as a group of independent advisors whose mission is to help the UK Government achieve international sustainable development objectives. Funded by the Foreign and Commonwealth Office (FCO), in the last few years GGN has made timely, objective and value added contributions to the development and practice of UK policy and has been successful in its role as a catalyst for cooperation among government departments and other stakeholders.

Recent work during the G8 and EU Presidencies focused on climate change, with one government participant saying that the meetings held by GGN during this period were “essential”. One recommendation, to hold an Energy Security and Climate Change Summit co-hosted by China, informed the decision to hold an Energy and Environment Ministerial Roundtable. A GGN seminar was also a major factor in the announcement by Secretary of State Hilary Benn of a doubling of the UK contribution to African water and sanitation.

The new GGN work programme for 2006-2008 puts emphasis on mainstreaming sustainable development in decision-making across all government departments. This objective will be achieved using already established process and policy frameworks, for example a review of the impact of the Millennium Ecosystem Assessment on multilateral investment funds.

For more information contact Peter Ritchie or Nasser Yassin at the Green Globe Network secretariat: pritchier@green-alliance.org.uk or nyassin@green-alliance.org.uk. Recruitment is currently underway for a new Convenor of Green Globe Network. Please go to www.green-alliance.org.uk for details.

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

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what's on... a look at the next six months at Green Alliance

- february** • New report on nuclear and renewables
- march** • Briefing and seminar on EU Emissions Trading Scheme
- Briefing and seminar on carbon capture and storage
- New pamphlet on decentralised energy
- Seminar: is the future of packaging recyclable or compostable?
- Seminar: is there a case for a levy on environmentally-damaging products?
- New pamphlet on ODPM and climate change
- april** • New report: Bridging the carbon gap
- may** • Spring reception 2006 with keynote speaker David Miliband MP, Minister of Communities and Local Government
- New pamphlet: why nutrient disruption is the next big issue
- june** • Energy summit: a new vision for energy

staff news

The last few months have seen a number of changes in the Green Alliance team. In the summer we said goodbye to Caroline Read, who returned to New Zealand, and Catherine Pamplin, who is now working for Medicins Sans Frontiers in Uganda. In September, Louise Humphrey joined as our Head of Resources to replace Karen Crane, who is on maternity leave. Hannah Hislop and Rebekah Phillips both joined the policy team.

We also welcome Jiggy Lloyd, who has joined us as an associate. Jiggy is an independent consultant in public policy, corporate strategy and sustainable development and has spent twelve years in policy-related roles in leading utility companies (Vivendi, Severn Trent and AWG).

member news

We welcome: Clive Bates, Sarah Dandy, Sophie Evans, Louise Every, Kathryn Fairhead, Briony Greenhill, Henry Hicks, Robert Lawson, Leonie Miller, Dr Catherine Mitchell, Dr Doug Parr, Hazel Phillips, Sally Powell, Jonathan Proctor, Dr Kate Rawles, Liz Reason, Nicci Russell, Sanjeeb

Seal, Jonathan Startup, Alexia Wellbelove.

Special thanks to our new donor members: Brendan May, Rupert Nabarro and Matt Thomas.

richard sandbrook

It was with great sadness that we learned of the death of Green Alliance and Green Globe Network member Richard Sandbrook on 11th December 2005. Richard was one of the environment movement's most influential and inspirational figures.

He was a founder member of Friends of the Earth, and as Executive Director of the International Institute of Environment and Development in the run-up to the Rio Earth Summit he played a pivotal role in the political shaping of the notion of 'sustainable development'.

He was also among the first environmentalists to harness businesses to the cause. More recently he was a non-executive director of the Eden Project in Cornwall, and helped to build a 'post-mining alliance' to demonstrate the power of regeneration. He will be greatly missed by colleagues, friends and family.



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