
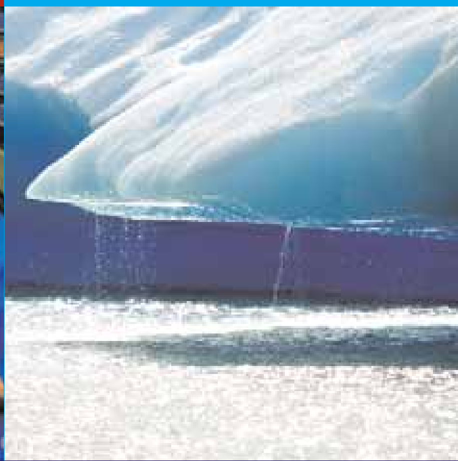
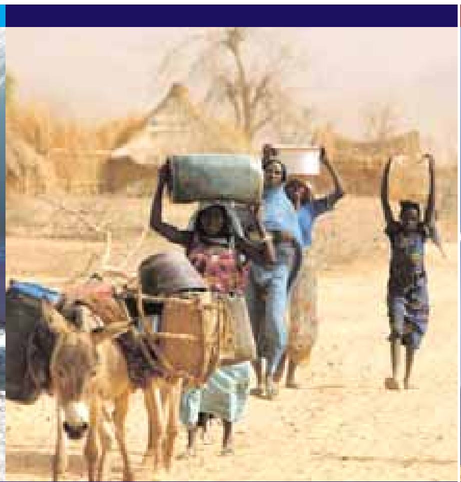


G8 Summit 2007

Growth and Responsibility

Heiligendamm, 6-8 June 2007

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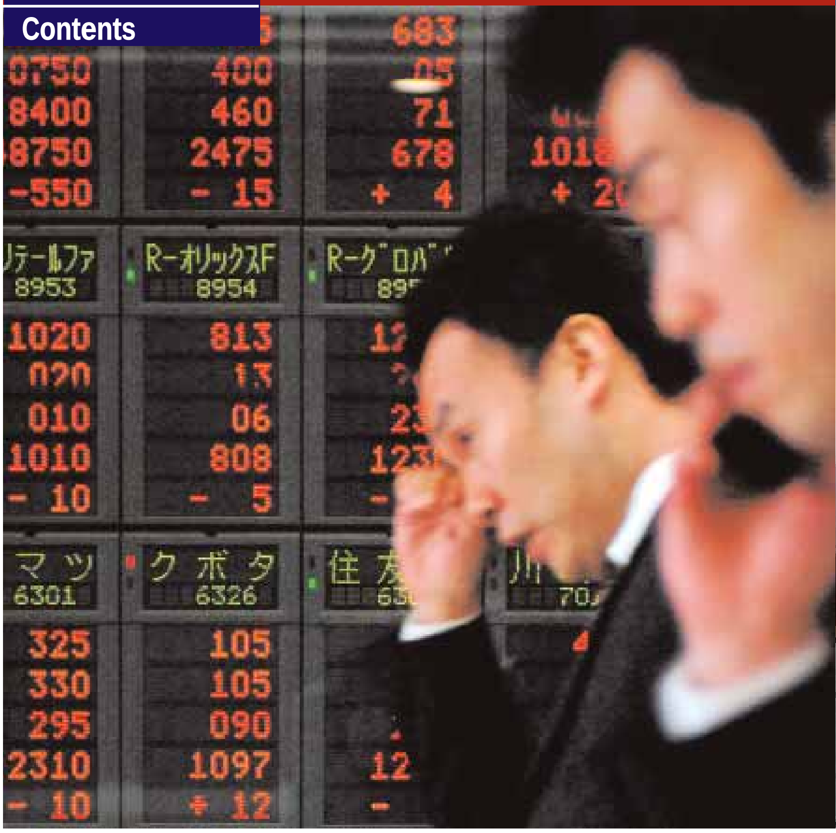

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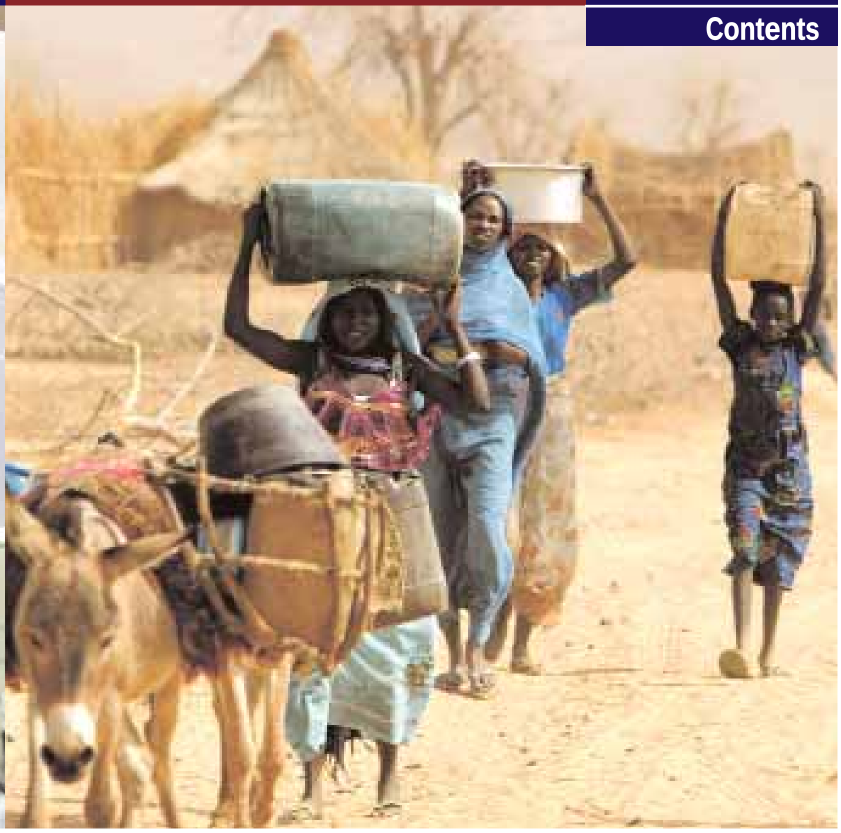
Managing globalisation



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The G8 Arena of *G8 Summit 2007*: *Growth and Responsibility* welcomes the participation of:

Shaping the agenda for Heiligendamm

January – June 2007

Angela Merkel,
Chancellor of the Federal Republic of Germany
and Chair of the 2007 G8 Summit

"We are all facing the same great challenges to a much clearer extent then we previously thought: safeguarding free and fair world trade, stabilising financial markets which are increasingly integrating, protecting against international terrorism, securing energy supplies, combating climate change and dealing with migration due to poverty…It is in our fundamental interests to tackle together these challenges facing the world."

The global economy

"We deliberately gave our G8 Presidency the motto of 'Growth and Responsibility'. Growth remains for all countries the basic prerequisite for achieving more employment, higher living standards and greater resource productivity. But growth is not an end in itself. It must be created equitably, not through unfair measures. Global competition must therefore, in my firm opinion, be placed within an international framework. We have therefore set ourselves the goal of putting economic themes to the forefront of the agenda during our G8 Presidency."

"We want to increase the options for global investment and are committed to the equal treatment of cross-border and domestic investment."

"We want to continue the G8's joint efforts to reduce the strong global imbalances, for example in exchange rates or oil supplies."

"We want to support innovation as the key to growth and prosperity, and advance the effective worldwide protection of intellectual property."

"We want to inject momentum into climate protection, greater energy efficiency and increased security of supply."

"A completely new global balance of power is being created. Today the world's economic potential rests on many more shoulders than even ten years ago, as can be seen from the extraordinarily high and sustained global economic growth rate. This benefits all of us – the industrial countries, the emerging economies and the developing world."

Outreach

"My aim is for Germany's G8 Summit to place special emphasis on new forms of dialogue with the major emerging economies – Brazil, China, India, Mexico and South Africa. The Summit will initiate that dialogue and pass it on to other international organisations because we need a coherent, joint approach in the many international bodies."

Globalisation

"I am firmly convinced that the process of globalisation is one of liberalisation because, as Benjamin Franklin, one of America's Founding Fathers, once said: 'Those who would give up essential Liberty, to purchase a little temporary Safety, deserve neither Liberty nor Safety.'"

"Hope for one side means worry and fear for the others. We politicians know these concerns only too well and we must therefore do all we can to shape globalisation in political terms. We must not neglect this aspect because people look to us and ask what we are doing to give globalisation a human face."

World trade

"It is in everyone's interest that the Doha Round succeeds…The positions of Europe, the United States, emerging economies and developing countries have to converge. We all have to be flexible. Responsibility for making the Doha Round a success rests on many shoulders. Failure would be a severe setback"

"We should not focus solely on the agricultural sector. We also desperately need to make progress in the negotiations on industrial goods and services. This concerns the industrialised nations' key interests.

A fair balance is therefore required. We have to use the little time at our disposal for making progress in the negotiations."

Climate change

"That global challenges can only be mastered through extensive international co-operation is highlighted by the two greatest challenges facing humanity. And I believe that it is quite justified to call them that. The two challenges I am referring to are climate protection and energy."

"The Intergovernmental Panel on Climate Change report confirms that climate change is a fact. That's why we need quick and determined action to limit the rise in temperatures worldwide and reduce the emissions of carbon dioxide. I will address the issue at the G8 Summit. My aim is, as far as possible, to involve all states in taking responsibility for climate protection."

"Rather than working in opposition, the climate change regime and industry can become allies".

"At international negotiations, we will offer to reduce emissions in Europe by 30 per cent if international partners come on board. It is important we can tell the G8 members that Europe has made a real commitment."

"The really critical question for the long term is how to deal with the issue in fast-developing countries such as China and India…We must persuade these fast-developing countries to accept a de-coupling of growth and CO_2 emissions."

Energy security

"The best strategy for a secure energy supply is increased energy efficiency and the use of renewable energies. This is also the strategy for climate protection."

"It is a fact that if Europe wants to reduce its dependency in order to guarantee its energy supplies in the long term, then we have to step up energy research. We want to create a functioning single market for gas and electricity in Europe. Every citizen should have a free choice of supplier."

Africa

"The question of how we can better integrate Africa into the global economy is another priority of Germany's G8 Presidency."

"Africa has a population of 1 billion. We want more to be invested on this continent and growth and employment to be placed on a broader basis."

"Africa is becoming a self-confident political player and increasingly important in international politics. Africa is also an important partner for economic reasons."

"We know that Africa now has more economic growth, more democratic governments and fewer conflicts. We can build on that and we have to seize these opportunities. What we need more is, above all, a responsible approach to natural resources and the development of independent African capacities for conflict management and post-conflict peace building."

Development

"Our concept of co-operation in the 21st century goes far beyond the traditional view of development assistance. It begins with us joining forces to build up the necessary institutions and discuss viable forms of governance. It calls upon us to talk about human rights, to create transparent mechanisms and thus also establish the conditions under which development assistance can best reach the people…It calls upon us to take the Millennium Development Goals seriously and to keep the promises we have made in the area of development co-operation, including in connection with financial resources."

"We will have to make a considerable effort to meet our ODA levels, and to deploy the resources we make available in a way that allows us to establish really sensible and mutually beneficial projects."

HIV/AIDS

"AIDS can be a threat which shakes countries to the core and affects entire families…The World Bank tells us that the gross national income and consequently the economic prosperity of many African countries will be severely weakened as a result of this illness alone."

"It is our responsibility to do everything we can with our prosperity, our better economy, our intact civil society, to counter this disease. They say that one-third of the working population in Africa will die of AIDS over the next 20 years. We must not stand back idly and accept this."

"To establish a far-reaching AIDS policy, we need an improvement in the economic, social and legal situation, particularly for women and children."

Jetty to Kempinski Grandhotel, Heiligendamm

Prospects for the 2007 G8 Summit

Professor John Kirton, Director, G8 Research Group

Imbalances in the world economy, energy security and climate change, boosting investment flows to Africa, and tackling terrorism and the proliferation of WMD head the German G8 Presidency's agenda for Heiligendamm. A 'G8+5' is taking shape to address these challenges

On 6-8 June 2007 the leaders of the world's most powerful market democracies assemble in the Baltic Sea resort of Heiligendamm, Germany, for their 33rd annual Group of Eight (G8) summit. In the chair is German Chancellor Angela Merkel, attending her second summit and hosting for the first time. Coming to his second summit is Canada's Prime Minister Stephen Harper. Japan's Prime Minister Shinzo Abe and France's President Nicholas Sarkozy are arriving at their first. They will join G8 veterans Prime Minister Tony Blair of Britain, President Vladimir Putin of Russia, President George Bush of the United States, Prime Minister Romano Prodi of Italy, and the President of the European Commission, José Manuel Barroso. For the third straight year, the G8 leaders will meet at their summit with the leaders of the 'outreach five' countries of India, Mexico, Brazil, South Africa and China.

On the road to Heiligendamm, the G8 leaders have been assisted by their personal representatives, with a full slate of four preparatory meetings and an additional meeting in early May devoted to the defining issue of climate change. The leaders also benefit from a dense web of G8 meetings of ministers of finance on 9-10 February, 13 April, and 18-19 May; environment on 17-18 March; development on

26-27 March; labour and employment on 6-8 May; justice and home affairs on 23-25 May; and foreign affairs just before the summit itself. But at Heiligendamm only the leaders will be present, at the apex of a summit system designed to let leaders lead.

Threats to stability

At their summit the G8 leaders will confront global challenges all too reminiscent of those that inspired the G8's birth in 1975. In finance, there are large currency and payments imbalances among major powers; opaque and potentially destabilising hedge funds and derivatives; and an International Monetary Fund from 1944 still awaiting reform and searching for its role in today's globalised world.

In trade, the badly overdue Doha Development Agenda of multilateral trade liberalisation negotiations, along with President Bush's Trade Promotion Authority, seem destined to die and with it the hope that poor countries can export their way to prosperity as most G8 members have. In energy, rising world prices for oil are fuelled by violence in the Middle East on both Israel's borders and in Iraq.

In nuclear energy, soaring world prices for uranium, and the threat of serious nuclear weapons proliferation to unpredictable Iran and North Korea, dampen hopes that weapons of mass destruction can be kept out of terrorist hands and that civil nuclear power can contribute to the immediate global imperative of combating climate change.

Meanwhile, democracy itself is endangered by the potential defeat of American-led coalition forces in Iraq, by the struggle in Afghanistan where the Al Qaeda and Taliban leadership are still on the loose, by difficulties in Africa and the Americas, and by doubts about the quality of good governance globally, including within G8 members and the international organisations they control.

The German chair proposed, and its G8 partners accepted, an agenda that addresses these challenges directly, while trying to anticipate problems and shaping global governance in the years to come. Well before they assumed the chair at the start of 2007, the Germans designed a summit focused on the twin themes of global growth and responsibility for the poor. Their choice reflects a judicious blend of innovation and iteration. It maintains the G8's recent focus on African development, returns to the G8's original concern with economics and finance, and takes up new problems such as hedge funds and intellectual property as the key to competitiveness in the new age.

The global economy, energy and climate change

The G8's economic growth agenda begins with the major imbalances in the world economy. It centres on a major trade deficit in a free-spending America dependent on imported oil, offset by major current account surpluses and foreign exchange reserves in Japan, China and the oil-exporting Middle East. Sending a credible message of confidence requires the tested formula of market-driven currencies, higher savings and lower government deficits in America and increased domestic demand in Asia. It also requires a serious follow-up to the G8's emphasis on enhancing energy security at the St Petersburg summit last year.

On hedge funds, G8 leaders will recall how the collapse of America's Long-Term Capital Management in 1998 compounded the global financial crisis already underway. They also know how greater transparency can make markets work better for oil, gas and much else. They now wonder how much regulation, and of what sort, is required at the national level, and how they can share, compare and select best practices for stronger collective action to prevent crises in future years.

At centre stage stands energy efficiency – the most effective way to achieve both energy and climate objectives

Private investment into Africa is now the central instrument for financing development

On investment and intellectual property, several problems stand out. Globalisation driven by foreign direct investment has brought many benefits. But there is still no serious global regime that limits the still substantial barriers in G8 economies and beyond; that ensures that investment take place in an environmentally, socially and politically responsible way; and that ensures that the intellectual property transferred by it is not stolen, with the result that further investment dries up. While the St Petersburg summit affirmed the value of open investment in energy, legal restrictions and political uncertainties remain in Russia, North America, Europe and energy exporters beyond. And the clean, efficient energy technologies badly needed to provide energy security and combat global warming will not be developed and transferred if there is fear that they will simply be stolen by the low-cost globally competitive firms in China and other receiving states.

On sustainable resource use, the G8 envisages more direct measures to build on the energy security advances of St Petersburg and to set up the central climate change agenda for the summit which the Japanese will host at Lake Toya in Japan's far north in 2008. At centre stage stands energy efficiency. For this is the easiest, most effective way to achieve both energy and climate objectives, as the G8 recognised when it first took up the task of controlling carbon emissions in 1979.

Africa

The second priority theme – African development – centres on subjects that also build on the G8's past, but add a new emphasis now. The war against HIV/AIDS, central to human security and economic growth in Africa and now Asia, should receive the required new funding and the focus on the underlying health systems that will fulfil the G8's ambitious promise of access for all for treatment by 2010. As the G8's Africa Action Plan declared in 2002, getting private investment into Africa is now the central instrument for financing development on a continent where the G8's commitment to double aid and cancel debt has been made and is largely being made good. Yet enhancing investment flows requires improvement in combating corruption, generating good governance more broadly, and promoting peace and security from Sudan and Somalia in the north to Zimbabwe in the south.

Security

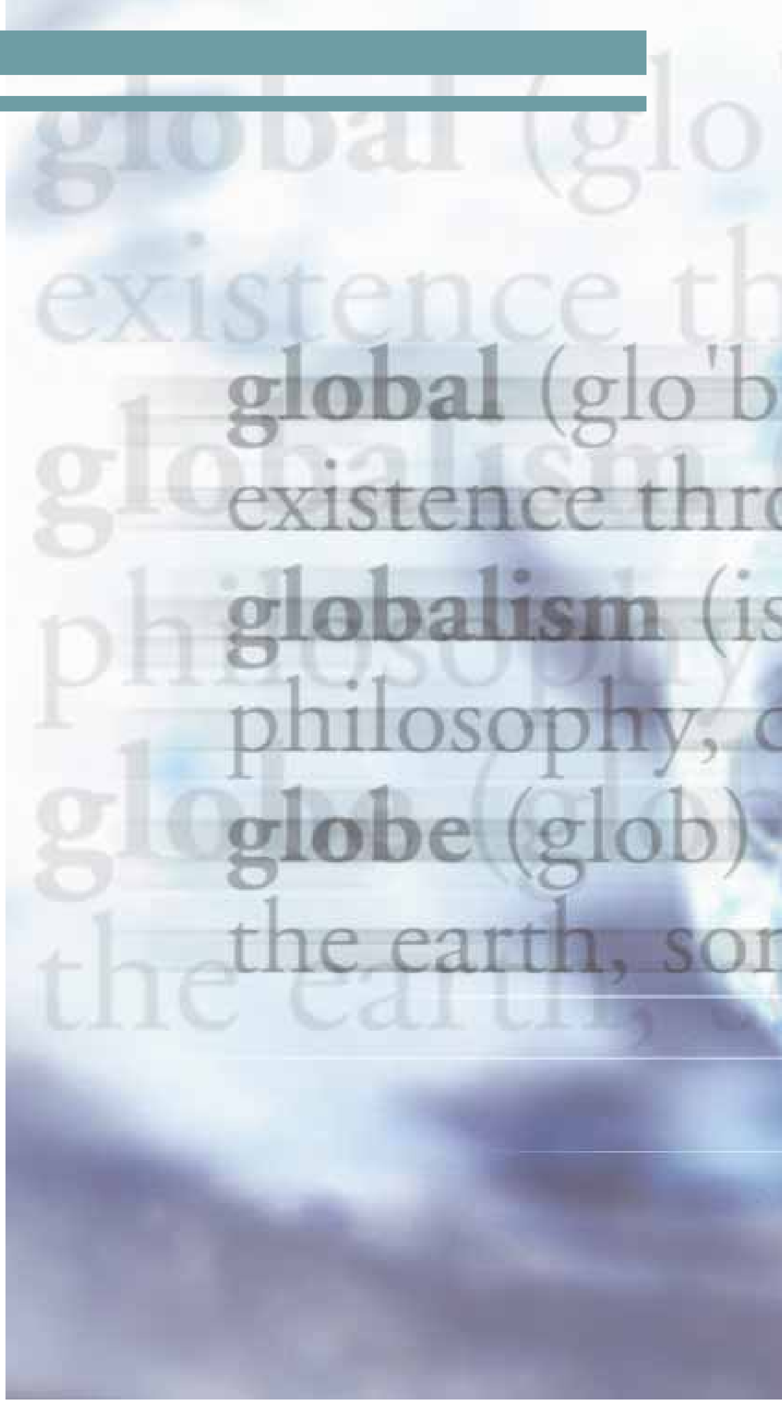
Beyond this ambitious agenda adopted by the leaders lie the inherited and erupting political security problems in a conflict-ridden world. As the recent attacks in Algeria, Afghanistan and the Middle East confirm, terrorism remains a clear and present danger, to be attacked directly at its deadly sharp end and indirectly through the democratisation,

development and diversity dialogue that address its roots. Also important is the proliferation of weapons of mass destruction (WMD) to rogue states and their terrorist allies. Heading the list here are an already nuclear equipped and exporting North Korea, a terrorist-supplying Iran, and a precarious Pakistan that could do both should it fall into Al Qaeda and Taliban hands. And the state-supported terrorist war against Israel that hijacked the G8's 2006 summit threatens to return to capture attention in 2007.

The 'G8+5'

Increasingly the solution to all these problems requires the participation and partnership of the five outreach partners, both because they are the most vulnerable to the threats and because they command the capability to help address them as well. The G8 has moved to involve them more fully and reliably in the summit preparatory process, to the point where a new 'G8 plus 5' is about to be born.

This new institution will have its first major test at Heiligendamm, when the summit addresses the central issue of controlling climate change. Thus far, G8 energies have been properly focused on creating the 1992 Framework Convention on Climate Change and its 1997 Kyoto Protocol; getting Japan, Canada and Russia to ratify the protocol to bring it to life as international law; and encouraging an America that remains outside the law to take serious measures to control its carbon emissions which have long been the largest in the world. But a similarly unconstrained China will soon become the world's leading largest emitter, and a booming India, hydrocarbon-rich Mexico, and biodiversity-blessed Brazil are also acquiring central roles on the global stage. The great drama and defining test of Heiligendamm is not only whether the summit will get all the G8 members to agree to do more to control climate change. It is also whether they can get the 'outreach five' to commit to join the carbon control club in the years ahead.



The G8: responding to the shifting power equation

Professor Klaus Schwab
Founder and Executive Chairman of the World Economic Forum

We are in the midst of a revolution. Some will call this revolution 'globalisation'. Others will call it the 'knowledge revolution'. Whatever we call it, we are witnessing everywhere a changing power equation. Power is moving from the centre to the periphery. Vertical command and control structures are being eroded and are being replaced by horizontal networks of social communities and collaborative platforms. For institutions as much as individuals, those that recognise this shift and develop in response to it are the ones that will thrive – those that do not will become increasingly irrelevant.

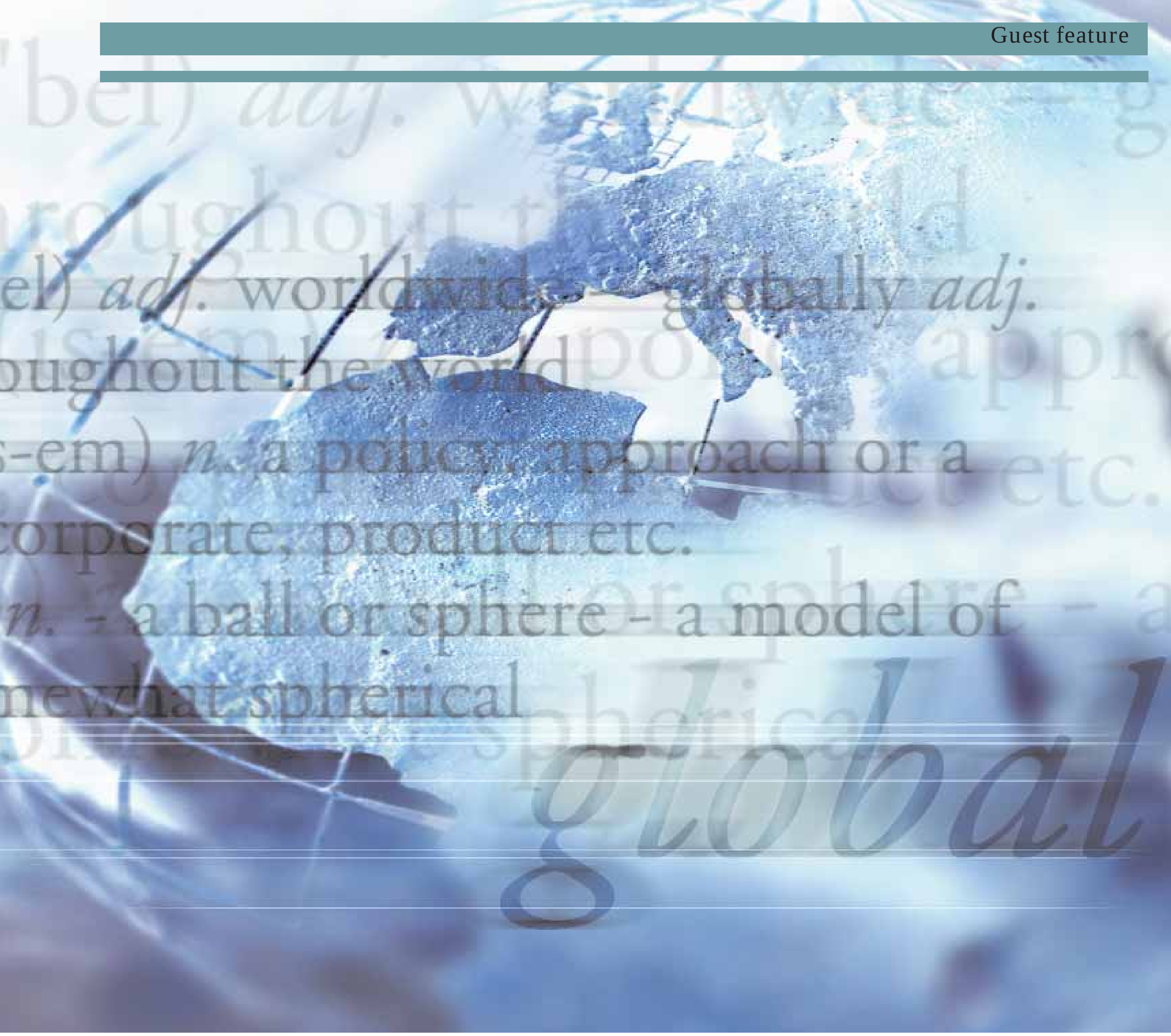
Unprecedented integration and interconnectivity have created a true global neighbourhood. But there is an underlying paradox here. Power is becoming more and more widespread, but as it does so it is also becoming harder and harder to harness. We have a *de facto* global world, but our institutions and systems of global governance are disintegrating. In principle, we should now move to a higher global level of consciousness, identity and, of course, organisational structure, but the underlying organisational principle in our world has changed dramatically. The world is certainly becoming flat, that much is clear, but that is only the first part of the equation – simply a description of the state we have reached. What is more interesting is how we will reinvent ourselves, our social relations and our power structures within this flat world. How will a flat world actually function and how will successful global institutions have to adapt?

Our global institutions and governance structures have found it hard to move with the times; they were built on the concept of nation states, mainly designed to protect national interests, but fostering no sense of global trusteeship. As we have seen on countless occasions in the past decade since the end of communism, any sense of taking action on global goals for forming a global coalition to achieve common ends – if it happens at all – is strictly limited in terms of timescale and scope, and usually strictly limited by the narrow interests of nation states.

What is clear, however, is that 'global trusteeship' or 'global stewardship' is needed more than ever, since we have to confront so many global challenges simultaneously. The world has become a complex and dangerous place requiring urgent, effective mechanisms to address all the challenges in a proactive, comprehensive and systemic way. We must all aim to be a part of the search for new mechanisms and new joint approaches to global problems, and to tackle these multifaceted problems in a multifaceted way.

Many of the problems facing the world are clear for all to see – the ones that will be exercising leaders from the G8. And one of the most prominent is, of course, the unsustainable way we treat our biosphere – increased levels of atmospheric carbon, growing water shortages, expanding deserts, shrinking forests. This environmental damage plagues countries around the world – industrialised and developing alike – not to mention all the social challenges and tensions that result from rapid resource depletion and dislocation.

If we look at how the G8 has worked recently with the World Economic Forum on the so-called Gleneagles



Dialogue, we have at least an idea of how established international institutions are successfully adapting the way they do business. In 2005, the Forum helped 24 leading CEOs to create a business statement on climate change that formed part of the G8 Gleneagles summit discussions. In 2006, the Forum was invited to engage business more deeply in the Gleneagles Dialogue. The objective is for the Forum's partner members to take part in public-private discussions and develop recommendations for reducing greenhouse gas emissions for the Gleneagles Dialogue politicians to consider ahead of the G8 Summit in Japan next year. Since it operates outside of the UN Framework Convention on Climate Change or other more formal climate change negotiations processes, it is free to explore fresh and innovative public-private solutions.

Who knows if the Gleneagles Dialogue and its outcomes will ultimately lead to successful outcomes – but the ability of organisations such as the G8 to incorporate such a flexible 'multistakeholder' response to a global problem shows that it is trying at least to adapt to this new, flat world where people and organisations are no longer looking to nation states or traditional international organisations to provide the answers.

This 'flattening' world presents ever more opportunities to which individuals, and particularly institutions, must adapt and react. What we need to do is connect, and reconnect, leaders from business, politics and civil society to form new coalitions to improve the state of our world and shape a new collective will. It is the duty of our major international organisations to adapt to this new situation. The Gleneagles Dialogue is a good example of new and successful thinking in such a world.

For more information visit **www.weforum.org**

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Shaping a new global economic order

Paola Subacchi,
Head of the International Economics,
Chatham House

The changing dynamics of the international economy require concerted action on capital flows, structural imbalances and governance

When thinking of structural imbalances in the global economy, one can draft a long list: income inequalities, the unbalanced distribution of resources, the poverty divide between North and South, and so on. In the last few years, though, the expression has become associated with the large US current account deficit and China's big surplus. It has come to indicate the dependence of the world's largest economy, the US, on capital inflows to fund its massive external deficit and its large budget deficit.

Observing the widening of the 'twin' deficits, in early 2004 Wall Street analysts, first, and academics, later, became alarmed. Americans were saving too little while consuming more imported goods than they were selling abroad. Moreover, the payments on foreign-owned liabilities in the US were exceeding the earnings from the assets that Americans owned abroad. In addition, the budget deficit was also growing, forcing the US to borrow from the rest of the world. At the end of 2004, the US debt exceeded its assets by about $2.5 trillion, or 21 per cent of GDP.

This situation was clearly against 'good economics', several commentators argued, and could not be sustained for long. Global investors would eventually lose appetite for holding – and accumulating – large amounts of American debt as well as dollars. Adjustments in the US current account deficit could not be made, however, without consequences for the world economy. Depending how disorderly global imbalances folded, they could trigger anything from a global financial meltdown to just a mild recession.

So here we are, some years later, and the worst-case scenario of a global recession has yet to materialise. Financial markets appear to be signalling that there is not a problem with the sustainability of the global imbalances even if uncertainty over the dollar has recently increased. In the meantime the US current account deficit has begun to normalise – it was down to 5.8 per cent of GDP in the last quarter of 2006 from a previous 6.9 per cent – and the debate seems to have lost its spark.

The fact that so far the imbalances have not abruptly folded does not remove nor minimise the problem. It simply states that the debate has been focusing too much on the US-China relationship and on the value of the dollar without paying much attention to the source of the imbalances and to how broadly they are financed. Indeed there are other countries (notably Japan) and oil exporters with large current account surpluses. The debate has also overlooked the fact that global imbalances are not merely the reflection of too much consumption in one part of the world (US) and too much saving in another (Asia, particularly China, and oil exporters): they may also reflect international differences in growth rates, or capital market constraints or just simply 'irrational exuberance' about, for example, US growth prospects. They may, in addition, be powerful signals of the changing dynamics of the global economic order.

Shifting economic power?

Global imbalances are a visible effect of the fundamental changes that are occurring in the global economic order. As the mature industrial economies and the emerging-market economies become more integrated and interdependent, countries that play a key role in the global supply chain, thanks to their large manufacturing capacity (such as China), or in energy supply (such as the oil exporters), increasingly contribute to shaping the world economy and influence its dynamics. These countries have been building up commensurately large capital flows to match their trade surpluses. Their emergence on the global scene makes the traditional distinction between centre and periphery a less effective concept in capturing the complexity of the current economic order. This distinction, which since the 19th century has been used to explain the global economic order, maintains that the core runs current account surpluses and exports financial capital and manufacturing to the periphery, in exchange for commodities. In today's world it is the periphery that supplies the centre with capital and manufactured goods.

> **The fact that the imbalances have not abruptly folded does not remove the problem**

This change has become possible because surplus countries, despite their growing financial power, have a low domestic absorption rate – their financial sector is not deep enough – and inadequate supply of investable assets, in particular of low-risk assets. As a result, progressively larger volumes of capital have been flowing from such countries to the developed world. The United States, offering plenty of investment opportunities in low-risk, dollar-denominated securities, absorbs at least 80 per cent of the savings that the rest of the world does not invest at home. As a result, the creditor countries of the United States are now large holders of liquid dollar assets – some held privately, some held as reserves.

The implications of the current geographical distribution of financial assets are huge. First, the world's largest economy – and the world's pre-eminent military and geo-strategic power – is now the world's largest debtor, making it potentially vulnerable to any swing in policies of creditor

The continuation of large trade surpluses is not necessarily in the interests of the surplus countries

countries. Second, capital flows now play an increasingly crucial role in driving the exchange rate. Third, the whole system remains locked in this 'stable disequilibrium' as long as excess savings in the rest of the world persist and countries with a surplus on their current account are willing to accumulate dollar-denominated claims. This edifice, in turn, depends on avoiding both policy mistakes and market accidents that could undermine the superiority the US commands in the assets space.

Policy co-ordination to foster stability

The relatively new role of China and the oil exporters in terms of global capital flows presents a strategic challenge to them as well as to Europe and the United States. The continuation of large trade surpluses is not necessarily in the interests of the surplus countries any more than it is in the interests of the US to accumulate large trade deficits. For emerging market economies, the need is to generate domestic development and jobs, not an excessive external asset base.

What China and the oil economies both need in the long run are financial sector reforms that encourage stronger domestic demand growth, reducing their large trade surpluses. The excess of precautionary saving in China is certainly an issue that the government has been trying to tackle in a number of ways, including now the implementation of enhanced social policies. In the oil economies, the problem is the very rapid rise in cash flow that has been generated by the sharp increase in oil prices and is only just beginning to be absorbed in new project investment and other spending. In both cases the lack of well-developed credit and financial sectors constrains monetary policy.

The US, in turn, needs to encourage domestic savings in order to reduce its dependency on external sources of financing, even if this may result in reduced consumption. Europe, facing the opposite problem, i.e. low private consumption, needs to switch to domestic demand-driven growth and to policies consistent with having the most important international currency after the dollar.

The focus should be on structural policies rather than on short-term measures. A dollar-centred solution, perhaps through an agreement similar to the Plaza Accord of 1985, may not bring the desired adjustment to the US current account deficit. Similarly, an appreciation of the Chinese renminbi, albeit desirable to a certain extent to 'cool' the economy, is unlikely to modify the multilateral trade deficit of the US, as it might simply imply a switch to imports from other countries and have relatively little effect on American savings or investment. Political reasons, in any case, suggest that Beijing may consider making small adjustments to the exchange rate to respond to cyclical circumstances, but not substantial appreciations that could undermine 20 years of development and growth.

As the current economic order is going through fundamental changes, it is critical to ensure that the transition happens without too much strain. The current 'stable disequilibrium' is due to last for a long time, at least until surplus countries become able to absorb most of the capital and/or as long as the dollar remains the key reserve currency, and dollar-denominated assets the preferred choice of investors. The euro is emerging as the alternative to the dollar – the total value of tradeable debt instruments issued in euros now exceeds that of dollar debt instruments – but is unlikely to replace the greenback as the key international currency. Outside Europe, the world is largely on a dollar standard, with industrial countries in East Asia and elsewhere pricing their exports to worldwide markets in dollars. US economic policies play a pivotal role in underpinning the value of the dollar over the long run and giving investors around the world the confidence that it is an asset worth holding over time.

More policy co-ordination in exchange rate management is desirable to prevent uncertain consequences for global capital flows, as well as for trade, in the case of changes in exchange rate policy in surplus countries. So far these countries have been largely geared to maintaining dollar pegs, which undoubtedly influences both trade and capital flows, but this policy may not continue for long.

Most important of all, global economic governance should be reformed and geared up to address the issues arising from changes in the international economic order. These issues are still insufficiently understood. In particular, pleas for increasing the representation of the emerging economies within the multilateral institutions that were established at Bretton Woods have so far seen little institutional activity. The US and the European Union, therefore, should play an active role in promoting co-operation among the main players. Otherwise, the discussion about the reform of global economic governance is likely to remain an intellectually stimulating exercise, but devoid of any ambition – or practical outcomes.

The focus should be on structural policies rather than on short-term measures

Promoting innovation, protecting intellectual property: towards evidence-based policy

James Boyle,
William Neal Reynolds Professor of Law at Duke Law School and founder of the Center for the Study of the Public Domain

Policy-making on intellectual property requires objective economic analysis, empirical data, historical research and impact assessments

The last ten years of international policy-making have been ones of increasing harmonisation of intellectual property (IP) rights (though not of the exceptions to those rights) and of increasing enforcement levels to deal with the threats posed by illicit copying, large scale trademark violation, counterfeiting and so on. More and more, IP policy has become a key component in world trade agreements and a major aspect of international macroeconomic policy. It is striking, then, to find that the way we formulate our intellectual property policies has not changed to keep up with either the pace or the importance of contemporary agreements. For the international community, and particularly for the G8 countries, the task of the next ten years is to develop better policy-making practices – ones that are evidence-based rather than driven by faith, intuition or the demands of one industry or another. Economic success depends on it.

It is common to hear policy-makers and economists intone the phrase: "Intellectual property rights are vital to innovation in the contemporary economy." That is correct, but it is also radically incomplete. More accurately we should say: "Having the correct level and

WIPO does no assessments of efficacy after new IP policies are adopted

type of IP rights is vital to innovation in the contemporary economy." 'Correct level' does not always mean 'more', and 'correct type' does not always mean 'wider in scope'.

Getting the balance right

To put it crudely, it is vital that nation states make good IP policy and there are two ways to fail at the task. One can fail by setting the level of rights too low, so that there are inadequate incentives to invest in new creative content, new technologies and drugs, and inadequate incentives to encourage distribution. The drug that costs hundreds of millions of dollars to develop can be copied for pennies, for example. Without patent protection, or some other system of incentives, that drug simply would not be developed. One can also fail by setting the level of rights too high – locking up the basic tools of science, crippling new communications technologies, allowing incumbent industries to stifle their emerging competitors, and producing a tangled landscape of property claims, which can only be negotiated with the aid of high-priced legal advice. When the level or scope of rights is too high, or the rights too vague, then the very policies that are supposed to spur innovation and creativity actually act to discourage it. At the same time, they impose the costs of legalised monopolies on the public without giving the boost in innovation those monopolies are supposed to 'pay for'.

The process of getting the correct balance is complex. It requires objective economic analysis, empirical data, comparative and historical research. In short, we need to make IP policy in the same way we make policies on drugs, or tax rates or the environment – by gathering data on proposed regulation, by submitting that data to rigorous economic and empirical analysis, and by reassessing existing regulations periodically to see if they have achieved their effects and at what cost.

Remarkably, at present, the policy-making process is largely evidence-free. The World Intellectual Property Organization (WIPO), for example, has no programme or department for the empirical assessment of new proposals or the review of the effects of prior treaties. None. It simply does not employ economists, statisticians or empiricists, except on an ad hoc basis. It does no comparative studies on economic effects in those countries that have and have not adopted a policy. It does no assessments of efficacy after new policies are adopted. Imagine pollution control proposals, or new drug approvals being handled in the same way – based largely on faith about effects and testimony from competing industry groups. The idea seems ridiculous. But it is standard practice for IP.

WIPO is by no means unusual in this regard. Both on the national and the international level, from trade-related aspects of intellectual property rights (TRIPS) and the World Trade Organization (WTO) to national patent reform, we have treated IP policy as though it were somehow qualitatively different from other areas of complex and vital regulation – as though it could be fashioned without empirical evidence. Tellingly, however, in recent years that has begun to change.

Case study 1: database protection

The European Union's 1996 Database Directive created a new intellectual property right over unoriginal compilations of data – over raw facts. The United States, by contrast, has no such intellectual property right. By giving stronger rights of exclusion the EU believed it would offer greater incentives for the creation of databases, and the establishment of a more vigorous database industry. By contrast, the US policy was based on the assumption that data was both an 'input' and an 'output' in the creation of new databases. Databases have to get their factual content from somewhere, after all. If those facts come covered by an intellectual property right it may be harder to build new databases. By denying protection to unoriginal compilations of fact, and conferring rights only on original creation, compilation or arrangement, the US policy lowers the cost of 'inputs', and encourages the industry to compete on value-added features, being first to market and so forth.

Both the European and the US policy, in other words, were accompanied by a plausible economic story about why its level of protection was the optimal one. Which was correct? In any other field of regulation, this would seem like a classic natural experiment from which policy-makers could 'field test' their assumptions. But in intellectual property, such a process is highly unusual. To its credit, the Database Directive included a requirement that its effects be studied periodically for their impact on competition. The EU's first report contained no empirical data of any kind, except an impressionistic survey of existing stakeholders – a process with all the rigour of asking a state telecommunications company whether it thought its monopoly was a good idea. To the further credit of the EU Commission, after criticism of its review process, it carefully studied the empirical evidence and concluded that since the inception of the Database Directive, the US database industry had flourished, and the EU Directive had failed to produce the effects claimed for it. "The ratio of European / US database production, which was nearly 1:2 in 1996, has become 1:3 in 2004." The Commission offered several options based on this conclusion – including the repeal of the Directive, and a maintenance of the status quo. The policy analysis continues. What is shocking about this event is that it is one of the first times that a governmental body has used empirical research on the comparative effects of IP protections in order to suggest policy guidance.

Case study 2: retrospective copyright term extension and 'orphan works'

The report of the Gowers Review of Intellectual Property (2006), commissioned by the UK government, began: "The Review takes an evidence-based approach to its policy analysis and has supplemented internal analysis by commissioning external experts to examine the economic impact of changes..." Why was it necessary to announce that the Review was taking an "evidence-based approach to policy analysis"? What other approach could it have taken? Anecdotal? Astrological? Yet, as I pointed out before, evidence-based policy-making is new to the field of IP. What did that approach reveal? One of the proposals in front of the Gowers Review was retrospective copyright term extension over sound recordings – lengthening the term of protection over works that have already been created. After commissioning an impressive external economic analysis by Cambridge University, the Review found that such extensions impose costs on the public while offering no concomitant benefits. It concluded that the term should not be extended and, in addition, that: "Policy-makers should adopt the principle that the term and scope of protection for IP rights should not be altered retrospectively."

The Review also looked at 'orphan works' – those works for which a copyright owner cannot be found. Because of multiple copyright term extensions throughout the G8, many of them retrospective, most of 20th-century culture – our books, films, poems and photographs – is still under copyright protection. Yet since the vast majority of copyrighted works are no longer commercially available five years after publication, that work is often completely inaccessible. For a very large number of those works, no copyright owner can be found. Yet without the permission of the missing owner, little can be done to provide the work to the public. Copyright has done its job in encouraging the production of the work, but now acts as a fence – keeping out those who would re-release, adapt, or digitise. After looking at the effects of these rules, the Gowers Review found social costs but no benefits. It proposed an 'orphan works' exemption and the introduction of a registry of copyright to make easier the task of finding the true owner.

Case study 3: intellectual property rights over state-generated data and reports

The nations represented at the G8 summit produce a wealth of data – weather reports, satellite images, mapping services, traffic information, government studies and so on. Yet they differ on policies towards intellectual property rights over that material. The US Copyright Act stipulates that all material produced by the Federal Government immediately enters the public domain, free of copyright. In the EU, by contrast, it is common for state weather data, maps and so on to be covered by 'Crown Copyright' or some similar system. In the US, data is available at the cost of reproduction. One can get 200 years of weather reports for the cost of a box of DVDs. In the EU such data is extremely expensive to purchase. The justification for the EU system is that the

In those areas where the effects of the policies have been studied, the disparities are remarkable

IP rights allow the entities that produce the data to recoup the costs of its production. By contrast, in the US the assumption is that a vigorous public domain of freely available state generated data not only provides social benefits, but spurs economic growth and taxpaying business activity that collectively far outweighs the costs of data production. Again, both are plausible ideas. We can only judge between them empirically.

In those areas where the effects of the policies have been studied, the disparities are remarkable. One study found that Europe invests €9.5 billion in weather data and gets approximately €68 billion back in economic value – in everything from more efficient construction decisions, to better holiday planning – a seven-fold multiplier. The United States, by contrast, invests twice as much – €19 billion – but gets back a return of €750 billion, a 39-fold multiplier. Part of this is because of the huge secondary market of (tax-paying) businesses that add value to the original free data. Partly it just reflects more efficient decisions by individuals and businesses. And the differences go deeper: when scientists sought historical European weather data to help predict the monsoon over India and Pakistan – something that might save countless lives – they could not afford it.

Simple principles for the G8

1. Innovation is not fostered by relentlessly increasing rights, but by getting the correct balance between the realm of protected material and the public domain, the realm of material that is free for all to copy, improve and compete around. Set the level of rights too low and we give insufficient levels of incentive. Too high, we stifle competition and science, and create costly monopolies with no public benefit

2. The balance cannot be identified by faith, anecdote or lobbying. It needs empirical evidence. The presumption must always be against the creation of new legalised monopolies. Those that are created need to be reassessed periodically to see if they are doing their job. Both the costs and benefits of new technologies need to be looked at. If a new technology increases the level of illicit copying by 20 per cent, but also expands the market by 50 per cent, it is not obvious that the level of rights and enforcement must be raised to compensate. On the other hand, if those percentages are reversed, then new legal protections may well be necessary.

3. To these two basic and uncontroversial points is added a third. Even a good system has pressing human problems it cannot fix. We need policies to encourage innovation in areas our current system cannot reach – such as the development of drugs to treat diseases that mainly affect the global poor. Patents will not motivate the development of medicines for those who could never afford them and who die in horrifying numbers as a result. To deal with this humanitarian catastrophe we will need to develop alternative systems, such as prize funds, or guaranteed purchases.

For the last 20 years, we have been dramatically expanding the reach of our IP system in every dimension – in scope, length of term, sanctions imposed. Many of those expansions were prompted by the perception that new technologies, such as the worldwide web, posed threats to content owners and that rights needed to be strengthened as a result. We have also expanded the reach of law – patenting business methods and genes in the United States, covering raw data with new rights in the EU. These expansions may have been well thought out, or they may not. The answer is probably a mixture. But we will never know unless we look at the evidence. The IP system is too important for 'faith-based initiatives'. ■

Europe and Japan: an agenda for structural reform

Jean-Philippe Cotis,
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The recent economic upturn is welcome, but should not obscure the fact that productivity and employment levels in Japan and many continental European countries leave much room for improvement

Many of the challenges our societies now face are global in nature. Achieving sustainable growth worldwide without squandering environmental and natural assets is certainly one such challenge. Lifting out of poverty those people globalisation has left behind is another. However, in order to address these global issues, major players need to be in a position where they are not too inward-looking and short-sighted, as a result of inadequate economic performance at home.

In this respect, one striking feature of the past two decades has been the loss of economic momentum in many European countries and Japan, relative to OECD best performers. As a result, GDP per capita in France, Germany, Italy and Japan is still some 30 per cent below US levels.

More recently, however, Japan and Europe have experienced a strong recovery, which bodes well for the future. But there is always the risk that with the good times comes complacency and a winding down of recent reform efforts. This at a time when staying the course remains necessary, if only to ensure that our welfare states remain sustainable.

Public policies should not discourage participation in the labour force

Steering reforms will thus require continuity but also explanation, in a period when affluent societies have progressively taken a wider view of what is meant by 'well-being', adequate growth being only one important dimension of a successful life.

This environment of greater affluence and more diversified needs suggests that citizens do not necessarily want to be rushed into an all-out growth strategy. Convincing them that reforms are warranted will require careful analysis and sorting out what belongs to changing social preferences from actual policy deficiencies will be key. This is where structural surveillance, such as the OECD's *Going for Growth* project, has a role to play, provided it is based on a reliable and systematic comparison of national public policies and their results.

At a basic level, the widening difference in income per capita between continental Europe and the US reflects both a labour utilisation gap and a productivity gap. To be sure, apparent labour productivity in certain European countries is high in the international comparisons. However, this is something of an artifice. Productivity statistics are unduly flattering in these cases because less skilled workers are largely excluded from the labour market, while in North America they tend to be at work, driving down headline productivity figures. Japan has no such labour utilisation problem, but its overall productivity level is genuinely low.

Positive trends – but obstacles remain

At a deeper level, lower productivity and/or employment levels in Japan and most of continental Europe are largely rooted in dysfunctional policy settings in labour, product and financial markets, as well as in higher education systems. Reforms have already been implemented in many of these areas, and they are beginning to pay off. In this context, the strong recovery currently taking hold in continental Europe not only reflects cyclical factors but also deeper progress achieved in the area of labour and product markets. Structural unemployment probably fell by around one percentage point over the past decade, from about 8.5 to 7.5 per cent. The participation of people in their fifties and sixties has increased, following various reforms such as the progressive dismantling of early retirement schemes, which were both detrimental to employment and departing from 'actuarial justice'. We have also seen an increase in product market openness and, more timidly, in actual competition. In Japan, following a long period of economic and financial restructuring, potential growth may now be higher than the low 1.5 per cent a year it is usually credited with.

Still, more needs to be done. On the productivity front, remaining barriers to market entry have prevented many countries from fully benefiting from the emergence and diffusion of new information and communication technologies. In our times of rapid technological change, lightly regulated countries have incorporated new production techniques more quickly than others. In most of continental Europe and Japan, restrictive regulations continue to hinder competition in retail distribution and professional services. Yet retail trade has made a major contribution to the productivity pick-up experienced in the United States and a number of smaller economies over the past decade. Regulation also remains overly stringent in services and network industries. It is testimony to the difficulties of economic integration that 50 years after the Treaty of Rome, the single European market is not yet complete in these key areas.

Creation and adoption of new technologies is also hindered by inadequate funding for higher education systems in European countries, at least in the large ones. Yet returns from investment in tertiary education are typically high, and for the most part accrue to individuals who undertake them. Against this background, more funding from students would improve both the quality and equity of tertiary education, without hampering access to university, particularly if tuition fees are accompanied by well-designed grant and refundable loan schemes. By contrast, the financial constraints are not as restrictive in Japan. Nevertheless, there is still room to upgrade the system there through further reducing regulation and removing barriers to foreign universities wishing to establish in Japan.

Tax, work and welfare

Turning to labour utilisation, poorly-designed welfare systems remain a major driver of low employment rates in large continental European countries. The recently updated OECD Jobs Strategy shows there is no single road to high employment. Still, the experience of successful countries – both European and non-European – holds general lessons which others could emulate:

- Public policies should not discourage participation in the labour force. For older workers, this means the financial reward from continuing to work beyond a certain age needs to match the cost of doing so – what economists call the 'actuarial fairness' of retirement schemes. For mothers wishing to (re)enter the labour market, this implies affordable and widely available childcare facilities, as well as reasonable marginal tax rates on second earners.
- Work must pay. Benefit recipients should be actively encouraged to seek jobs, be it as a result of lower replacement rates, as in a number of English-speaking OECD countries, or well-designed 'activation' policies, as in certain Scandinavian countries. In-work benefits, if well-targeted, can also provide adequate financial incentives to work.
- While tax and welfare reforms facilitate labour force participation, it is equally important that policy allows labour demand by firms to expand to accommodate higher labour supply. In particular, competitive product markets stimulate production and labour demand. The cost of labour also matters. High tax wedges – especially when combined with binding minimum wage floors – can bar low-skilled workers from finding jobs.

Labour costs include not only financial but also more diffuse costs, such as those of employment protection legislation (EPL). Strict EPL may not depress overall employment, but available evidence suggests it induces businesses to hire newcomers through short-run and precarious labour contracts which generate erratic career paths and hinder human capital accumulation. This instability is particularly harmful to young people, migrants and low-skilled women. This 'polarisation' of

> Governments have some room for manoeuvre in facilitating reforms

labour markets across continental Europe has even been reinforced by the reforms of the past two decades, which have increased the flexibility of EPL for temporary contracts while leaving largely untouched stringent protection for permanent employees. More recently, similar pathologies have developed in Japan, where the divide between insiders and outsiders is worsening fast. Yet, experience from certain small European countries suggests that finding ways to level the playing field is possible. It involves reforming permanent contracts with a view to making their costs less unpredictable to employers, possibly in parallel with a move towards standardising labour contracts.

The political challenge

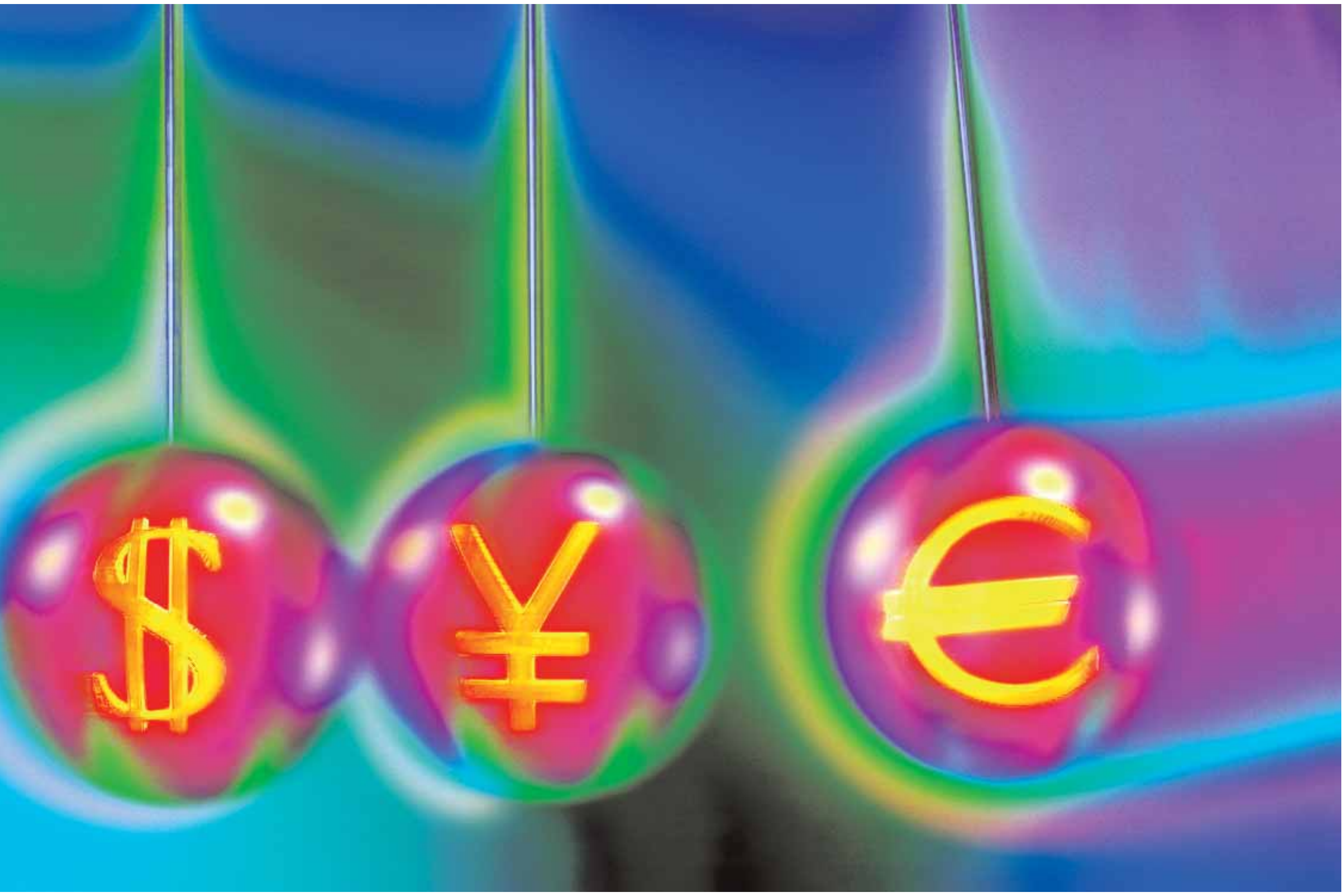
It is, of course, much easier to recommend such sweeping policy changes than to implement them. One of the roadblocks obstructing successful reform lies with the widespread perception that reforms are an additional 'threat', in a context where globalisation already heightens anxiety. In reality, the reforms I have just mentioned offer the best way to cope with and benefit from globalisation. It is certainly no coincidence that many of the countries that are now prospering from globalisation and enjoying high morale, such as Canada, the United Kingdom, Australia, Ireland and the Scandinavian countries, happen to be those which reformed two decades ago.

Reforms also suffer from a number of unfortunate characteristics. Their costs materialise upfront, are easy to identify and tend to be concentrated on well-organised groups. By contrast, their benefits are typically gradual and deferred, arise through indirect and complex mechanisms, and accrue to groups with little lobbying power. As a result, those who stand to lose from change can easily unite to block reforms,

Tireless explanation, social dialogue and political commitment do make a difference

thus leading to a 'tyranny of the status quo'. How can this status quo be overcome? Virtually all of the above-mentioned countries actually reformed in a crisis situation. Country size seems to be another important driver for institutional change: smaller countries have been swifter in – and adept at – undertaking reform.

At first glance, this may cast some doubt over the ability of large continental European countries and another large country like Japan to undertake necessary reforms in the midst of an ongoing cyclical expansion. Fortunately, governments also have some room for manoeuvre in facilitating reforms. One avenue is to compensate reform 'losers', which has been found to be easier when fiscal positions are strong. Another is to acknowledge that some reforms are easier to carry out than others: liberalising financial markets, international trade and, to some extent, product markets seems politically less sensitive than labour market reforms. Historically, such reforms have indeed been implemented first. This may partly reflect the fact that financial, trade and product market reforms can grease the wheels of labour market reforms, insofar as they contribute to shifting part of foreign and capital incomes to wage earners. And of course, when it comes to bringing fundamental changes to entrenched policies and institutions, tireless explanation, social dialogue and political commitment do make a difference.



Protectionism's false promise

Angel Gurría,
Secretary-General, OECD

After decades of successful liberalisation, many of the world's major economies have started to tighten up their regulatory and administrative procedures. New multilateral initiatives are designed to halt this dangerous trend

Chaos theory predicts that the flap of a butterfly's wings can cause a tornado on the other side of the world. Globalisation has a similar logic. Today, an event in some far-away country can have an impact close to home. Just as a Fed cut can boost activity everywhere, so a sell-off on the Shanghai stock exchange can cause turbulence, as it did only recently this year. Such an interdependent world poses constant policy challenges.

How should political leaders respond? Should they take full advantage of the benefits by opening up to globalisation, or run for cover? Or can they do both?

The OECD's mandate has evolved over the years, but our basic message is consistent. We promote policies designed to help the global economy work better. This means contributing to sound economic expansion in OECD and non-OECD countries alike, and to the expansion of world trade on a multilateral, non-discriminatory, basis. It also means avoiding developments that might endanger our economies or those of other countries.

In this context, the OECD sees protectionism as a false policy that must be resisted. To understand why, let's go back to globalisation.

Globalisation has helped lift millions out of poverty

Largely thanks to open markets for trade and investment, economic integration on a world scale has been faster and more pervasive in the last ten years than ever before. Globalisation has helped lift millions out of poverty and has transformed economies as small as Ireland and as huge as India. It has raised productivity and employment, and boosted access to international markets, capital, finance and knowledge. Information and communications technologies have spurred globalisation, by bringing people closer together, enhancing knowledge and facilitating scientific breakthroughs, not least in healthcare. They have promoted human rights throughout the world and have enhanced public awareness about poverty, disease, climate change and so on.

These are impressive achievements. However, at the same time, globalisation has brought costs as well, for individuals, firms, communities, ways of life and the environment. Instead of embracing globalisation, many workers and businesses now perceive it as a threat. They see downward pressure on wages, the erosion of social safety nets and insecurity for their families and communities in a competitive battle they feel they cannot win. They equate globalisation with inequality, damage to natural resources, and loss of identity.

Some opinion polls say only a third of Americans see free trade as a plus. In Europe public opinion equates certain types of foreign investment with a loss of job security.

The result has been a revival of protectionism in every continent, targeting the likes of container ports and airports, energy supply and information technology systems. How might this trend affect growth?

The protectionist scenario means slower growth

To assess this question, the OECD has developed two scenarios. In the first one, globalisation continues at today's pace, and in the second, protectionism mounts.

Our preliminary findings under the protectionist scenario suggest that backtracking on globalisation will not pay. Global financial imbalances would worsen, for a start. A slowdown in the pace of economic integration could raise the likelihood of a disruptive depreciation of the US dollar. As productivity growth in the OECD area would be slightly lower, so the annual growth in per capita GDP would slow: initially reducing growth to 1.8 per cent in a protectionist scenario (down from 2.1 per cent for business-as-usual) in the OECD area, and to 4.5 per cent (instead of 5 per cent) in non-OECD countries in 2006-2015. The pace edges lower still in 2015-2025.

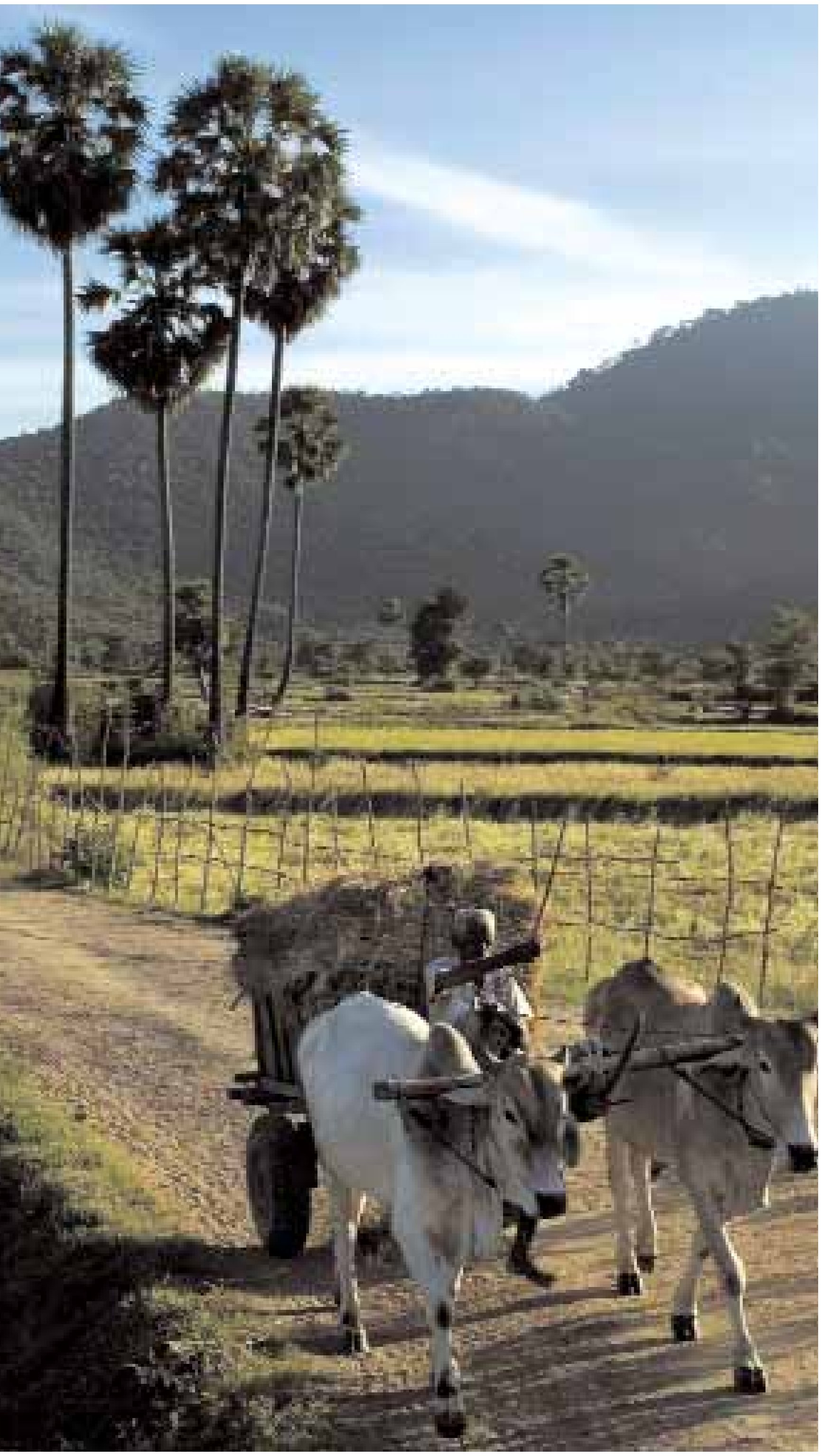
Protectionism does this because it stifles the competitive and innovative forces that are at the heart of today's great technological advances, and the source of higher productivity and new employment.

Protectionism leads down the precarious economic path it promises to avoid, and leaves people unprepared for new challenges. Rather than serving the public interest, protectionism shores up vested interests. Worst of all, it simply hands the bill for future reform on to our children.

Fortunately, we are not there yet, nor should we allow matters to advance that far. Political leaders can deal with the challenges that arise and work together to make the global economy perform better for everyone's benefit. This means focusing on the structural rigidities that inhibit change and which need to be unblocked for our economies to thrive. This is what 'the political economy of reform' is about.

The tasks are clear. More effort is needed to reduce trade barriers and keep investment regimes open wherever possible. For liberalisation to deliver more equitable and inclusive growth, strong, active policies are needed to encourage education, training, innovation and employment, as well as policies that are supportive of all social groups. We need to fight poverty, exclusion, corruption and disease. And we must pursue

Protectionism simply hands the bill for future reform on to our children



environmental policies for sustainable development, notably in relation to water and climate change. These policies are the pillars of our global edifice.

The Doha agenda

In trade, our priority must be to get the Doha Development Agenda back on track. The OECD has estimated the economic gains that could be obtained from full tariff liberalisation for industrial and agricultural goods at nearly $100 billion. The benefits from liberalising trade in services – the fastest growing sector of the world economy – could be much greater. A Doha agreement on trade facilitation, by clearing away procedural barriers, could contribute $100 billion more. Developing countries are projected to reap as much as two-thirds of these gains. It would be a tragedy if this potential were lost because of renewed protectionism.

Agriculture is a small share of developed countries' national income, but access to our markets is vital for developing countries. Political leaders in developed countries must continue to reform those policies they know do such a poor job of protecting ordinary farming families and the environment. And they should continue to place more emphasis on using constructive policies to facilitate adjustment, enhance sustainable development and contribute to rural community well-being.

Developing countries must also reduce their own high barriers and be vigilant about domestic policies too. A recent OECD report on the farm sectors of eight major producers – Brazil, China, India, South Africa, and the formerly planned economies of Russia, Bulgaria, Romania and Ukraine – shows government support to be under half the OECD average, but on a rising trend.

Nor should the boost liberalisation would give to services trade be underestimated. Services are now the single largest sector in many economies, accounting for up to 70 per cent of output and the bulk of employment and income in OECD countries. Services such as tourism are growing in importance even in poorer developing countries. However, whether for plumbers, architects, hoteliers, financiers or healthcare professionals, trade negotiators have found it difficult to

Developing countries are projected to reap as much as two-thirds of the gains from trade liberalisation

come to grips with the reduction of services barriers, partly because of the difficulties involved in measuring services trade with tangible precision. In this context, the OECD intends to undertake the development of novel indicators to provide critical information for governments eager to give further impetus to this vital and fast-expanding sector of the global economy.

Clear and consistent rules for investment

Apart from trade, protectionism also affects investment. Whether in the form of mergers and acquisitions or greenfield projects, new foreign investment brings in fresh capital and knowledge, jobs, better governance and securer prospects for entire communities. However, recent cross-border takeovers have fanned concerns about jobs and welfare, triggering talk about national champions, economic patriotism and so on.

One reason for concern is the emergence of dynamic investors from developing economies with different regulatory frameworks and standards of corporate behaviour than in most OECD countries.

But also, today's situation of heightened international security has led governments to reassess their priorities. Technologies with security implications as well as facilities like maritime ports and airports, and sectors such as energy that may be considered vital to national sovereignty or competences, are under closer scrutiny.

The upshot is that, after decades of successful liberalisation, several countries have started tightening some of their regulation and administrative practices again. France, Germany and the US are three examples, while Canada and Japan are considering restrictions too. Outside the OECD area, China has introduced new screening on grounds of 'national economic security', and Russia is reviewing its 'strategic sectors'.

No-one should be too surprised if these moves prompt other countries to tighten up too, leading to a more restrictive investment environment everywhere.

The difficulty is, while governments have a clear responsibility to safeguard essential security interests, there is a risk of over-extending that responsibility to justify protectionism. A key question running through our discussions is how to maintain predictability in investment regulation and treat newcomers in the multilateral system fairly, while addressing legitimate public concerns?

To help address this policy challenge, the OECD has launched an initiative called Freedom of Investment, National Security and 'Strategic' Industries. This makes sense, since the OECD is the only international body that has adopted multilateral investment instruments: the OECD Code of Liberalisation of Capital Movements, which provides for market access to non-resident investors; and the OECD Declaration on International Investment and Multinational Enterprises, which includes a commitment to non-discriminatory national treatment of foreign investors. The spirit of the commitments is to extend the benefits of the instruments to all countries – not just those who participate. In addition, nine non-OECD countries have adhered to the Declaration and a number of others are joining.

Our investment instruments already provide a carve-out for essential security. The aim of the new initiative is to encourage adherents to provide greater clarity about their security concerns, and to engage in an inclusive dialogue with major non-OECD players. Launched in 2006, non-OECD economies such as Brazil, China, India, Russia and South Africa have already agreed to participate.

The OECD's basic answer is simple. For the sake of growth and jobs, responsible foreign investors should be welcomed and treated in a non-discriminatory manner – just like local companies.

Ultimately, globalisation is all about building a more open, prosperous, confident world where everyone counts. G8 and other world leaders have a special responsibility to work together to resist protectionism and make globalisation a success. The OECD stands ready to support their efforts.

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Our capacity to aspire: the key to building national wealth

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Human capital and the quality of institutions – the two components of 'intangible capital' – account for the bulk of national wealth worldwide, including in low-income countries. Investment in such capital holds the key to development

The wealth of nations lies in its people and institutions. That much was apparent to Adam Smith, for whom the division of labour was powerful chiefly for its role in skill formation. Economists were slow, however, to put a name to the 'accumulation of labour' – the complement to what they recognised as the first prerequisite for economic growth, the accumulation of capital.

The role of human capital

Firms acquire what we now term 'human capital' through people, and people acquire it through education, formal or otherwise. It is now uncontested that education plays a major role in economic growth, accounting, by one reckoning, for a quarter of the growth in income per worker in the United States in the 20th century (Goldin and Katz 2001) and playing a similarly powerful role in the growth of the newly industrialised economies of East Asia (Young 1995). The power of education has led governments to make it compulsory. As Adam Smith observed in 1776: "For a very small expence, the publick can facilitate, can encourage, and can even impose upon almost the whole body of the people, the necessity of

What are intangible assets in national wealth accounting?

In the model used in *World Bank (2006)*, 'intangible capital' captures all those assets not accounted for as natural or produced assets. It includes human capital, the skills and know-how embodied in the labour force, as well as 'social capital', the trust among people in a society and their ability to work together. Intangible assets also include those elements of governance that boost the productivity of labour or allow people to create wealth. Prominent examples are an efficient judicial system and clear property rights. Human capital and the rule of law account for most of the international variation in intangible capital.

Source: World Bank 2006.

acquiring those most essential parts of education." If encouraged, and unless discouraged, individuals and their families usually will exceed government mandates, investing considerable private resources in improving their own stock of human capital, thereby raising the level of society as a whole.

Development as portfolio management

Alas, although human capital now has a name, it is still not reliably or uniformly measured. But in an ambitious new approach to growth accounting, the World Bank (2006) has tried to isolate the contribution of human capital and other intangibles to the wealth of nations by computing countries' total wealth (defined as the present value of sustainable consumption from 2000 to 2025) and deducting from it the computed values of so-called natural capital (natural resources such as land, oil, minerals, and forests) and produced capital (plants and infrastructure). The residual, dubbed 'intangible capital' (see box) and broken down into human capital and the quality of institutions, accounts for the bulk of national wealth worldwide, even in low-income countries. The share of natural capital in total wealth tends to fall with income, while the share of intangible capital rises, as one would expect – rich countries are rich because of their greater stock of knowledge and because their institutions encourage (or at least do not impede) economic activity. In the richest countries, technological and organisational innovation, learning by doing, and institutional efficiency are among the fundamental drivers of growth.

Together, natural, produced, and intangible capital constitute a portfolio of assets, some exhaustible (oil, diamonds), others eminently renewable. Unlike other forms of capital, human capital and knowledge in particular make non-linear contributions to development, with increasing returns. Development is the process of managing that portfolio of exhaustible and renewable assets. The first principle of that process is to invest income from the sale of exhaustible natural resources into renewable ones – the 'Hartwick policy' (1977). Unless resource income is invested, the country's total wealth will decline over time, sometimes

It is now uncontested that education plays a major role in economic growth

precipitously. Unlike other forms of capital, human capital and knowledge in particular make a non-linear contribution to development, with increasing returns.

Investments in human capital and governance, financed in part by saved income from sale of natural resources, can boost growth and welfare simultaneously in developing countries, in contrast to old-school development economics, which posited a necessary trade-off between present and future welfare (Tinbergen 1956). The step from saving to investment is crucially important. Investments must be profitable, for if they are not, their effect on wealth is no better than that of consumption. Achieving the transition from dependence on natural resources to sustained and balanced growth based on renewable assets requires a set of institutions that are capable of managing the nation's natural resources and channelling income from their exploitation into profitable investments.

What accounts for the significant differences in the value of intangible assets between countries? Three factors – average years of schooling per capita, rule of law, and remittances received per capita – explain 89 per cent of the total variation in this residual across countries. At the mean level of schooling, a one-year increase in schooling in low-income countries (costing $51 per student per primary year) corresponds to an increase in the intangible wealth residual of $838, a handsome return. Returns are even greater for richer countries at higher levels of education, reflecting the compounding of returns as the economy's stock of knowledge grows.

With respect to the rule-of-law variable, a 100-point index borrowed from Kaufmann, Kraay, and Mastruzzi (2005), the implications for policy-making are less

Civil and political rights are the key to good governance

obvious, because of the difficulty of deciding what it means, in terms of real change to real institutions, to increase rule of law by one-point increments. Nevertheless, policy-makers can be reasonably confident that investments in the justice system, as in education, will help increase their country's wealth.

Successful public investments, good governance and human rights

The capacity of governments to make productive investments is typically constrained by shortages of factors such as skilled labour and infrastructure, but 'softer' factors play a role as well. Good governance, civil and political rights, and investments in human development are among those soft factors. All are effective because they harness the power of 'agency' – the ability of people to define their goals and to act on them. Free people are more likely to make good investments, to contribute to the success of public investment, and to supplement public investments in education, health care, and nutrition with further private investments.

Social investments alone will not produce economic growth, but, as Sen (1996) has pointed out, they "strongly facilitate fast and participatory economic growth when combined with market-friendly policies"[1]. The newly industrialised economies of East Asia provide a case in point. There, high levels of education, land reforms, and incentives for investment in export industries were coupled with openness to trade and competition in an atmosphere of macro-economic stability.

A rights-based approach to development that would make the poor the agents of their own development has a great deal of promise. The key ingredients of such an approach are basic civil and political liberties, the so-called negative human rights. On the economic front, these equate to freedom of personal choice, voluntary exchange, freedom to compete, and protection of person and property – all closely associated with successful economic development and a major determinant of cross-country differences in per capita GDP, not to mention longer life expectancy, lower infant mortality, and other social and economic goods (Chauffour 2006).

Enabling people to claim their rights – helping them to realise their potential for agency – is good for several reasons.

- First, it is a check on unwise government policies. It is widely accepted that the citizen's voice is an important precondition for government accountability and so can help create the legal and political environment conducive to development. Sen (1996) points out that "no substantial famine has ever occurred in any country with a democratic form of government and a relatively free press", not only because "democracy spreads the penalty of famines to the ruling groups and political leaders" but also because democracy and a free press help to surface information about the effects of disasters, natural and policy-induced.
- Second, it increases the efficiency of allocation of capital, human and financial, by increasing the amount of intelligence (in the literal and figurative senses) devoted to the discovery and exploitation of market opportunities. A country that improves governance by one standard deviation, an achievable goal, can expect to triple its annual per capita income over the long term (Kaufmann 2006).
- Third, when rights are turned into income, poor people can escape the poverty trap by changing intergenerational

patterns of inequity – “surely the most principled, logical, and sustainable means through which the Millennium Development Goals (MDGs) might still be realised”, in the words of the United Nations High Commissioner for Refugees (Arbour 2006).

By contrast, countries with a record of violating human rights, notably economic rights, are “usually mired in a poverty trap” (Chauffour 2006).

If good governance is the key to sustainable development, then civil and political rights are the key to good governance and ought to be pursued proactively. In the words of Daniel Kaufmann, director of global programmes at the World Bank and a pioneer in measuring the interplay of governance, investment climate, and development:

“It is misplaced to wait for governance and civil liberties improvements to come automatically when a country has an income windfall or infusion of aid. Good governance is not a ‘luxury good’, to which a country graduates when it becomes wealthier. Instead, the focus ought to be on sustained interventions to improve governance and civil liberties in countries where they are lacking.”

Human capital and the coming ‘fertility transition’

In most developing countries, the number of young people is peaking or will peak in the next 10 years[2]. Thanks to the development achievements of past decades, more young people are completing primary school and surviving childhood diseases, presenting the world with an unprecedented opportunity to accelerate growth and reduce poverty – if the young can acquire advanced skills beyond literacy.

The fertility transition means that many developing countries are in, or will soon enter, a phase when they can expect to see a larger share of people of working age. This expansion of a workforce that has fewer children and elderly people to support provides a window of opportunity to spend on other things, such as building human capital. The window of falling dependency rates can stay open for up to 40 years, depending on the rate of fertility decline. Then ageing closes it.

The poor outcomes of young people today are transmitted to their children

If countries fail to invest in human capital, they cannot hope to reap this demographic dividend. Not addressing these challenges passes poverty to succeeding generations, because the poor outcomes of young people today are transmitted to their children. “Most developing countries have a short window of opportunity to get this right before they lose their demographic dividend,” says Emmanuel Jimenez, director of human development for the World Bank’s East Asia region and lead author of the Bank’s *World Development Report 2007*. “Improving education and the overall environment for young people isn’t just enlightened social policy; it may be one of the most profound decisions a developing country will ever make to banish poverty and galvanise its economy.”

Countries that have broken out of the inter-generational poverty spiral have improved the basic skills of adolescents and young adults, met demands for even higher-order skills, and smoothed the start of young people’s work and civic lives. The overall skills of the labour force, built largely in childhood and youth, strongly affect the climate for investment in firms. And, where enrolment in post-primary education is high, skill shortages – a feature of all developing countries – are lower. But despite dramatic recent progress in the numbers completing primary school, children are not learning as much as they should.

One lesson from the massive expansion of education in the 1980s and 1990s is that expanding enrolment rapidly can come at the cost of quality. A balance must be found between expanding primary enrolments and ensuring a minimum quality standard. Simply increasing quantity is not enough. If quality is low or if what is learned is not relevant in the job market, unemployment rates can be high even for some of the most highly educated.

Economic freedom tends over time to improve the quality of governance

Many education systems fail because they emphasise rote learning of facts. Too few emphasise thinking and behavioural skills – motivation, persistence, co-operation, team-building, the ability to manage risk and conflict – that help individuals process information and come to sensible, informed decisions. Policies that link educational institutions with prospective employers from the private sector through regular consultations and joint university-industry research projects can help.

Encouraging young people to invest in themselves

All nations already have policies and programmes that affect the lives of young people. They have schools, universities, labour-market regulations, hospitals, and laws that allow youth to vote. The strategies that frame those programmes are set mostly in well-established sector departments. Are those strategies adequate to serve youth's needs, to unleash its creative power? Do they treat young people as potential investors in (their own) human capital?

Most governments, even if well intentioned, lack sufficient resources and capacity to solve skill shortages on their own. But they can create an environment that liberates young people's native capacity to aspire and achieve, leading them, with the support of their families, to invest in themselves – just as they should do for firms.

Choosing to invest in skills presents substantial costs to young people. Families already contribute significantly to the cost of tertiary education in some countries – up to 80 per cent of the cost in high-performing economies with relatively high enrolment rates such as Chile and the Republic of Korea – when they feel they are getting value for money. For the half of all university students in private universities in Argentina, Brazil, Chile, and Colombia, costs range from 30 per cent to 100 per cent of GDP per capita. Even for students in free public universities, the opportunity costs are substantial.

Because of the big personal payoffs to higher education, such costs would not be a binding constraint if liquidity were not an issue. But it is. The obvious way to lift this constraint is to provide credit in the form of loans, vouchers, or subsidies to encourage enrolment, which can also enhance the capability of young people, particularly young women, as decision-making agents within the family.

For countries, rich or poor, to build and maintain their productive sectors in the face of global competition, local enterprises must be able continually to improve their products and services – that is, to innovate. That ability is inevitably dependent on the successful application of technology. Governments must therefore promote the skilled human capital, competitive environment, and supporting institutions – universities, technical and vocational schools, research labs, standards bodies, and information and communication infrastructure to name just a few – that make innovation possible.

By building local capacity in science, technology, and innovation, developing countries can better absorb and adapt foreign technologies, while improving their ability to devise local solutions for local problems. In many economies, an export orientation and foreign direct investment expanded the demand for young workers. Such policies have been cited, along with sound basic education, as a source of growth to explain the East Asian miracle. In Indonesia, in heavily export-oriented sectors such as electronics and textiles, youth employment shares are more than twice the national average – truly 'youth intensive' sectors. They have had a particularly stimulating effect on previously excluded groups, such as young women in Penang, Malaysia, whose entry into the labour force 20 to 30 years ago fuelled the growth in a fledgling electronics industry and altered social stereotypes about women.

The bottom line: a virtuous circle

All renewable wealth must be built through a process of saving and investment. One of the most productive investments, for national governments as for individuals, is in knowledge and skills. But to be optimally productive, such investments should take place in an environment of civil and political liberty that stimulates the universal human capacity to strive and aspire for a better life. In addition to unleashing productive energy, economic freedom – like its cousin, political liberty –

tends over time to improve the quality of governance, thus eliciting further investment and facilitating the accumulation of financial and human capital that make possible the self-perpetuating wealth of nations.

Governments do not have a particularly good record at picking economic winners, but they have shown that they can create and maintain environments in which people, alone or as firms, do their best. For policy-makers, the trick is to identify situations where a little investment in human agency will take flight, becoming the starting point of a virtuous circle. Smartly designed scholarship programmes can be a tool to address human capital shortages. (See, for example, the joint Japan/World Bank Graduate Scholarship Programme, www.worldbank.org/wbi/scholarships).

Youth issues by nature cut across sectors. Countries that have experienced success are those that have drawn up a coherent national framework for youth, supported by all ministries. That framework needs to be integrated into national policy planning and budgeting (like the poverty reduction strategy processes), rather than subsisting as stand-alone programmes run by under-funded and over-mandated youth ministries, which are more effective as co-ordinating bodies. ■

[1] *Sen continues: "Systematic statistical studies give no real support to the claim that there is a general conflict between political rights and economic performance... Since these rights have importance of their own, the case for them stands, even without having to show that democracy actually encourages economic growth." Isham, Kaufmann, and Pritchett (1997) found that "suppressing liberties is likely to be inimical to government performance."*

[2] *This section is based on the overview in World Bank (2007).*

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World financial markets in an era of globalisation

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The risks of financial globalisation preoccupy regulators, and the activities of hedge funds are high on the G8 agenda. But the best antidote to hedge fund risks is more hedge funds – not fewer of them

A decade has passed since the emerging market crises of 1997-1998, and it's been six years since devaluation and default in Argentina. But despite a period of relative calm in financial markets, the globalisation of capital remains controversial. Like flows of goods and people across borders, the unrestricted flow of money causes popular unease. And whereas the economic benefits of trade and migration are widely recognised by experts, the gains from cross-border capital flows are debated by policy-makers and academics. The doubts begin with the question: do cross-border capital flows enhance economic growth? Ten years ago, the consensus view was that they did. Just as trade in goods promotes growth by freeing countries to specialise in the industries they do best, so capital should be allowed to go wherever it is most productive. This should mean, according to the theory, that developing countries with abundant investment opportunities enjoy capital inflows from rich nations with abundant savings. Free capital flows should be not only pro-growth but also pro-development.

Free flows of capital do bring benefits, and the risks can be managed

The high water mark for this consensus was the annual meeting of the International Monetary Fund in Hong Kong in 1997. At that gathering, the world's assembled finance ministers and central bankers contemplated the unusual step of enlarging the IMF's mandate, giving it the task of promoting the international movement of capital. The timing could hardly have been worse. Within a few weeks, East Asia was in the full throes of its financial crisis – and the free flow of capital was blamed for undoing years of development progress.

In 1998 the trouble spread to Russia, Turkey and Brazil; and Argentina entered a period of recurring turmoil. But it was not just crises that battered the consensus in favour of financial globalisation. Over the past few years capital has refused to behave as theory predicted. Rather than flowing from rich countries to finance development in poorer ones, capital has been flowing from emerging markets such as China to rich countries such as the United States.

Meanwhile academic reappraisals have found that cross-border capital flows boost growth only modestly. A recent paper by three IMF economists and Harvard's Kenneth Rogoff finds only a weak correlation between countries' growth rates and their openness to international capital. Some countries that have not opened up completely to foreign capital have notched up rapid economic progress – most notably, China. Others that did open up (Bolivia, Venezuela) made only modest advances.

If the gains from financial globalisation are doubted, the costs continue to attract attention. The most obvious cost lies in the risk of a new wave of crises – a risk that remains, despite efforts to guard against it. Some emerging economies have used the past half-decade to accumulate foreign currency reserves as an insurance against speculative attack on their exchange rates. Others have deepened domestic capital markets, giving themselves the option of borrowing in their own currency and so reducing their

It is now uncontested that education plays a major role in economic growth

exposure to foreign-currency liabilities. These defences look promising for now; but they have yet to be tested by a period of stress in financial markets.

Hedge funds: now on the G8 agenda

Financial globalisation entails another risk, which also harkens back to that traumatic period in 1997-8. This is the risk that a hedge fund implosion could have broad global consequences. After the collapse in 1998 of Long-Term Capital Management (LTCM), a Connecticut-based hedge fund run by a shiny roster of financial stars, no less a figure than Federal Reserve Chair Alan Greenspan declared that LTCM's implosion "could have potentially impaired the economies of many nations, including our own".

The possibility of another LTCM-type disaster keeps financial regulators worried. In the eight years between the collapse of LTCM and 2006, the volume of money managed by US hedge funds has risen from about $300 billion to well over $1 trillion, according to HedgeFund Intelligence. In Europe and Asia, meanwhile, assets under hedge fund management have grown to $325 billion and $115 billion respectively.

This expansion might not be alarming if it were accompanied by clearer signs of prudent management. But hedge funds are anything but clear: the risks they take are hard for regulators to understand, partly because their trading strategies are complex and prone to change, and partly because the funds have a legitimate interest in protecting their intellectual property by saying as little as possible about their investment tactics. As a result, regulators can never feel confident that hedge funds' risks are properly contained. Periodic disasters in the industry, such as last year's implosion of an energy-trading hedge fund called Amaranth Advisors, underline the dangers.

So it is not surprising that Chancellor Angela Merkel has used Germany's G8 presidency to put the regulation of hedge funds on the world's agenda. Nor is it surprising that Merkel's concerns find echoes beyond Europe. In the United States, the attorney general of Connecticut (the state where many hedge funds are based) has joined with prominent members of Congress in questioning hedge fund practices. In East Asia, the memory of the 1997 currency crisis lives on – and hedge funds are believed, rightly or wrongly, to have contributed to that painful episode.

The case for globalisation

So the benefits of financial globalisation are doubted, and the risks preoccupy regulators. This raises a question: even if other forms of globalisation are beneficial, should financial globalisation be viewed as an exception?

The answer is no, even though the case for financial globalisation needs to be stated cautiously. Free flows of capital do bring benefits, and the risks can be managed. Even if the direct effect of capital flows on economic growth are hard to see, the same literature that acknowledges this point stresses the indirect benefits of financial globalisation. Free capital flows facilitate the transfer of financial know-how: when foreign capital arrives in an emerging market, it creates pressure for better accounting, fairer investment rules, and superior governance of firms and the financial system. As Rogoff and his IMF co-authors write: "The indirect effects ... on financial-sector development, institutions, governance and macroeconomic stability are likely to be far more important than the direct effect".

What of the threat of further emerging-market crises? The most vulnerable countries are those that are experiencing large capital inflows that could potentially reverse themselves; those that have shallow financial markets that magnify the effect of hot flows of foreign money on their exchange rates; and those with a history of financial turmoil, which spurs investors to dump their currency at the first sign of trouble.

It might sound tempting for countries with these characteristics to avoid the risk of crises by opting out of financial globalisation. But the catch is that countries with these characteristics are precisely the ones for which financial autarky is unattractive or impossible. Countries experiencing large capital inflows do not want to shut the process down, since they are benefiting from the money. Countries with shallow financial markets don't have the option of borrowing at home, so need access to foreign credit. And countries with a history of financial turmoil face practical constraints. Lacking confidence in their currencies as a store of value, citizens will store their savings in other currencies – no matter how hard their government tries to stop them.

Managing risk – through more globalisation

Rather than resisting financial globalisation, vulnerable countries may best control its risks by embracing globalisation more tightly. As my Council on Foreign Relations colleague Benn Steil argues in the latest edition of *Foreign Affairs* (May-June 2007), countries that fear a sudden and forced devaluation against the dollar or the euro have a simple remedy to hand: adopt the dollar or the euro as their own currency. A handful of countries have gone down this route. Others should consider following.

The same argument applies to the concerns about hedge funds: the best way to control the risks is not to restrict the activities of the funds but rather to encourage their proliferation.

The chief worry about hedge funds is that the implosion of one could lead to the implosion of others,

Hedge funds are perfectly suited to play a stabilising role

and that the damage could spread to the banks that finance them. The chain reaction would begin like this: one hedge fund borrows money to buy biotech stocks; the stocks fall and so the fund faces a margin call; to raise money, the fund sells some stock, which pushes the biotech sector down further. Meanwhile other hedge funds have made the same bet and face margin calls too, adding to the panic. The banks that lent to the hedge funds cannot collect on their loans. And perhaps the banks' own proprietary trading desks have bet on biotech as well, so they face a double whammy.

This chain reaction could bring a bank down if nobody were there to halt it. But the key to a stable system is a rich stable of contrarian investors who will buy biotech if the price falls, halting the downward spiral. Because they are fast-moving and face few restrictions on how they invest, hedge funds are perfectly suited to play this stabilising role. And so, when Amaranth Advisors went bust last year, the energy market was stabilised when another hedge fund bought part of the Amaranth trading book. And when the US subprime market was in trouble in March, a hedge fund took the contrarian step of recapitalising a housing-finance company after the banks had pulled the plug on it.

Paradoxical though it may sound, the best antidote to hedge fund risks is *more* hedge funds, not fewer of them, just as the best antidote to the semi-dollarisation of some emerging market economies is complete dollarisation. The case for financial globalisation is paradoxical and subtle. But it is nonetheless compelling. ■

Climate change: what the science is telling us

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As evidence of significant climate change continues to mount, the case for policy options harnessed to sustainable development grows stronger by the day

One particular area of public policy at the global level that has been driven and predominately influenced by scientific knowledge is the area of global climate change. The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), essentially to assess all aspects of climate change and provide policy-relevant knowledge based on scientific research.

The Fourth Assessment Report

Three components of the Fourth Assessment Report of the IPCC have been released in 2007. The findings are a confirmation and strong endorsement of the earlier Third Assessment Report (TAR), but there are also several new findings that clearly merit attention by the leadership of the most economically advanced nations so that some of the impacts of climate change can either be avoided or delayed, enabling the world to undertake necessary adaptation measures in order to minimise negative consequences. The IPCC has determined that “the understanding of anthropogenic warming and cooling influences on climate has improved since the Third

Assessment Report, leading to very high confidence that the globally averaged net effect of human activities since 1750 has been one of warming." It has also made projections of the future which indicate that the best estimate for globally averaged surface air warming for the low scenario would be 1.8ºC and the best estimate for the high scenario would be 4.0ºC. Projections of sea level rise corresponding to these temperature changes lie between 0.18 metres and 0.59 metres. However, the important issue that perhaps makes these changes even more worthy of attention and global action is embedded in the fact that there would be an increase in extreme events, along with an increase in average temperatures and sea level.

Assessing the impacts

There are several impacts of climate change that could have negative consequences. We know, for instance, that mountain glaciers and snow cover have on average been declining, in both hemispheres. These widespread declines in glaciers and icecaps have contributed to a rise in sea level. Average Arctic temperatures have increased at almost twice the global average rate in the past 100 years, and annual average Arctic sea ice extent has shrunk by 2.7 per cent per decade, with larger decreases in summer of 7.4 per cent per decade. There is also the likelihood of more frequent warm spells and heatwaves over most land areas. Similarly, the frequencies of heavy precipitation events are also likely to increase.

Coastal flooding would affect an increasing number of people

Water stress is likely to affect hundreds of millions

The regional impacts of climate change are also diverse. Mega-deltas of rivers in Asia, which are generally heavily populated, would be particularly vulnerable to the impacts of sea level rise. Similarly, the likelihood of coastal flooding would affect an increasing number of people. Water stress is also likely to increase in several parts of the world, affecting hundreds of millions of people, some of whom are already living under conditions of growing water scarcity. Approximately 20 to 30 per cent of plant and animal species assessed so far are likely to be in increasing danger of extinction if the increase in global average temperatures exceeds 1.5 to 2.5°C. Agriculture is another sector that is likely to be affected adversely, particularly in the tropical and sub-tropical regions. Consequently, several parts of the world including South Asia, sub-Saharan Africa and even parts of China are likely to face the prospect of threats to food security.

This year represents the 20th anniversary of the Report of the World Commission on Environment and Development, popularly referred to as the Brundtland Commission Report. This Report brought the term 'sustainable development' into the consciousness of the global community. While the term itself is simple and its underlying definition is easy to comprehend, the translation of the concept into the practice of sustainable development is not easy. According to the Brundtland Commission, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Seen within this context, the problem of climate change represents a deviation from the principle of sustainable development, because the path of increasing consumption of fossil fuels and growing emissions of

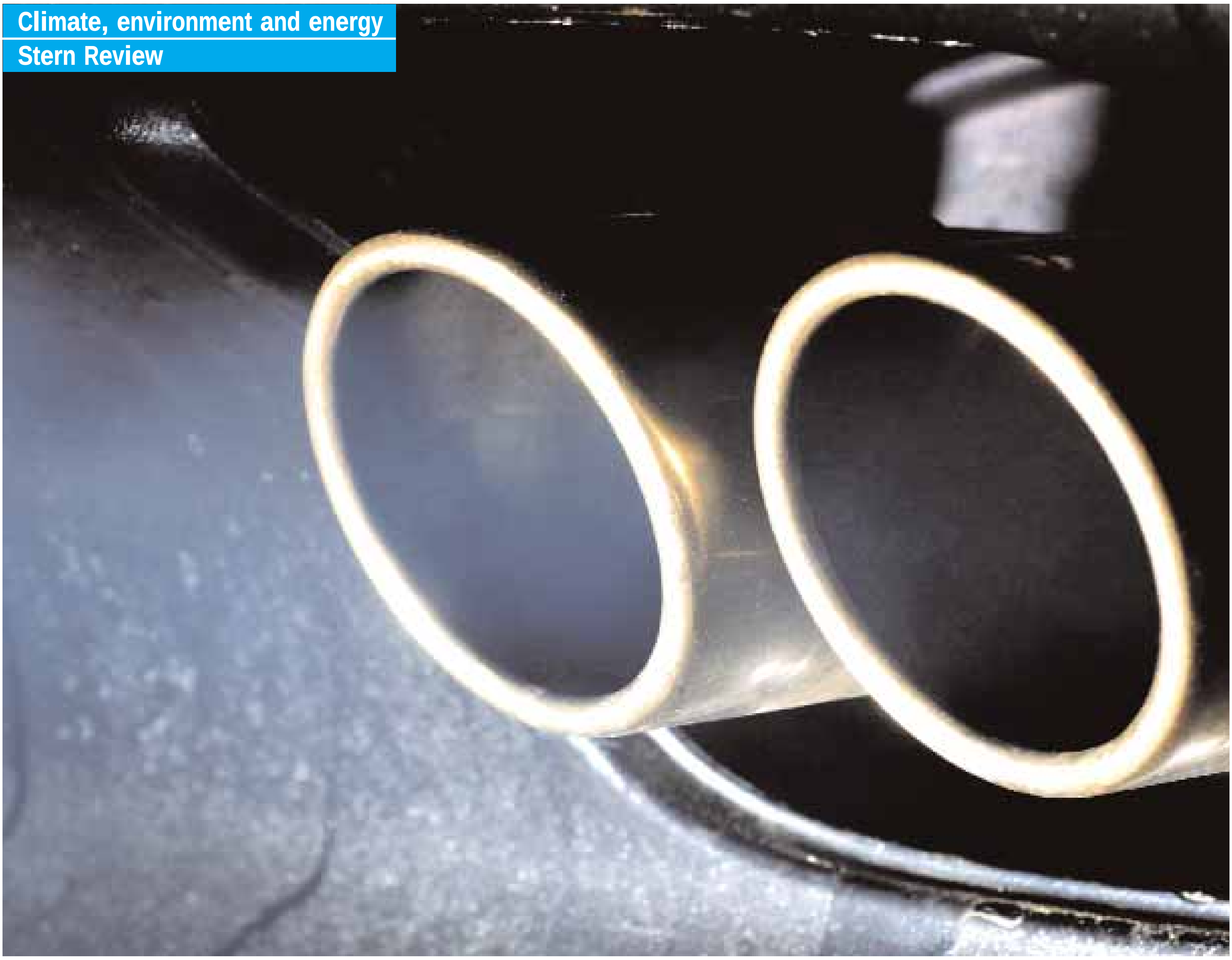
Climate change represents a deviation from the principle of sustainable development

greenhouse gases is clearly not sustainable, since this would lead to even more severe impacts than we are aware of today. At the same time, the impacts of climate change would reduce the ability of specific communities and the world at large to be able to practise development which is sustainable, simply because some of the poorest communities in the world would have their choices for achieving this objective narrowed by the adverse impacts of climate change.

Willing the means

At this juncture there is a growing need, therefore, for world leaders and those who can articulate in intellectual and logical terms different options for development, to find means by which economic growth can take place in a manner that minimises harmful impacts on the earth's natural resources and fragile ecosystems. The majority of world leaders are often preoccupied with immediate problems, such as armed conflict, terrorism and other threats, but the need has never been greater than today for developing a long-term vision of the human condition and how we should proceed as we move further into this century.

In articulating such a vision, world leaders need to focus specifically on the scientific realities of climate change and the imperatives of sustainable development. If the IPCC's Fourth Assessment Report can provide the trigger for such a discussion and lighting of the path ahead, then the relevance of this scientific undertaking would have been fully established.



Towards a low-carbon economy

Sir Nicholas Stern, IG Patel Professor of Economics, London School of Economics and Political Science

The Stern Review explains why action to reduce greenhouse gas emissions is a pro-growth strategy, safeguarding future prosperity – and producing enormous opportunities for business

Tackling climate change effectively requires a global collaborative effort. This must be based on a common understanding of the magnitude of the challenge and of what is required to reduce the risks. It is therefore critical that the issue is widely discussed. Hopefully my Review on the economics of climate change has provided another building block for this important debate.

The economics in the Review were built around the science, where the evidence now overwhelmingly points to climate change as a serious global threat to the sustainability of life on earth, demanding an urgent global response. However, our research indicates that it is still possible to avoid the worst risks and impacts of climate change at an affordable cost, if well-designed and co-ordinated action at a national and global level is taken forward as a matter of urgency. The evidence points to an effort to stabilise the stock of greenhouse gases in the atmosphere to within a range of 450-550 parts per million CO_2e[1] . This would require the world to reduce emissions by at least 25 per cent in 2050 from today's levels and eventually to fall to at least 80 per cent below current levels. However, it is achievable,

Developed countries should commit to taking responsibility for emissions reductions of around 60 to 90 per cent by 2050

economically feasible and will significantly reduce the risk of extreme temperature changes.

Thinking clearly

There are still some who dispute the idea that urgent action to reduce the risks of climate change is required. They generally fall into three categories. First, there are those who reject the science, believing it to be some kind of elaborate hoax or mass confusion. As shown by the mounting evidence clearly presented by the IPCC earlier this year, this approach can increasingly be considered absurd. Others attach a very low value to the future, beyond the likelihood that future generations will be richer, and hence care little for the impact on future generations. Many people would regard such a person as unethical. Finally, there are others who assume future generations will be able to adapt to the changes, whatever these may be. Given the nature of some of the possible impacts, this approach is reckless.

That is not to say adaptation is not important – it is a vital part of the response. Even with strong action, we can expect around 1.5°C temperature change beyond the 0.7°C we have already experienced. It is important that governments address the challenges this presents and that developed countries support the developing countries, which are likely to be hit hardest and soonest, but which have lower capacity to adapt. Climate change represents an additional reason for developed countries to deliver on the aid commitments made in Monterrey in 2002, the European Union in 2005, and the Gleneagles G8 summit in 2005.

Minimising the cost of reducing emissions requires reducing emissions wherever and however it can be done at lowest cost. Historical responsibility and ability to pay ensures that developed countries should take the lead in reducing emissions. Developed countries should commit to taking responsibility for emissions reductions of around 60-90 per cent by 2050. This is not to say that all these reductions should be undertaken domestically. International carbon credits – financing emissions reductions in other countries – can help to reduce costs and build the support of developing countries by

supporting the deployment of cleaner technologies and technology transfer. It is important that policy is designed to take advantage of these gains.

Next steps

Four elements of policy are required for an effective global response.

Firstly we must harness the power of markets by establishing a carbon price. This will mean that people are faced with the full social cost of their actions. This will lead individuals and businesses to switch away from high-carbon goods and services, and to invest in low-carbon alternatives. Price signals – whether generated by taxes, regulation, or emissions trading schemes like those pioneered in the US and adopted in the EU – can drive myriad innovations in technology. Different approaches may be appropriate in different sectors and regions, but emissions trading has the advantage of minimising the price across regions and potentially driving finance to developing countries. Emerging carbon cap and trade arrangements in the EU, the US, and elsewhere must not develop in isolation, since there are big gains to be had from the creation of deep and liquid carbon markets. Markets must recruit every entrepreneur to help tackle the global challenge.

The second policy element is support for innovation and deployment of low-carbon technologies, as pricing alone will not be enough to spur sufficient innovation in new technologies. The world needs to overhaul how it produces and consumes its energy. Yet the power sector in OECD countries spends only 0.33 per cent of turnover on R&D, compared with 2.65 per cent for the manufacturing sector as a whole. Governments must create the incentives to spur the development of an effective portfolio of mitigation technologies. Carbon capture and storage, cellulosic biofuels, advanced solar technologies and nanobatteries offer hope of emissions reductions at moderate or in some cases potentially negative cost, so policies must support their research and deployment. Here, too, international co-operation yields larger markets for cleaner, more efficient products and the chance to pool risks.

The third policy element is the reduction of emissions from deforestation. Deforestation is estimated to represent around 18 per cent of current global greenhouse gas emissions and can be expected to provide very cost-effective abatement opportunities in many regions. International support and finance, supporting the countries where the trees stand, can help address the challenge.

The fourth element is the removal of barriers to energy efficiency and measures to inform, educate and persuade. As people's understanding of the issue develops, their notion of responsible behaviour will affect their own actions. This will also lead them increasingly to demand strong action by public authorities, as we have already begun to witness in many countries and regions. Public discussion is itself a crucial ingredient of effective policy.

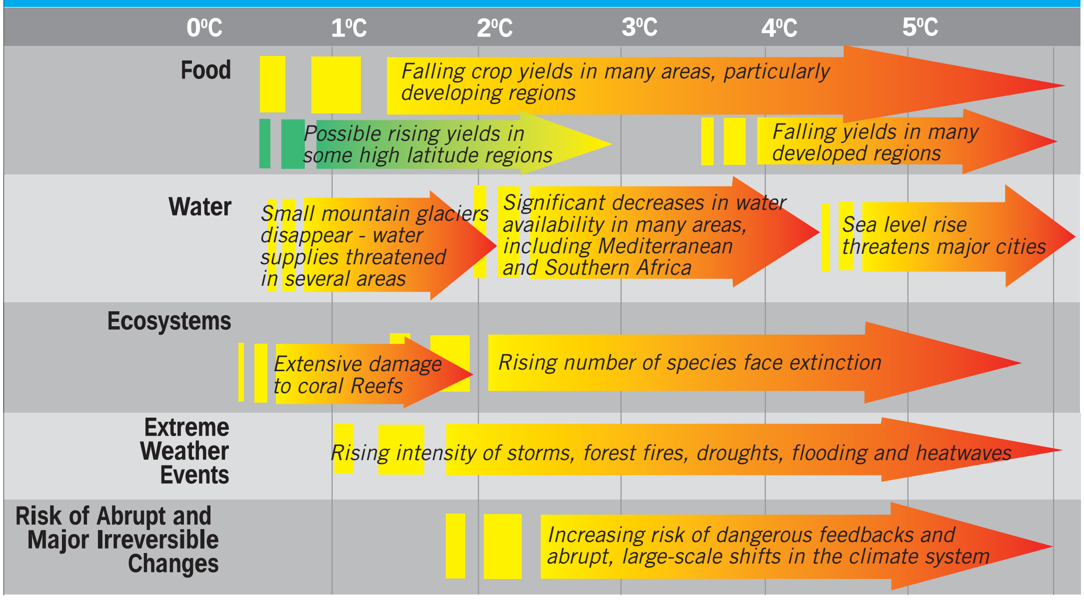
Businesses explain that they need a 'long, loud, and legal' framework, with clear policy signals, credible over the medium to long term, if they are to play their full part. With such a framework, the transition to a low-carbon economy would produce enormous business opportunities, creating demand for new products and financial services worth hundreds of billions each year.

The choice is clear

Reducing our dependence on fossil fuels, using cleaner technologies and protecting forests together add up to

China is reforesting and has an ambitious set of energy efficiency targets

Projected impacts of climate change



an effective response that will reduce the risks of climate change and bring a host of other benefits, including energy security and improved health through reductions in other pollutants. The costs are likely to be in the region of 1 per cent of global gross domestic product. With sensible and well-designed policies, the world economy can continue to grow at the high rates seen over the past century.

In contrast, 'business as usual' is not an option. Unabated climate change risks raising the average global temperature by over 5°C – equivalent to the difference between now and the last Ice Age. This would take humankind into uncharted territory. Economic activity would be increasingly affected as higher temperatures, stronger storms, longer droughts, more frequent floods and rising sea levels exerted an ever heavier toll. Warming would have a significant effect on extreme weather events, food production and water availability in many areas. It also carries the risk of broader shocks such as sudden monsoon rains and significant reductions in water flow in the Nile River valley – events that could trigger social instability, migration and even conflict. Moreover, at higher temperatures there are risks of dangerous feedbacks and large-scale shifts in the climate system.

We estimated the impacts, averaged over time and across a swathe of possible outcomes, to be in the range of 5 per cent to 20 per cent of global consumption. The question for policy-makers is whether it is worth paying the costs of mitigation to avoid the additional risks of temperature change beyond two or three degrees Celsius. This presents a clear case for action. Reducing greenhouse gas emissions will not significantly damage economic growth, but in the long run climate change would undermine growth. So action to reduce emissions is a pro-growth strategy.

'Business as usual' is not an option

Reasons for optimism

This realisation is spreading rapidly. Reducing the risks of climate change is a global challenge, and countries around the world have begun to step up to the plate. The European Union has strengthened its trading scheme for emissions and is looking for carbon cuts of up to 30 per cent by 2020. China is reforesting and has an ambitious set of energy efficiency targets, including the domestic goal of cutting energy intensity by 20 per cent in 2010. India has become one of the fastest-growing markets for renewable energy. And the US is tackling the challenges of energy security and climate change at federal and local levels. The will of the local people and synergies with other policy goals are driving greater action, but international co-operation can spur stronger commitments and make national policies more effective.

Despite the size of the challenge ahead, the findings of the Review are optimistic. If we act now and work internationally, we can reduce the risks drastically, at modest cost. But if we delay just ten or 20 years, the costs will be much higher, and the risks much greater. Our children's future depends on what we decide now. With strong and urgent action, governments, businesses and individuals, working together, can safeguard our future growth and prosperity.

The Stern Review is available at:
www.sternreview.org.uk

Notes

[1] Carbon dioxide equivalent – all greenhouse gases expressed using CO_2e as a common metric.

Global challenges to energy supply and security

Enno Harks,
Senior Expert Energy & Resources, SWP
(German Institute for International and Security Affairs)

Strengthened institutions, intensified dialogue and new frameworks – involving China and India – are urgently needed to ensure the world's energy security in the future

Oil and gas are once more at the top of the list of 'hot' international issues. Record high prices, fears of (geo-)politicisation of energy supply and transit, and concomitant questions about the security of supply and the rise of Asia, make up an international affairs cocktail that international policy-makers are starting to be wary about. With oil and gas making up some 60 per cent of world primary energy supply and with remaining world reserves concentrated in just a handful of countries, international tensions are on the cards. Furthermore, with a world transport sector almost entirely dependent on oil, and a gas sector overwhelmingly dependent on fixed cross-national infrastructure, both resources have acquired 'strategic' status.

The world today differs from the past. Four of the main challenges for the future security of co-operative energy supply will be highlighted here.

• Oil 1: the main challenge to oil supply today is not physical – 'peak oil' is a mirage theory that most serious studies do not follow. Total world oil production is set to increase by almost 40 per cent between 2005 and 2030; in other words, there definitely *is* enough oil to fuel world

World oil production 2005-2030

mb/d	2005	2010	2015	2030
FSU/OPEC	45	49	56	71
Rest of the world	37	40	40	38
Non-conventionals	1	3	4	7
World production	84	91	99	116

demand. However, highly problematic is the fact that world production outside OPEC and FSU countries has peaked already or is about to peak (see table above).

Outside these two regions (basically in all countries where access to energy resources is traditionally relatively open), no further oil is to be found. Unlike 1973, when consumer nations reacted to the oil shock by producing oil in alternative regions, today there is no new North Sea to be found. Consumer nations need to be aware that their oil dependence on FSU/OPEC countries is set to be irrevocable and will increase. This situation calls for an intensified dialogue between consumers and producers on all the key issues, from market conditions to political stability and investment conditions.

• Oil 2: at the same time, the fundamental character of the oil market has changed over the last few decades. Today, 85 per cent of world production is in the hands of NOCs – national state-controlled oil companies; private Western oil multinationals make up a mere 15 per cent. This gives rise to three problems for today's oil governance.

First, it entails a further retreat of market-based production and investment decisions in favour of state and government ones.

Second, NOCs tend to be less transparent and are certainly less dependent on public opinion or publicity. Any progress on governance and corporate responsibility issues achieved by IOCs in recent decades will therefore be difficult to replicate with the new state actors.

Third, the first contact points for consumer nations willing to address oil market or investment issues are now governments, not the traditional multinational private oil companies ruled by shareholders.

• Gas: natural gas, unlike oil, is mostly a regional market. Sunk infrastructure in the form of pipelines will continue to prevail, even in light of the emergence of Liquefied Natural Gas (LNG). A quick glance at the regional gas markets makes clear that Europe is by far the biggest gas import market in the world. For comparison, in 2030 OECD Europe will import some

There definitely is enough oil to fuel world demand

500bcm of natural gas per year, North America approximately 140bcm, and China and India together at best 80bcm, on International Energy Agency (IEA) projections. Obviously, Europe's huge import needs make it highly vulnerable to supply disruptions and general market conditions. But being the world's gas superpower also enables it to influence the setting of rules. That makes Europe's position on the gas market quite similar to that of the US on the oil market.

Unfortunately, though, the most powerful tool to make energy, and especially gas, a transparent, fair and open market, both in Europe and in its main suppliers and transit countries – the Energy Charter Treaty (ECT) – has proven too perfect to come true. Europe's most important gas suppliers – Norway, Russia, Algeria and some of the crucial transit countries – have either refused to ratify it or to sign it. What is more, and symbolically damaging, is that the US has since withdrawn from the process. Negotiations with some of these partners have ended entirely; others seem to be in a status between stalled and ongoing. But the bottom line is that successful conclusion with the most relevant players is looking highly unlikely.

• 'Energy sovereignty': an unfortunate trend of recent years has been the footing that energy nationalism and protectionism have gained worldwide, in both producer and consumer nations. A trend towards (re-)nationalising companies or increasing state control in the resource sector has been noticeable, from Latin America to Russia. But consumer nations, too, have shown a taste for protectionism and a similar distrust of open markets: company takeovers were politically outmanoeuvred in Western Europe (France, Italy, Spain) and the US

Pipeline routes circumventing the Strait of Hormuz would greatly enhance security of oil supply

(Unocal). While this may appeal to local voters, it very much undermines the mutual understanding concerning the benefits of open markets and access to energy resources in producer nations. From a global perspective, it may well be described as the origin of energy insecurity itself. Producers and consumers alike seem to be susceptible to the idea that resource protectionism is a guarantee of their energy security – which is actually misconceived.

This brief outline of four current challenges to the world's security of energy supply hints at the central element of the solution: the depoliticisation of the energy commodity. One might argue that this is the most difficult undertaking of all and that the higher the price of oil, the more the political temperature rises. If global energy cannot be depoliticised, new political steps will need to be taken. Specifically, international institutions will need to be strengthened or established in which dialogue and debate between the relevant players can take place.

Possible solution for oil

For the oil market, this points to two institutions: on the one hand, consumer co-operation in the framework of the IEA needs to be extended to the booming energy consumers who are currently not members of the Agency. China and India may thus join a common forum for international energy policy. On the other hand, the dialogue between producers and consumers, as initiated in the framework of the International Energy Forum, needs to be reinvigorated. Only discussions with the producers can lead the way to a stable and secure oil supply. Discussions can stay informal (and below the level of the main international organisations as they currently operate), but they need to address relevant issues even if they are politically sensitive.

One such issue is infrastructure relevant to supply security, for example Saudi-Arabia's East-West pipeline to Yanbu. Given the relevance and vulnerability of the Strait of Hormuz, pipeline routes circumventing it (at least for some of the shippings) would greatly enhance security of supply for the whole world. Financing and management

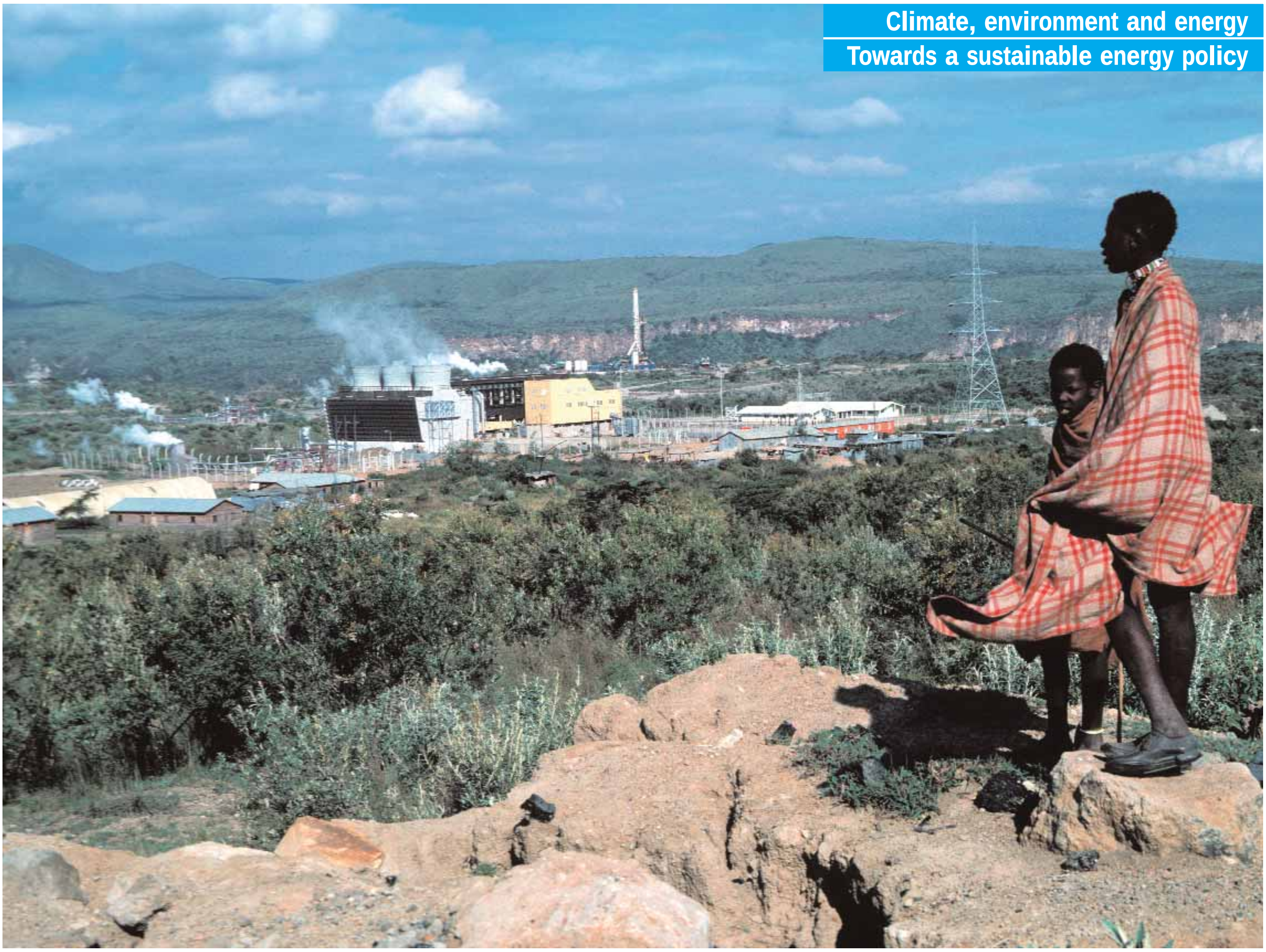
Oil consumers need to start thinking 'out of the box'

of such infrastructure should therefore be at the heart of discussions. The G8 is well positioned to give such discussions useful input and momentum. Its composition of six major consumers and two major producers gives it legitimacy and a fair balance of interests.

More fundamentally, oil consumers need to start thinking 'out of the box'. With oil mainly used in the transport sector and supply security looking risky, alternative fuels should be considered. Today second-generation biofuels – i.e. Biomass-to-Liquids (BTL) – promise to be able to deliver a significant share of the OECD's fuel consumption (some 20-25 per cent, with home-grown biomass). Considering that some $280 billion of agricultural subsidies are paid within the OECD every year, part of these funds could be directed at BTL production – and satisfy energy security hawks at the same time as climate activists.

Possible solution for gas

Solutions for international tensions over natural gas are more difficult, as market structures are highly reliant on fixed infrastructure assets in which political leverages can play a bigger role. However, in order to reduce the potential use of such leverage, the Energy Charter Treaty contains an arbitration panel for cases of international disputes around investment, transit and trade. Unfortunately, though, use of the ECT has been low due, *inter alia*, to the investment regulation parts of the treaty. Thus, in order to secure a natural gas framework that could help fend off arbitrary supply disruptions, a dispute settlement agreement should be put in place that focuses on transit and trade issues only – thus becoming more acceptable to all players. The ECT's key role in ensuring security of international supply could thereby be consolidated – a huge step forward. ■



Beyond Kyoto

Achim Steiner,
UN Under-Secretary General and Executive Director of the UN Environment Programme (UNEP)

With the Kyoto Protocol expiring in 2010, world leaders urgently need to start framing a successor regime for emissions reductions that is both ambitious and fair

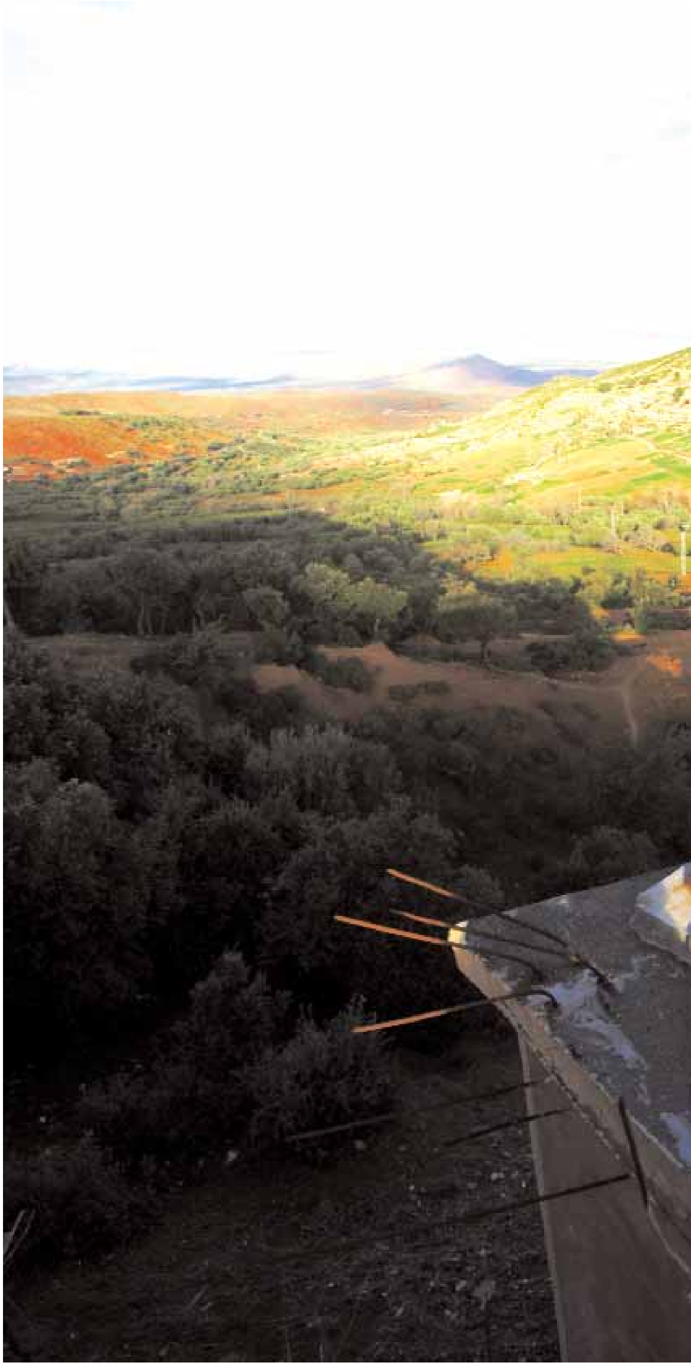
Along the Rift Valley in East Africa as far north as Djibouti plans are at an advanced stage to tap the hot rocks under the valley floor. The geothermal project, involving partners including the World Bank and UNEP via the Global Environment Facility, aims to harvest the naturally-produced steam to generate electricity by underwriting the risks of drilling.

If successful, the project could unleash an energy revolution. In many countries in Africa as little as 5 per cent of the population has direct access to electricity and in rural areas it can fall to as little as 2 per cent. An estimated 60 to 90 per cent of people in sub-Saharan Africa rely on biomass.

By some estimates Africa has a potential for 7,000 MW of geothermal electricity – if just a fraction of this is harnessed it will play an important role in overcoming poverty, assisting economic development, reducing Africa's substantial oil bill and reducing greenhouse gases. It would also contribute to the quite striking figures now emerging on the rapid growth of renewable energies.

Between 2005 and 2006, annual revenues from investments in wind power, photovoltaics, biofuels and fuel cells grew by close to 40 per cent, to $55 billion. It

Africa has a potential for 7,000 MW of geothermal electricity



is estimated that the market for these four technologies could stand at over $225 billion by 2016.

The drivers of change

There are several factors driving these new and emerging markets. Energy security is one, as is concern over the unpredictable price of finite fossil fuels. However, another significant driver is the United Nations Framework Convention on Climate Change and its Kyoto Protocol on emission reductions.

The Protocol and its provisions – from the Clean Development Mechanism (CDM), to joint implementation and carbon trading – have generated new ways of doing business as part of the internationally agreed need to de-carbonise our carbon-addicted world.

Renewable energies is one area that is benefiting from the Kyoto provisions and its targets and timetables. Another is energy savings.

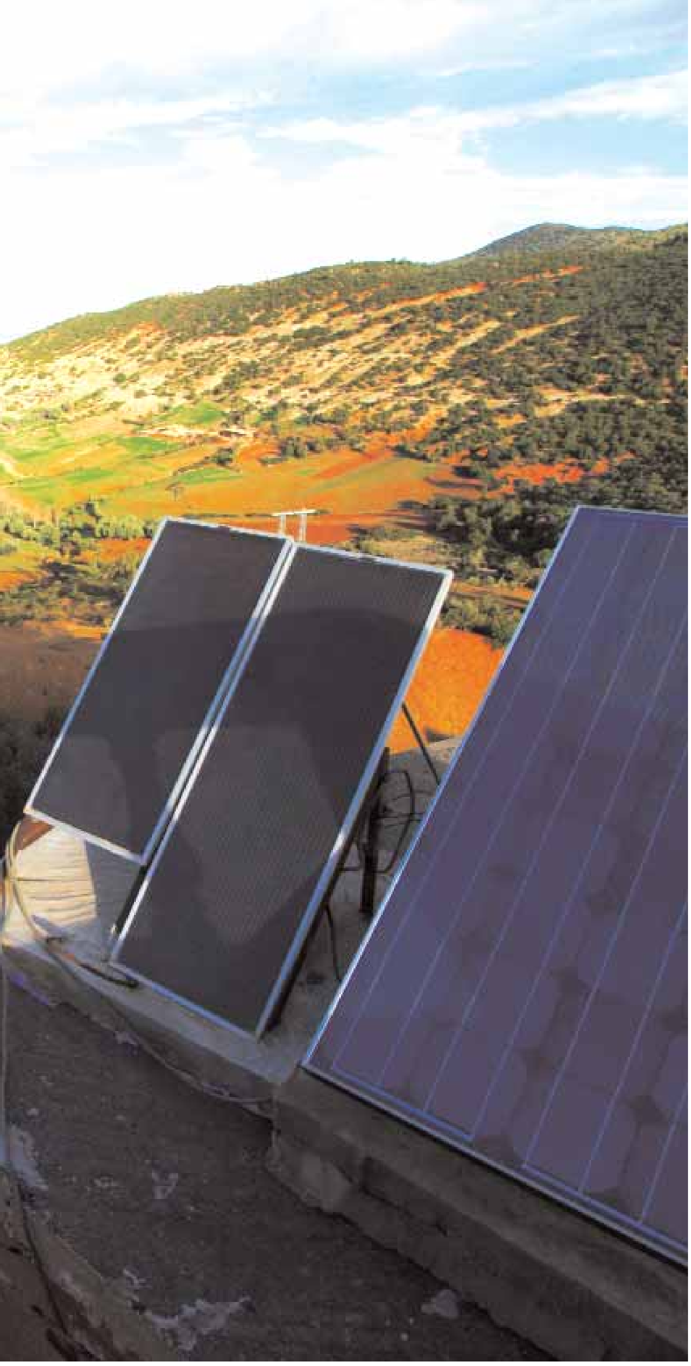
Take the incandescent light bulb – a piece of technology that has been around in one form or another for two centuries. According to the International Energy Agency, if the world switched from incandescent to compact fluorescent lighting, 470 million tonnes of carbon dioxide could be saved by 2010. This represents more than half of the scheduled emission reductions anticipated under Kyoto by that date.

Cuba is working at home and in the Caribbean to phase out the old gas-guzzling bulbs and Australia has recently announced its plans to ban them. The European Union has signalled its intent to act too.

The savings do not end there. UNEP, under its Sustainable Construction and Building Initiative, has just launched a report on energy savings in buildings. With the right mix of appropriate government regulation, greater use of energy saving technologies and behavioural change, substantial reductions in CO_2 could be made from a sector currently accounting for 30-40 per cent of global energy use. By some conservative estimates, the building sector worldwide could deliver emission reductions of 1.8 billion tonnes of CO_2.

A more aggressive energy efficiency policy might deliver over two billion tonnes of reductions or close to three times the amount scheduled to be reduced under the Kyoto Protocol. But even if climate change were just some far away and theoretical possibility, measures on energy efficiency and cleaner forms of energy generation would make sense. A recent survey of 40 firms in Asia – ranging from cement ceramics and pulp to steel and paper companies – found that some had now saved up to $4 million a year from energy efficiency measures.

Cleaner forms of energy can not only deliver development but also wide-ranging health benefits, especially for women and children in developing countries. They can also help take the pressure off important ecosystems like forests by offering an alternative to wood-based biomass fuels. But, as the three new reports by the Intergovernmental Panel on Climate Change (IPCC) show, climate change is a reality and its scientific certainty is now beyond question. The evidence



The building sector worldwide could deliver emissions reductions of 1.8 billion tonnes of $C0_2$

is 'unequivocal' that human activity is its main cause – from the burning of fossil fuels to changes in land use. Economic assessments, not least by Sir Nicholas Stern but also by many others, have concluded that the costs of inaction will eventually dwarf the costs of action.

Mapping a new energy landscape

The challenge for 2007 and for the coming one to two years is for the international community to frame a decisive and deep emissions reductions regime that takes the world beyond Kyoto and its expiry in 2010. The desire to do this has never been higher, but while the political gap has, I believe, narrowed, there remains an atmosphere of suspicion between the developed and the developing world.

The G8+5 is one stage upon which confidence-building can take place in the run-up to the next important climate convention meeting in Bali, Indonesia, later this year.

One part of the confidence-building jigsaw has already been put in place. The decision by the European Union to agree a 20 per cent emissions reduction by 2020 (30 per cent if others follow) has signalled that an important part of the developed world is willing to act. It is now incumbent upon the rest of the industrialised world to shoulder its part of this responsibility.

Playing their part: the developing economies

Another key aspect is the role of the rapidly developing economies, whose growth has been characterised by some commentators and opinion-formers as insensitive to the climate change threat. Indeed, some critics have suggested that the perceived intransigence of the developing world is the sole cause of the current impasse over a post-Kyoto regime.

Recent calculations, however, have put paid to this myth. One, by the Center for Clean Air Policy, says that Brazil has put in place measures that, by 2020, are likely to lead to emission reductions of 14 per cent below 'business as usual' projected levels. For example, it has launched an initiative to reduce diesel fuel use from the oil tankers of its state energy company, Petrobras, by 15 per cent and has set a goal to produce 10 per cent of its electricity from renewables by 2022. Deforestation rates in the Amazon have been cut by over 50 per cent in the past three years.

Deforestation rates in the Amazon have been cut by over 50 per cent in the past three years

China's renewable energy law is expected to cut emissions from the electricity sector by 5 per cent by 2020. Other sectors targeted under China's energy conservation plan include emissions reductions from cement factories by 15 per cent below projected levels by 2020, and a 9 per cent reduction from iron and steel firms by the same date. India is also making inroads into its emissions in areas like the transport sector.

Most, if not all, of these measures have been taken for reasons other than climate change – from improving local air quality to conserving biodiversity. Nevertheless, they make clear that developing countries are part of the global quest to curb greenhouse gas emissions, and underline the huge potential for even deeper, voluntary emissions reductions, if proper climate-related incentives are put in place.

Assistance is also needed to ensure that smaller developing countries, like those in sub-Saharan Africa, can be brought on board. Currently, few renewable energy projects under the CDM – which is estimated to be likely to generate $100 billion in investment flows from the north to south – are going to these countries, for a wide variety of reasons, including a lack of capacity to draft winning project proposals, and the size of the proposals being made.

UNEP and the UN Development Programme (UNDP) mean to change this by making the CDM more inclusive. At the last climate convention meeting, held in Nairobi in 2006, our two agencies established an initiative to build CDM access capacity for developing countries, with a focus on Africa. The initiative, with funding from several countries, notably Spain, is now active in several countries and I would urge other countries to come forward as well as other donors.

We must act urgently to develop an even deeper global emissions reduction landscape for post-2012 that is meaningful but also equitable and fair. Scientists advise that, in order to stabilise the atmosphere, emissions reductions of 60 per cent to 80 per cent will be needed.

The energy revolution within our grasp

The UN-led Kyoto Protocol has started to unleash the potential that already exists for huge energy savings and for renewable energies. A post-Kyoto landscape will, I believe, drive even greater gains by whetting the creativity already at work in the carbon markets and unleashing the inventiveness of the world's engineers, designers and entrepreneurs. The energy savings are manifest and the opportunities for greener, cleaner industries and new kinds of jobs are immense. Today we are pulling the plug on old light bulbs and switching on wind and solar power across the world. Tomorrow's world can be even more different – goodbye oil-fired power station and hello wave power or even ocean thermal energy conversion!

One may smile, even smirk at the idea. They did at Brazil 30 years ago when it decided to go big on biofuels, but not today. Indeed you can hardly move in Brasilia these days for world leaders and international big business queuing up for a slice of what they now call 'green gold'.

Making the difference: energy efficiency

Claude Mandil,
Executive Director, International Energy Agency

Improved energy efficiency brings a wide range of benefits: savings for consumers, increased competitiveness for businesses, enhanced energy security and – crucially – reductions in greenhouse gas emissions and local air pollutants

When G8 leaders convene for their 2007 Summit in Heiligendamm in June, one topic that will receive a high level of attention is energy efficiency. At a time when governments share concerns about security of energy supplies, high energy prices and the environmental impact of energy production and consumption, energy efficiency can be a powerful tool. The International Energy Agency (IEA), which was mandated by G8 leaders in 2005 to identify measures to ensure a "clean, clever and competitive energy future", has a clear message: energy efficiency must play a key role in achieving this G8 objective.

Why is energy efficiency so important? The answer is simple: it's available immediately, at prices that are relatively low or sometimes even negative, resulting in net savings to consumers. Existing efficiency technologies can sharply reduce energy consumption per unit of GDP. IEA research and analysis shows that improved energy efficiency can promote sustainable development by reducing the need for investment in energy infrastructure, by lowering fuel expenditures, and by increasing competitiveness for businesses and welfare for consumers. It also can create environmental benefits through reduced emissions of greenhouse gases and local air pollutants. Improved efficiency can also enhance energy security through reduced reliance on fossil fuels, especially if imported.

Existing efficiency technologies can sharply reduce energy consumption per unit of GDP

The 2006 recommendations

In reporting to the 2006 G8 Summit in St Petersburg, the IEA recommended four energy efficiency policies for implementation by G8 leaders. These proposals stem from requests for detailed energy efficiency policy advice, particularly in the transport, industry, appliances and building sectors.

1. Standby power recommendation: limit standby power use to 1 Watt

The IEA has calculated that limiting standby-power use to 1 Watt for electric appliances would add up to 20 GW by 2020. The IEA recommended that all countries adopt the same 1-Watt limit and apply it to all products covered by the International Electrotechnical Commission definition with limited exceptions.

2. Set-top boxes recommendation: minimum energy efficiency standards for television 'set-top' boxes and digital television adapters

The IEA concluded that international best practices with respect to energy efficient set-top boxes are policies that establish a minimum efficiency standard for Digital Television Adaptors. These regulations should specify the maximum power levels while 'on' and 'off', and ensure that the consumer can easily switch the unit to the lower power level. The expected savings at a global level would be as much as 8 GW by 2020. A second aspect of best practice is to ensure that government-subsidised units meet higher efficiency requirements.

3. Lighting recommendation: achieve more energy-efficient lighting

The IEA recommended that the G8 endorse the objective of across-the-board best practice in lighting. If adopted and implemented, the IEA estimates that the energy used for lighting in 2015 could be cut by more than one third in most economies. The commitment would be for each country to develop and adopt a specific plan of action that would be reported to the G8. These plans would naturally reflect the unique characteristics of each country, but all would strive to achieve the cost-effective savings potential in their economy.

4. Tyres recommendation: implement a fuel-efficient tyre programme:

IEA analysis shows that fuel-efficient tyres with low-rolling resistance and proper tyre maintenance could achieve as much as a 5 per cent reduction in overall vehicle fuel consumption. The IEA recommended that member countries first identify an agency or ministry to be responsible for managing or co-ordinating all programmes related to fuel-saving tyres. The IEA further suggested the responsible agency undertake the following actions:

- adopt a test procedure for measuring rolling resistance;
- establish a system to disseminate information about rolling resistance (through labels, endorsement schemes, databases, etc.);
- set maximum levels of rolling resistance for major categories of tyres; and
- establish programmes to ensure proper inflation and maintenance of tyres (through education, provision of air pumps, tyre pressure measurement systems, etc.).

Energy-related CO_2 emissions from manufacturing can be brought back to today's level by 2050

Room for improvement in transport

The IEA's work did not stop after the St Petersburg Summit. There are still many other measures that can be taken to improve energy efficiency. The transport sector is particularly promising. In addition to promoting fuel-saving tyres, current test procedures for vehicle fuel efficiency standards and targets need to be improved as they do not accurately measure average on-road vehicle fuel efficiency. Additional policies are required to make the standards and targets more reliable.

When in use, the Mobile Air Conditioning (MAC) of passenger cars increases vehicle fuel consumption by 15-30 per cent. On a yearly basis, 'cooling' cars can account for 5 to 10 per cent of total vehicle fuel use. This energy use could be halved through the design of cars with lower solar gain, better control devices and more efficient MAC systems.

About 1.1 million barrels of oil per day (mbd) is used for road-vehicle lighting (about 3.2 per cent of all vehicle energy use). Deployment of efficient technologies could reduce the amount of oil needed for this use to less than 0.5 mbd in 2020. Policies for vehicle components (developing common energy efficiency standards, dissemination of information through energy labelling) could reduce the fuel use linked to car cooling and lighting. Together with broader efficiency standards for cooling cars and vehicle lighting, these policies combined could be as effective as the policies for tyres.

Promoting industrial energy efficiency

Manufacturing industry accounts for approximately one third of global energy use in primary energy terms. The vast majority is used to produce raw materials: chemicals, iron and steel, non-metallic minerals, pulp and paper, and non-ferrous metals. In industry, energy efficiency has improved substantially in all sectors and all regions in the past decades. However, in absolute terms, energy use and emissions have increased worldwide. Typically the gap between average energy efficiency and best available technology is 10-30 per cent in key industry sectors. The potential varies across countries depending on the capital stock vintage, energy prices and technology mix. Emerging technologies provide even greater savings.

Scenario modelling indicates that by deploying technologies that already exist or are under development, energy-related CO_2 emissions can be brought back to today's level by 2050. Efficiency would account for almost half of the emissions reduction. Industry is actively participating in discussions on how to increase efficiency and mitigate emissions.

The IEA has responded with a new industry initiative. A dialogue with industry regarding sectoral approaches and other policy designs has been started. Detailed scenarios of industrial energy use and CO_2 emissions have been developed. New indicators for industrial energy efficiency and CO_2 intensities have been formulated and industrial efficiency trends have been studied on a country-by-country basis. The IEA also analysed the potential for emerging industrial technologies to increase efficiency and reduce CO_2 emissions. Best practice for policies and measures in industry will be developed and the diffusion and deployment of emerging industrial technologies will be considered.

A first analysis of scenarios for industrial energy use and CO_2 emissions for 2050 was part of the *Energy Technology Perspectives 2006: Scenarios & Strategies to 2050*. A new IEA publication on *Indicators for Industrial Energy Use and CO_2 Emissions* will be issued in time for the G8 summit in June.

Focus on appliances

Minimum energy performance standards have cut energy consumption for major appliances by up to 60 per cent over the past ten years in many economies without leading to higher appliance prices. Implementation of stricter standards and labelling programmes represents one of the lowest-cost options for greenhouse gas mitigation, and yet

By 2020, at least 40 per cent of lighting energy use could be saved cost-effectively

the geographic and product coverage of these policies is far from comprehensive. Despite an increase in policy development activity, there is not yet a corresponding increase in the implementation of policies, demonstrating that national *administrations* continue to struggle to find sufficient resources to meet policy aspirations.

Lighting accounts for 19 per cent of global electricity consumption, more than is supplied by hydro or nuclear power, and gives rise to 1,900 Mt of CO_2 emissions (equal to about 70 per cent of the emissions from the world's cars). By 2020, at least 40 per cent of lighting energy use could be saved cost-effectively through the adoption of targeted energy efficiency policies. *Light's Labour's Lost: Policies for Energy-Efficient Lighting* is the latest IEA end-use analysis. It highlights several cost-effective options for policy intervention for lighting appliances, such as phasing-out incandescent lamps and replacing them with high quality compact fluorescent lamps (CFLs).

Policies to tackle standby power are increasing, but lag particularly in developing countries, despite rising standby power consumption. The 1-Watt target for standby power has achieved a high profile. Nevertheless, the IEA has highlighted the need for increased international co-operation on policy implementation. Australia has become the first country to adopt a horizontal standard, an approach which others are encouraged to follow. Industrial electric motors and drives account for about 40 per cent of global electricity demand – roughly 25 per cent of this could be saved cost-effectively by following best practice solutions.

Strong government procurement policies provide leadership to the national community and help create new markets for highly efficient products. Such measures should be widely implemented, particularly in relation to energy-efficient computers and related equipment.

With the adoption of the 'European Ecodesign Directive' and the US 2005 Energy Policy Act, it is hoped that new minimum energy performance standards regulations will proceed for a wide range of appliances and equipment. Such steps in these influential economies provide an opportunity to deliver greater harmonisation of standards for traded products.

The Three Gorges hydropower project under construction on the Yangtze River

Scaling up renewable energy

Richard G. Tarasofsky,
Head of the Energy, Environment and Development Programme, Chatham House

Renewable energy has a key role to play in the future energy mix. Realising its potential will mean harnessing actors, finance and instruments to an integrated strategy – with governments in the lead

Since the 2006 G8 Summit, interest in renewable energy has intensified. The case for renewable energy has been recognised for decades. But this case is even stronger in the face of growing concern over energy security and dependence on imported fossil fuels, high cost burdens arising from high oil prices, and the need to reduce carbon emissions. It is now recognised that renewable energy is a critical component of a sustainable energy mix in developed and developing countries. The debates at present revolve around how far to move from the present 13 per cent of total world energy supply and how to get there.

Scaling up renewable energy will need bold policies to enable and nurture their development. Reliance on markets alone will not suffice. According to research done by the International Energy Agency, the last few decades have shown that most renewable energy technologies are not cost-effective and cannot compete with fossil fuels options – with the exception of some small-scale applications. Even if tighter limits on carbon emissions can be anticipated in a successor to the current Kyoto Agreement, and notwithstanding the inherent advantages of renewable energy vis-à-vis more carbon-intensive

Policy instruments such as tax relief, loan guarantees to reduce the cost of capital, voluntary programmes and regulation are all available

energy sources, renewable energies still present great challenges – not least their financing so as to be commercially viable.

This means that governments are the pivotal players. The development and deployment of renewable energy technologies, particularly over a timeframe spanning decades, will need to involve a significant role for governments in helping to cushion risks, in supporting research and development, and in enhancing capacities and opportunities to deploy new technologies. Policy instruments such as tax relief, loan guarantees to reduce the cost of capital, voluntary programmes and regulation are all available for governments to use.

The role of the G8

The G8 has played an important role in setting an international agenda that can make renewable energy a major part of the energy mix. The 2000 Okinawa Summit created a Task Force on Renewable Energy that assessed barriers to use in developing countries and recommended ways to overcome them. The 2005 Gleneagles Summit agreed a Plan of Action on Climate Change that endorsed the importance of several initiatives on renewable energy. Similarly, the 2006 St Petersburg Summit noted the importance that large-scale use of renewable energy can make to long-term energy supply without adverse impact on the climate. Meanwhile, the Gleneagles Dialogue on Climate Change, Clean Energy and Sustainable Development, established in 2005, has been running and will culminate during the Japanese G8 Presidency in 2008. Renewable energy has been an important part of those discussions so far, one of the key messages being the importance of clear and predictable policy frameworks that provide incentives to invest in low-carbon technology. A second key message has been that existing policy instruments should be enhanced so that markets for renewable energy technologies are developed.

Since the 2006 G8 Summit, a number of important developments have taken place. The Stern Review on the economics of climate change (see page 80) strongly asserted that the costs of addressing climate change are much lower if action is taken now, rather than waiting. To that end, policies to promote renewable energy are one of the major supply-side actions that governments can take to reduce carbon emissions.

Also since the 2006 Summit, a number of renewable energy ‘mega projects’ have got underway. The ‘London Array’ received government approval in 2006 for the offshore components of what will be the largest offshore wind farm in the world. Located off the coast of Kent, it will generate 1,000MW, and displace approximately 2 million tonnes of carbon dioxide per year. Kenya, Eritrea, Djibouti, Ethiopia, Tanzania, and Uganda received a $17 million grant from the Global Environment Facility to

It is unclear where all the ethanol to meet the US and EU targets is going to come from

start this year a long-planned project to extract geothermal energy from the African Rift Valley. The direct carbon dioxide emissions reductions resulting from the project are conservatively estimated at 10 million tonnes over 20 years, with a further 20 million tonnes in post-project and indirect emissions reductions.

The role of biofuels

Another important recent development has been the heightened interest in the potential of biofuels. The promise of biofuels appears very significant, based on the experience of countries like Brazil, where ethanol is 40 per cent of the transport fuel mix, the new automobiles market is more than 70 per cent 'Flexible Fuel Vehicles' that can run on either petrol or ethanol, and 92 per cent of petrol stations sell ethanol. This experience and the commitments of the US and the EU have generated an important new industry that has captured the imagination of many seeking to create a low-carbon future. The United States, through its new Alternative Fuels Standard announced by President Bush in January 2007, will provide 35 billion gallons of renewable and alternative fuels in 2017. This will displace 15 per cent of projected annual gasoline use in 2017. Meanwhile, the 2007 Spring Council of the European Union endorsed a mandatory target that 10 per cent of transport petrol and diesels be from biofuels by 2010. That target is subject to sustainable, second generation biofuels being commercially available by then.

However, the example of biofuels also illustrates some of the important issues and challenges that the renewable energy sector faces. The current generation of biofuels has raised concerns from both environmental and development perspectives. Biofuel production puts pressure on water resources and can involve significant energy consumption with a significant carbon footprint.

Perhaps a more serious problem is the potential for these crops to compete with other land resources, such as using agricultural land to grow corn for ethanol rather than as food or natural forests being converted to palm oil plantations. There is evidence that growth of biofuel crops at the expense of food in Europe has pushed up the price of edible oils. Some corn crops in developing countries have become more expensive for similar reasons – impacting on the poor in those countries. Second-generation biofuels may allay some of these concerns, given that they will rely on more advanced techniques that involve less greenhouse gases and can draw on a wider pool of biomass. But this technology is still some distance away from being commercially viable. Given this, the initiatives currently underway to develop criteria and standards for ensuring the sustainability of biofuels are particularly important.

The success of such efforts is likely to depend on establishing a process that is seen as credible by all affected interests. Experiences in similar processes relating to other natural resources, such as forests and fisheries, suggests that compromises will be made on all sides, in order to create sustainability standards that are accepted both by industry and by local communities. These can be difficult and protracted processes, but they have proven to be valuable.

The biofuels example also illustrates the importance of an integrated policy approach at the international level. It is unclear where all the ethanol to meet the US and EU targets is going to come from. Growing these crops domestically will entail conflicts with other land uses. Importing such crops from other countries that have greater capacity for

Santa Maria (Brazil) sugarcane plantation for ethanol

The most important obstacle is the lack of sufficient financing

growing biofuels may be a sensible option, but current agricultural trade tariffs and non-tariff barriers are an impediment to such strategies. International rules derived from UN treaties on biological diversity conservation and genetically modified organisms also need to be taken into account in developing a policy framework that enables large scale sustainability of biofuels.

The broader canvas

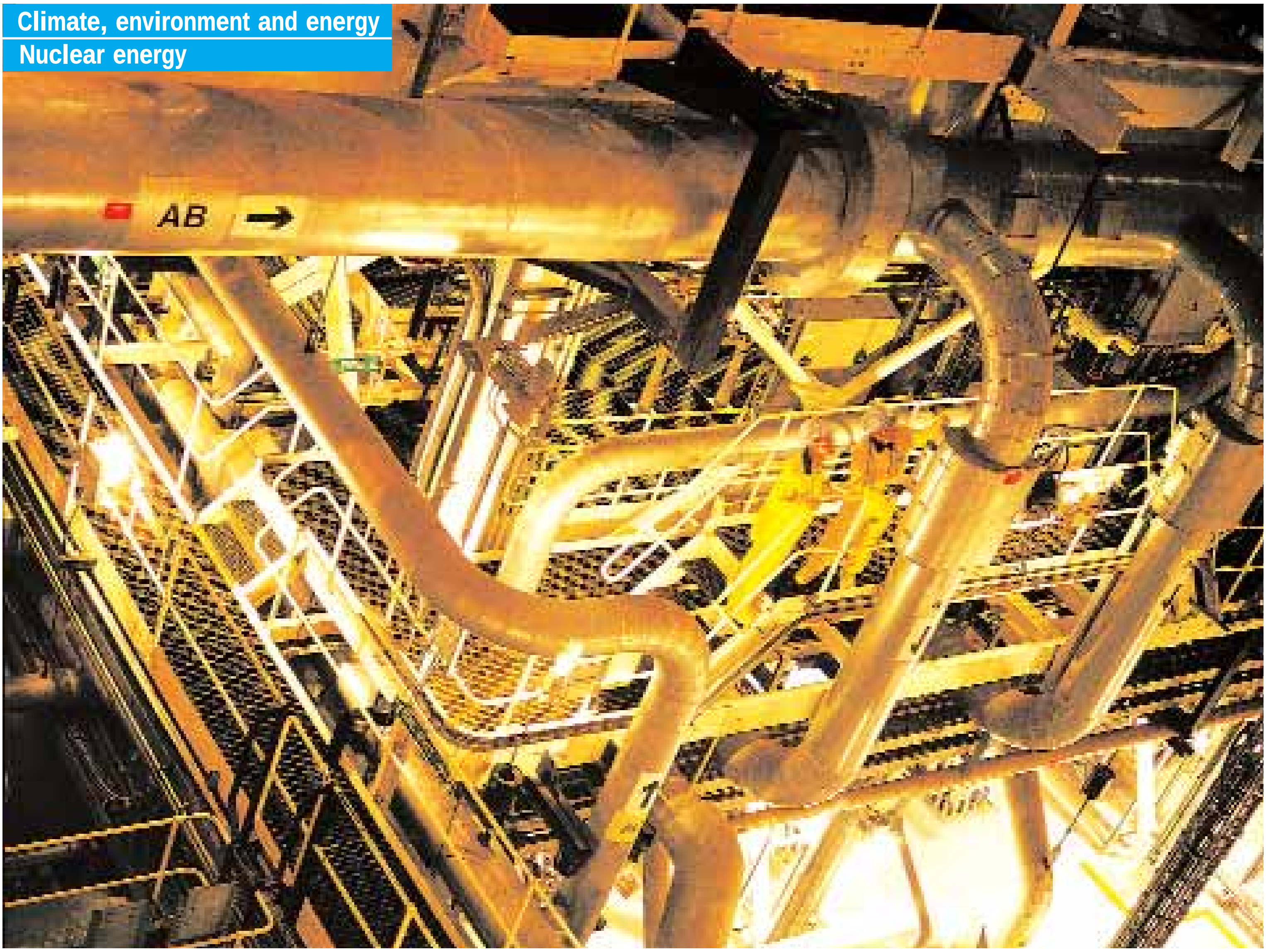
More broadly, an integrated national policy approach is needed for renewable energy, as well as policy clarity. Both water and waste policy are relevant. But energy policy itself needs to include instruments that can achieve specific objectives – market incentives with general climate policy objectives may not be sufficiently finely tuned towards the specifics of the renewable energy market. The experience of several European countries also shows how policy uncertainty and complexity can negatively impact on the amount of investment in the sector.

Although there are several obstacles that need to be overcome for renewable energy to grow in scale – such as cumbersome planning processes – the most important is the lack of sufficient financing. IEA projections under its business-as-usual scenario and work done by the UK's Tyndall Centre suggest that investments made over the coming decade will be decisive for determining the energy systems for the next 30-40 years. It is for this reason that Chatham House has launched a project on enhancing financing of renewable energy. It will bring together financiers and policy-makers so that governments can better target their decision-making to create the conditions for greater deal flow.

The importance of bringing together key actors around renewable energy policy issues cannot be underestimated if a joined-up and effective approach is to be achieved. Such an integrated policy approach needs to take account of the project-specific steps relating to applicable technologies, as well as policies relating to the wider objectives of technology development, environment, and economic development. This involves finding an interface between various international legal instruments and processes, such as those of the UN and the WTO, as well as finding bridges between government and the private sector, such as the Renewable Energy and Energy Efficiency Partnership.

Developing countries

In order to achieve worldwide consensus around an effective international policy framework, the special needs of developing countries will need to be considered. Developing countries are large consumers of the first generation of renewable energy, drawing on their abundant resource endowments; at present the largest growth in more advanced renewable energy is in the OECD countries. However, a truly global and equitable approach to renewable energy must not leave developing countries behind in the exciting advances that this sector will experience in the foreseeable future.



What role for nuclear energy?

Luis E. Echávarri,
Director-General, OECD Nuclear Energy Agency

Technology based on nuclear fission contributes to diversity and security of energy supply. Being almost carbon-free, it can also help to tackle global warming. But political leadership and effective policy frameworks are essential for nuclear energy to play a full part in the future energy mix

Today, nuclear energy is a significant component of world electricity supply. Four hundred and thirty reactors are connected to the grids in some 30 countries, providing around 16 per cent of the electricity consumed worldwide and almost one quarter in OECD countries. Globally, the technical, environmental and economic performance of nuclear power plants in operation is very satisfactory. Improvements in safety and reliability of current-generation nuclear systems are demonstrated by fewer unplanned shut-downs, lower collective dose to workers and reduced probability of severe accidents.

Around 60 per cent of nuclear power plants in operation are less than 25 years old and will continue to operate for several decades. This means that nuclear power plants will remain part of the energy supply landscape for many years. The role of nuclear energy in the longer term has to be examined in the overall context of supply/demand balance at the world level. The need for more energy is recognised broadly by analysts and policy-makers. According to the reference scenario of the International Energy Agency (IEA), world demand for primary energy will increase by 50 per cent between now and 2030 and its

Total conventional resources of uranium represent 270 years of current annual consumption

electricity consumption will nearly double[1]. Governments are considering, and could take, policy measures to slow down demand growth but significant increases are inevitable, in particular in developing countries.

Security of energy supply is a burning issue for OECD countries and is vital for developing countries, where lack of energy may mean economic stagnation, continued poverty and shorter life expectancy. Against this backdrop, the challenge for energy policy-makers is not to select between fossil, nuclear and renewable sources, or between supply measures and energy conservation, but to make sure that all sources and all energy-saving means are used effectively, taking into account their environmental, social and economic characteristics.

Policy-makers responsible for driving national decisions should face the challenge of making the right trade-offs between the risks and benefits of alternatives, taking into account their specific situations, goals and priorities. Security of energy supply and global climate change are key concerns for civil society and, accordingly, are driving factors in policy decisions. Consequently, the role of nuclear energy in future supply mixes will depend largely on its ability to address both concerns in a cost-effective manner.

A cost-effective option

In terms of economics, the volatility and escalation of fossil fuel prices contribute to enhancing the attractiveness of nuclear electricity. With their very low running costs, nuclear power plants become the cheapest generation source once their capital costs are amortised. Furthermore, in terms of capital investments, the designs of new plants being built today benefit from decades of industrial experience, which contributed to cost reductions.

In most countries relying on the nuclear option, the costs of generating nuclear electricity, which internalise safety, radiation protection and waste management and disposal, are competitive with alternatives. According to a study published in 2005 by the OECD[2], based on data provided by 21 countries on some 130 power plants, the average lifetime costs of generating electricity, levelled at a 10 per cent discount rate, for plants to be commissioned by 2010-2015, range between 30 and 50 US$/MWh for nuclear, 35 and 60 for coal and 40 and 63 for gas, with gas prices at around 4 US$/GJ.

Uranium: an abundant resource

Technology based on nuclear fission, allowing retrieval of energy from uranium, contributes to diversity and security of supply, adding an additional resource to fossil and renewable energies. Uranium, the natural resource used for fuelling nuclear power plants, is an abundant commodity with no significant use other than energy. Uranium resources which have been identified – around 4.75 million tonnes – are sufficient to fuel the reactor fleet in operation today for some 85 years. Total conventional resources of uranium – some 14.8 million tonnes – represent 270 years of current annual consumption[3].

Uranium-producing countries are located in various geopolitical regions of the world, preventing significant risk of market pressure resulting from abuse of producers' power. More than half of the world's uranium production comes from two OECD countries: Canada and Australia. The other main producers include countries in transition – Kazakhstan and Russia for example – and African countries such as Namibia and Niger. This extensive distribution of supply sources is a guarantee of security, which is lacking for hydrocarbons. In addition, security of nuclear fuel supply may be reinforced easily through inventory building. The low cost and small volume of nuclear fuel facilitate the accumulation of strategic inventories representing more than one year of consumption, protecting users from short-term supply disruption.

More efficient technologies

Furthermore, in the medium and long term, technological progress is expected to enhance the efficiency of nuclear energy systems, increasing the amount of energy retrieved per tonne of uranium and thereby easing the pressure on demand. Nuclear power plants now in operation already achieve higher burn-ups than reactors of previous generations, and even better use of uranium will be obtained with evolutionary advanced water reactors currently under construction. In the longer term, advanced

Government leadership is particularly important for alleviating the risks specific to nuclear energy

fast neutron systems under development will offer more drastic improvements through recycling of fissile materials and breeding, multiplying the lifetime of conventional uranium resources by 30 or more.

Technological progress in enhancing the efficiency of uranium use reinforces security of supply. Efficient use of natural uranium resources also reduces environmental impacts from uranium mining and waste management and disposal. Reductions of waste volumes and radiotoxicity by more than one order of magnitude are expected to be obtained with the development of fourth-generation nuclear systems with closed fuel cycles that will respond better to the environmental and social goals of sustainable development.

Global climate change, like security of energy supply, is very high on the agenda of civil society and government policy-makers. The energy sector, a major source of greenhouse gas (GHG) emissions, has a key role to play in alleviating the risk of global warming. Very stringent policy measures are needed to curb the GHG emissions of the sector. There is no one solution to the problem but a combination of energy conservation measures, carbon-free energy sources and carbon capture and sequestration methods will be required to address the issue adequately.

Nuclear energy is about carbon-free, with only minute secondary emissions of carbon dioxide resulting from some fuel-cycle steps and processes included in the life-cycle of nuclear facilities. Per kWh of electricity generated, the nuclear energy chain emits 2.5 to 5.7 grammes of carbon equivalent, compared with 100 to 350 for fossil fuel chains and 2.5 to 75 for various renewable energy chains[4]. Substituting nuclear power plants for fossil-fuelled units can therefore significantly reduce the carbon intensity of the electricity sector.

Non-electricity applications

The present use of nuclear energy is confined nearly exclusively to electricity generation. By maintaining or increasing its share in total electricity supply, nuclear energy could help alleviate the tensions in the natural gas market and the risk of global climate change. The rate of construction of nuclear power plants in the early 1980s demonstrates that doubling world-wide installed nuclear capacity within 30 years is technically feasible, provided adequate policies are implemented by governments wishing to rely on the nuclear option.

Besides its contribution to electricity supply, which could be increased significantly in many countries, nuclear energy has the potential to broaden its market to non-electricity applications. Nuclear reactors produce heat, which can be used directly for process or district heating, to desalinate water or to produce hydrogen by different means, from electrolysis to chemical decomposition of water. This offers opportunities for the nuclear option to play a major role in policies to address security of supply and global climate change issues.

Managing the politics

However, in spite of the recognised advantages of the nuclear option and of renewed interest of government and industry policy-makers in nuclear energy, decisions to build new nuclear power plants are rare, except in countries with a long tradition of reliance on nuclear energy. The reluctance of investors to embark on capital-intensive projects with long amortisation times is not unique to nuclear energy, but raises specific concerns requiring government involvement to be addressed.

Nuclear energy projects raise financial, regulatory and socio-political risks. Government leadership, which is essential in energy policy-making, is particularly important for alleviating the risks specific to nuclear energy. Stable national regulatory and policy frameworks are a prerequisite to attract investors in nuclear projects. The role of international co-operation is also important to facilitate technology adaptation and transfer, and security of fuel-cycle service supply in the respect of non-proliferation criteria.

The issue of radioactive waste management and disposal illustrates the social dimension of nuclear risks. Experts agree that the safe disposal of all types of radioactive waste in a manner that protects present and future generations and the environment is technically feasible at acceptable costs. The implementation of repositories has aroused civil society concerns at the local and national levels. But it is clear that progress being made in several countries, such

as Finland, towards the construction of a repository for high-level waste is a key contribution to the future development of nuclear energy.

Technological progress is essential, together with policy measures, for ensuring that the future role of nuclear energy will correspond to the needs of society. Several decades of industrial experience with commercial nuclear power plants and fuel-cycle facilities are already providing today the base for designing and implementing advanced systems responding to the requirements of the 21st century. Evolutionary nuclear power plants under construction in several countries integrate significant, enhanced safety features and improvements leading to higher availability factors, lower uranium consumption and reduced waste streams, and decreased costs.

Towards a fourth generation of nuclear energy

For the longer term, national and international R&D programmes devoted to the development of a fourth generation of nuclear systems are aiming at achieving even more ambitious goals in terms of safety, economics, resource management, proliferation resistance and physical protection[5]. Those systems, which are expected to be available on the market by 2020-2030, will be ready in time to replace obsolete nuclear units and face increased electricity demand.

Addressing simultaneously security of energy supply, global climate change threat and socio-economic goals for the 21st century is a major challenge for policy-makers worldwide. Without effectively combining technology and policy measures, reaching the objective of sustainable development will not be possible. Nuclear energy is one option among others, which can play a significant role in secure, carbon-free and competitive supply of energy on a large scale. Governments interested in the nuclear option should ensure that the policy frameworks put in place in their respective countries are adequate for the timely implementation of nuclear systems.

International organisations such as the OECD Nuclear Energy Agency have a major role to play in facilitating exchange of information between countries, strengthening multinational co-operation, and helping in the development of consensus on key issues. The Agency is also supporting joint endeavours such as the Generation IV International Forum, aiming at developing future-generation nuclear systems, or the Multinational Design Evaluation Programme, which is an initiative of top regulators to promote the exchange of information and the harmonisation of approaches to safety reviews of advanced systems. ■

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An energy policy for Europe

José Manuel Barroso,
President of the European Commission

EU leaders in March agreed a strategy for tackling climate change and strengthening Europe's energy security. The G8 Summit at Heiligendamm is a chance to carry collective action onto a global scale

Energy and climate change are central challenges not just for the European Union but for the whole world. That is why I welcome Chancellor Merkel's decision to put both issues on the agenda of the G8 meeting in Heiligendamm.

I am glad to be able to address these issues with a clear, coherent European position. Energy is not new to the European project. On the contrary, it was at the heart of the original idea of European integration, with the creation of a Coal and Steel Community in 1952 and the Euratom Treaty of 1957. For some time energy was at the margins of the development of Europe. But now it is back where it should be, at the top of the European agenda.

Why? Because Europe's energy landscape has changed. I see three reasons for this: first, global energy demand is increasing, and will continue to do so – by around 60 per cent by 2030, according to the International Energy Agency. Second, Europe's internal hydrocarbon reserves are dwindling. The European Union is already the largest importer and second largest consumer of energy in the world. We are currently dependent on external sources for 50 per

cent of our energy. This could rise to 70 per cent by 2030. Third, the climate is changing. According to the Intergovernmental Panel on Climate Change, climate change has already made the world some 0.6°C hotter. In the worst case scenario, temperatures could rise by up to 5.8°C by the end of the century.

A strategy takes shape

We must face up to reality. Climate change is happening, and it touches the lives of every citizen. Moreover, it seems likely that it will hit hardest those who can least afford it – the very poor. It is a global challenge and it requires a common, coherent solution. In recent years, Europe has demonstrated its ability and determination to lead by example. We have established a system for emissions trading – finding cost-effective ways to reduce greenhouse gas emissions by enabling industry to seek out their own ways to cut emissions. This year we will propose to extend it to other industrial sectors and to improve it so that it delivers further cuts in greenhouse gas emissions. The European Commission has adopted an integrated strategy for reducing CO_2 emissions in the motor vehicle industry. And finally, the meeting of EU leaders in Brussels on 8-9 March endorsed a new European strategy, proposed by the European Commission, setting the path for 2020 and beyond.

At the heart of this new European strategy is an ambitious target: to reduce EU greenhouse emissions by at least 20 per cent by 2020, compared with 1990 levels.

Our target is to reduce EU greenhouse emissions by at least 20 per cent by 2020, compared with 1990 levels

Meeting this target will require a move to a low-carbon economy, dramatically increasing the level of clean energies in a way that will strengthen, not weaken, our competitiveness. It is essential that we separate economic growth from greenhouse gas growth; it can be done. Since 1990 the EU economy has grown by more than a third, but our emissions have fallen. Our new approach can put the European economy at the forefront of a new global sector. Moreover, by shifting to a low carbon economy, Europe can reduce its external energy dependence, for example through the development of indigenous energy sources.

The effort must be a global one

But Europe cannot solve the challenge of climate change alone. Europe's emissions are only 14 per cent of worldwide emissions and will account for less than 10 per cent by 2030. According to recent data, developing countries will outstrip the developed world in terms of greenhouse gas emissions by 2012. China already emits more than Europe and will soon overtake the United States.

So Europe must also provide incentives for others to join us in participating in the fight against climate change. Clearly the efforts of others need to reflect their circumstances. And they should build on what is being done already by big energy consumers, for example in the area of energy efficiency, where China has set very ambitious targets.

We need a broader international commitment to join Europe in fixing clear objectives for reducing greenhouse gases. That is why the European Union has made it clear that we will go further, cutting emissions by 30 per cent by 2020, if other developed countries join us. This is the minimum necessary to ensure that global temperatures do not exceed pre-industrial levels by more than 2°C.

Meeting our targets

Setting targets is not enough. They must be backed up with credible policies to deliver them. As energy emissions represent 80 per cent of these greenhouse gas emissions, the major effort has to come from the energy sector. Hence the importance of the agreement of European leaders in March, with Chancellor Merkel in the chair, to the European Commission's proposals not just on climate change but for creating an energy policy for Europe.

First, a 20 per cent target for *energy efficiency* by 2020, with concrete measures for getting us there. These include boosting the use of fuel-efficient vehicles for transport, tougher energy standards for new buildings, and improvements to heat and electricity generation, transmission and distribution. This would mean that by 2020 the EU would use approximately 13 per cent less energy than today, saving €100 billion and around 780 millions tonnes of CO_2 each year.

Second, tripling renewable energy use by 2020. In this way the EU will step up the drive for clean energy, and not only limit greenhouse gas emissions but also strengthen the security of energy supply. Renewable sources will increase the share of domestically produced energy and allow a more diverse fuel mix. Moreover, developing the renewable energy sector could substantially contribute to the creation of new jobs in Europe and keep Europe at the cutting edge of energy technology.

Europe must provide incentives for others to join us

Third, we must increase substantially the amount of *clean hydrocarbons* we consume. Enormous technological advances are being made to reduce carbon emissions from hydrocarbons – for example, through the capture and storage of carbon dioxide. Our target is to encourage the construction by 2015 of 12 power plants that will employ clean carbon technologies. On the basis of the information currently available, we believe that by 2020 all new coal-fired power stations could be equipped with mechanisms for capturing and storing CO_2, and that existing power stations could be gradually adapted.

Only an open market will enable the investment needed to modernise Europe's energy networks

Towards a single EU energy market

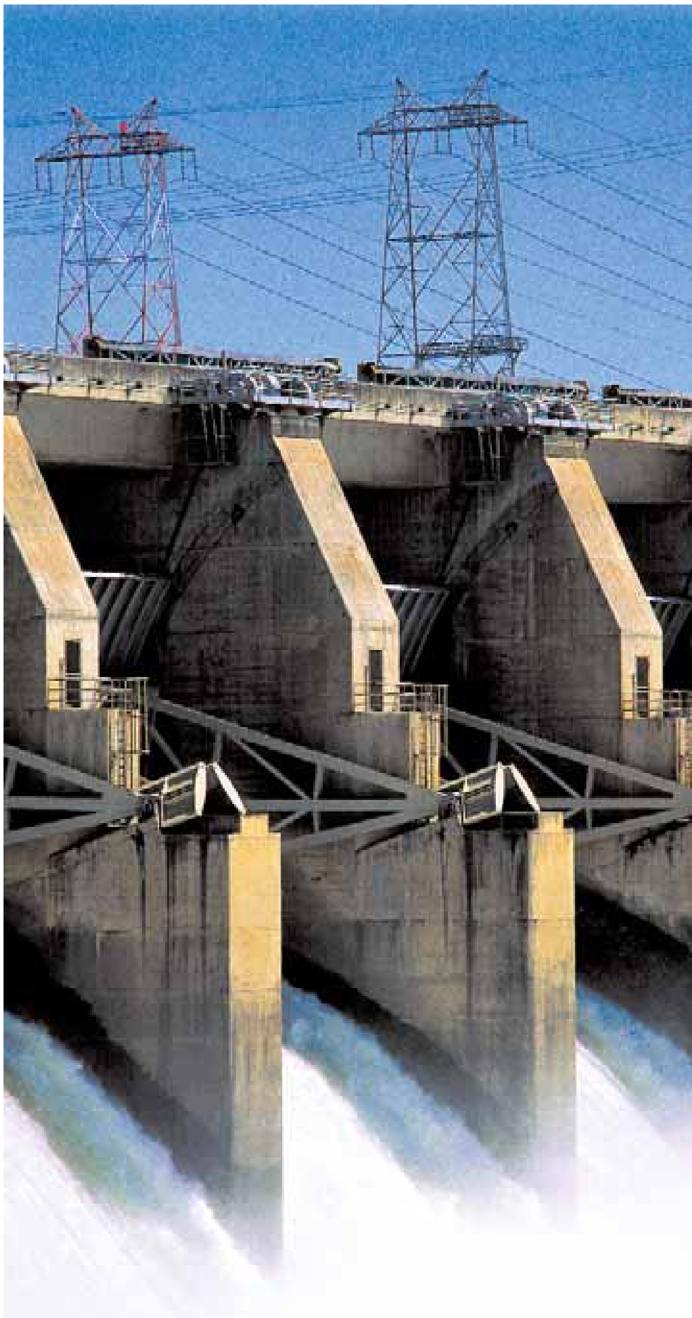
Fourth, we must have a single market in energy, in practice as well as on paper, to give real choice to EU energy users and to trigger investment. Only an open market will enable the investment needed to modernise Europe's energy networks. To attract capital, Europe needs a transparent, competitive and properly regulated energy market. European leaders have agreed to a clearer separation of energy production from energy distribution and stronger independent regulatory control with a cross-border dimension. This is a key step on our way to a fully functioning internal energy market. A true internal market, in practice as well as on paper, is not just essential for competitiveness – it will also help Europe meet its objectives on clean energy and energy security, by allowing better access to markets for new entrants offering clean energy, and by encouraging diversification of sources of energy and countries of supply and transit.

There are other internal energy challenges for Europe, not least to continue to encourage the dynamic development of energy technology in Europe, through greater investment and better organisation. The European Institute of Technology can play an important role in this respect.

Our opportunity

I have no doubt about the immensity of our task. The challenges are great, but so are the opportunities. We can pave the way today for a new industrial revolution, creating a low carbon economy that tackles the issues of climate change and energy security in a way that promotes competitiveness, growth and jobs.

The EU has taken important steps. Now we must work with other big energy consumers and producers, outside Europe, to tackle the global challenges. This will take time – not everything can or will be agreed in one day or one meeting. But this year's G8 Summit presents an excellent opportunity to take further, decisive steps down the road to a global response to the global challenges of energy and climate change.



UK Prime Minister Tony Blair placed Africa at the top of the agenda for the 2005 G8 summit at Gleneagles

Africa since Gleneagles

David White,
Former Africa Editor, Financial Times

There are encouraging signs in much of Africa, but the recent record is mixed, and industrialised nations have yet to fulfil all the promises made two years ago

The G8 summit at the Gleneagles Hotel in Scotland in July 2005 was billed as a turning point for Africa. With all the main official donors lined up behind the idea of doubling aid to the region over five years, this was to be 'the big push' – a comprehensive plan to narrow the gap between the least developed continent and the rest of the world, making an explicit link between promised support and African leaders' own commitment to better governance. After an intensive build-up, it was seen as an opportunity unlikely to arise again for at least another decade.

Now that Africa's development problems are back on the G8 agenda, where does the continent stand two years on?

In many parts of Africa there is evidence of rising optimism. However, in terms of living standards and social and political conditions, the signs are far from unequivocal. Better economic management and stronger growth have taken root in many African countries, but not necessarily as a consequence of Gleneagles, and generally not enough to make significant inroads into poverty.

The G8's performance to date

The G8 and other donors have followed up on some key pledges, notably on lightening Africa's debt burden, but the flow of more direct forms of development aid has barely changed. Advances have been made on securing peace and democracy, but the continent's image in the world has been shaped by continuing misrule in countries such as Zimbabwe and Sudan. Gaping gaps in transport and other infrastructure are beginning to be filled, but electricity is still critically lacking. The number receiving medication for HIV/AIDS has multiplied, but three times as many need treatment and cannot get it.

The political risk attached to the Gleneagles trade-off is that any shortfall by the G8 in delivering their side of the bargain will reduce their credibility and their leverage on African governments. So far, they have only partly fulfilled their promises. On the plus side, poor countries that have already met conditions for debt relief have had their outstanding debts to the World Bank, International Monetary Fund and African Development Bank cancelled. The list of eligible African countries has since grown from 14 to 18, a third of the continent. However, the measure goes only a short way towards meeting their financial needs, and limits their access to new borrowing on soft terms.

On aid, the G8 agreed that Africa should get an extra $25 billion a year by 2010, half of the additional sum planned for aid to the developing world as a whole, and roughly the same as Africa's existing level of foreign assistance.

Headline figures for the past two years are more encouraging than the reality. According to the Organisation for Economic Co-operation and Development (OECD), major donors' bilateral aid to sub-Saharan Africa has been climbing at more than 20 per cent a year. But if one takes away debt relief – mainly through a creditors' deal with Nigeria, which was only partly servicing its debts anyway – the increase in real terms has been minimal, about 2 per cent in 2006. The overall figure could well fall this year. Although a big increase in US funding for Africa, particularly for HIV/AIDS, is foreseen in the budget request for the financial year starting in October, meeting the target for 2010 will require a hefty joint effort. African governments have little certainty about how much support they can count on. Ambitious proposals for speeding up the availability of aid money have yet to move beyond two pilot schemes with specific aims and backed by groups of donors – one tapping financial markets to fund immunisation, the other using air ticket levies to buy medicines.

> If one takes away debt relief, the increase in aid in real terms has been minimal

Africa's performance to date

On Africa's side, progress has also been mixed. The report published before the Gleneagles meeting by the Commission for Africa, a UK-appointed panel of African and non-African experts, concluded that poor governance was "at the core of all of Africa's problems". In the consultations carried out during the Commission's year of preparatory work, this was what consistently emerged as the number one issue. This emphasis lent support for plans already in train for closer scrutiny of political and economic management. African countries have moved ahead with a unique process of voluntary peer reviews, pioneered by Ghana and Rwanda. In a context of widely entrenched corruption, the UK-led Extractive Industries Transparency Initiative has gained support, and there are

March 2007: scrutineers empty a ballot box in a polling station in the second round of Mauritania's first democratic presidential election since its independence from France in 1960

proposals to extend the scheme from oil and minerals to other sectors such as pharmaceuticals and construction.

Coups and conflicts – symptoms of weak institutions and greed for power – have become rarer. In the last two years, Liberia and the Democratic Republic of Congo have staged post-war elections, and Mauritania recently held its first democratic presidential contest following a 2005 military takeover. On the other hand, African leaders previously viewed by donors as exemplars of forward-looking policies have shown themselves to be increasingly authoritarian, notably in Ethiopia and Uganda after apparent moves towards greater political openness.

The revitalised African Union (AU) has broken new ground in peace operations. But, despite the extra resources for African peacekeeping forces pledged by the G8, the conflict in Sudan's Darfur region has exposed the limits to AU capacities.

Many countries – including some non-oil producers – are growing strongly

Arguably the most positive signal has come from economic growth, above 5 per cent a year for the continent as a whole in each of the last two years and generally expected to continue at a similar pace this year. This is more than twice the average rate over the 1980s and 1990s, and exceeds the growth in Africa's population, now about 900 million. South Africa, which makes up more than a fifth of the whole continent's economy, has grown at around the 5 per cent level since 2005, the fastest rate for more than two decades. Nigeria and Kenya, the dominant economies in West and East Africa, have joined the overall trend. Angola, a rising oil power in the midst of post-war reconstruction, has been growing by close to 20 per cent and expects a further acceleration this year. Some non-oil countries such as Burkina Faso and Mozambique have also performed strongly, despite the burden of higher import bills.

The acceleration in overall growth, driven by higher commodity prices, has gone together with mostly single-digit inflation, stable exchange rates and improved budget discipline. But there are blatant exceptions,

The Extractive Industries Transparency Initiative has gained support, and there are proposals to extend the scheme

particularly Zimbabwe, suffering from a shrinking economy and the world's highest inflation, and Ivory Coast, struggling to overcome the effects of more than four years of effective partition.

While the environment for business remains generally trickier in Africa than in other continents, the World Bank no longer ranks it as the region most reluctant to embrace regulatory reforms, and Tanzania and Ghana have joined its list of top ten reformers.

Growing faster than developed economies, Africa can be said to be closing the gap. On the other hand, despite being possibly the continent most richly endowed with natural resources, it is lagging further behind the rest of the developing world, especially Asia.

On current trends, according to World Bank projections, Africa's share of the poorest 10 per cent of the world's population will double from one third to

Sudanese refugees gather at a water point in Touloum camp in north-eastern Chad

The conflict in Sudan's Darfur region has exposed the limits to African Union capacities

two thirds by 2030, while Asia's is reduced from half to one fifth.

Constrained by inefficient financial systems, scarce energy and stifling bureaucracies, most African countries are still short of the 7 per cent growth reckoned necessary to meet UN targets for reducing poverty. The spurt in revenue from oil and minerals has not translated into jobs or economic diversification. With a majority still living in rural areas, they are particularly vulnerable to climate change. While clamouring for more favourable trading conditions, many have failed to take full advantage of existing trade access offered by the European Union and the US.

At the same time, China's voracious appetite for raw materials has lessened Africa's dependence on Western markets. The Chinese presence in sectors such as oil, mining and construction has evolved spectacularly. By providing African governments an alternative source of long-term funding and assistance, with few political strings attached, China has thrown down a challenge to the continent's traditional partners.

The limits of outside assistance

One of the main results of the Gleneagles summit and the preliminary groundwork carried out for it – the most important exercise of its kind since the Brandt Commission's two reports on North-South relations in the early 1980s – was to bring greater focus to discussion of Africa's needs. More emphasis was placed on financing infrastructure, which had become neglected, and aid for trade.

But the debate has since moved on. With little to show for structural reform policies applied since the 1980s, many Africans are wary of externally designed formulas. There is also a widening recognition of the limits to what outside assistance can achieve, and of the perverse effects that financial aid to governments can have. The issue, many argue, is not the volume of money available, but how it is channelled and put to work. For both low-income and middle-income countries, the biggest challenge is creating employment to meet the rising expectations of their young populations. ■

Africa in Heiligendamm

Stefan Mair, Director of Studies, SWP (German Institute for International and Security Affairs)

Practical support for Africa should focus on good governance, peace and security, increased investment and engagement by the private sector, and delivery of existing commitments

Africa is one of the three major themes placed on the agenda of the G8 Summit in Heiligendamm by the German hosts. Under the title of Growth and Responsibility in Africa, the German presidency identifies four fields of action for intensifying and continuing the G8's partnership with Africa: good governance, sustainable development, peace and security, and strengthening the health care system, including the fight against HIV/AIDS, tuberculosis and malaria.

How Africa moved up the G8 agenda

The fact that Africa is once again an issue at a G8 Summit should certainly not be taken to mean that Africa has reached the top of Germany's foreign policy agenda. Though the continent still ranks high in German development co-operation and has attracted the attention of the German foreign and security community, it is still only a second- or third-order priority. This is certainly an improvement on the situation ten years ago when the continent – or, to be more precise, its sub-Saharan part – was considered exclusively a matter for the aid industry and as being totally irrelevant to German strategic and economic interests.

The change since then can be traced back to five factors.

First, September 11. The main conclusion from this terrible event was that political chaos, violence, social deprivation, a clash of traditional and modern norms and a lack of economic prospects can have an immediate impact on the security of Europe and North America, even if this takes place in very peripheral and remote regions.

The second factor is migration. In the past years there has been growing concern not only about how many Africans are migrating from their home countries to Europe and what this means for the internal cohesion of European societies, but also about how this flow of migrants can be managed in a responsible way and in accordance with human rights.

Third, the emergence of China on the African continent has resulted in American and European concerns about a new 'Great Game' over African resources.

Fourth is the new ambition of Germany to re-establish itself as a great power – though hardly any German politician would openly say so. But there is the aspiration in Berlin to exert political influence that matches Germany's economic weight and to play internationally on the same level as France and the United Kingdom. Germany can therefore simply not afford politically to ignore the neighbouring continent.

The fifth factor is the European Common Foreign and Security Policy (CFSP) and the European Security and Defence Policy (ESDP). Both policy areas are among the few in which a majority of European peoples support further integration. Though this support is backed by the rhetoric of most European governments, in practice it is not easy for them to agree on certain joint actions. Policy towards Africa is a field in which consensus among the EU member states is easier to achieve and implement than in others, not least because there is little risk of conflict with American policies. Africa can therefore be considered a kind of 'laboratory' for CFSP and ESDP.

What is urgently needed is implementation of already-made commitments and promises

Three new factors have been instrumental in placing Africa high on the G8 agenda.

First, there are indications that other issues originally identified for the G8 agenda did not attract the necessary support of politicians and government departments. So Africa seems to be selected by default.

There is an urgent need for an intensive debate on the present preoccupation with 'more money' for development

Second, the German government has concluded that it is necessary to bring the concentration of the G8 on Africa to a successful conclusion. Africa cannot be a permanent issue of G8 summits without upsetting other world regions which do not command the same attention. G8 activity on Africa should therefore be transferred to other fora and institutions. (The summit in St Petersburg did not deal with Africa at all, and Gleneagles failed to manage this transfer.)

This takes us to the third potential motive: to put G8–Africa co-operation back on the track on which it was set by the summit in Kananaskis but derailed by the summit in Gleneagles. The German outline paper for the summit makes this motive explicit by stating: "With the adoption of the Africa Action Plan at the 2002 Kananaskis Summit in Canada, the G8 committed themselves to supporting the African reform process in the spirit of NEPAD (New Partnership for Africa's Development). Germany wants to re-initiate the reform partnership and the dialogue with the African partners."

Towards a new analysis

There is a fairly broad consensus among German decision-makers and analysts, even shared by some NGOs, that Gleneagles did not really help to take the reform partnership and the dialogue with Africa forward for two reasons. It was suggested that the British initiative was ignoring the home-grown African scheme offered by NEPAD – which had been the starting point of the G8-Africa dialogue in 2001 – and was thereby neglecting African 'ownership'. For most observers this was illustrated by the title of the commission whose work preceded the Gleneagles summit: 'The Commission for Africa', and not 'Commission *with* Africa'. Furthermore, the main message of the Commission's report and the British government's proposal for Gleneagles was perceived as: 'What Africa really needs is more money and a big push'. Though the report was certainly more differentiated and nuanced than this in its recommendations, this perception has shaped the debate since its publication, reinforced by the campaigns of Anglo-Saxon NGOs and celebrities. In Germany, the still dominant assessment among decision-makers and analysts in the fields of foreign, security and development policy is that what Africa most urgently needs is not more money but a more responsible and efficient use of existing resources, more private sector engagement and more peace and stability. The emphasis of the German G8-Africa agenda on good governance, on responsible private investment for sustainable development, and on peace and security reflects this broadly shared assessment. NEPAD, despite the serious flaws in its implementation, is still seen as an essential step in achieving these goals.

Operative assumptions for Heiligendamm

The main challenge for the German G8 presidency in these three fields as well as in the fourth of strengthening health care systems is that hardly anything new can be initiated. Rather, what is urgently needed is an implementation of already-made commitments and promises. A newly created body, the Africa Progress Panel, rightly focuses on this issue of putting past pledges into practice. But the German hosts at Heiligendamm are confronted with two problems. First, the British government and pro-African aid campaigners will not refrain from making the implementation of the Gleneagles commitments a central issue – a subject which not only the German government but probably also the majority of the other G8 governments would prefer to avoid. There is no magic wand for dealing with this problem. But so far, the prevailing attitude of those governments who dare to disagree with the 'big push' approach is far too defensive. The message received by the campaigners seems to be "yes, we know you are right but currently we cannot afford to meet our commitments". In fact, there is an urgent need for an intensive international political debate on the present preoccupation with "more money" for development co-operation. Hopefully, Heiligendamm can at least kick off this debate.

Secondly, the implementation of the commitments made at Kananaskis is just as difficult to achieve. These, too, cost money but, more importantly, they present considerable political risks and very much depend on the willingness of African and other non-G8 countries to contribute to them. Progress on good governance and

responsible investment needs to be made in the context of strategic and economic interests. China's penetration of African markets and its efforts to secure access to African raw materials – so far undisturbed by concerns about good governance and peace and security – certainly raises the question whether the G8, especially the G7, can afford to insist on still more conditionality and transparency in extractive industries' operations or whether they should see themselves as players in a Great Game.

Mobilising all the players

There are still good reasons why the long-term economic and strategic interests of the G7 (access to African markets and resources, containment of spill-over effects of state failure, crises and conflicts) can be secured if there is a well-governed, peaceful and stable Africa. But for this to be the case, efforts must be intensified to bring the new players in Africa, especially China, closer to such a G7 consensus. There are indications that China is beginning to realise that civil wars, corruption, the lack of rule of law and the circumvention of social standards might harm its economic interests in the long run. But this process of awareness-raising urgently needs to be accelerated. The G8's meeting with the so-called O5 – China, India, Brazil, Mexico and South Africa – can certainly play a role in this.

Taking commitments seriously

Finally, the strengthening of peace and security – still the most urgent task in Africa – not only requires support for the African security architecture, civilian crisis prevention and the tackling of the root causes of conflicts by development co-operation; it is also dependent on the determined commitment of the G8, especially its European members, to contribute troops to peace-enforcement and peace-keeping operations in Africa. It is often a more difficult task, particularly in Germany, to convince the public that such an engagement is necessary than to get their consent to more money for development co-operation. But a G8 summit on peace and security in Africa that fails to address the issue of immediate military contributions by the participants would suffer from a serious lack of credibility.

The Africa agenda of the G8 Summit in Heiligendamm should certainly not be overloaded with expectations. It is unlikely that it will bring new initiatives. But if it succeeds in refocusing G8-Africa co-operation on the implementation of the process started in Kananaskis 2002, it might bring more tangible results for Africa than G8 Summits since then. ■

The Millennium Development Goals: where Africa stands

Kemal Derviş
Administrator of the United Nations Development Programme and Chair of the United Nations Development Group

Decisive progress towards the 2015 Millennium Development Goals will require concerted strategies for governance, health, climate change, employment generation, market access for Africa's agriculture – and the fulfilment of aid commitments

Seven years ago the international community came together at the United Nations and affirmed its commitment to fight extreme poverty and promote sustained economic development. World leaders agreed to pursue the Millennium Development Goals (MDGs), which set concrete objectives supported by quantitative targets to significantly reduce poverty and hunger, achieve universal primary education, tackle health challenges, promote gender equality by empowering women, and safeguard the environment, both today and for future generations. At the mid-point towards the 2015 deadline for meeting the MDGs, there should be a great sense of urgency to implement the policies and mobilise the resources that can give us a chance to achieve the Goals in every region, but especially in Africa where progress has been slowest and where there is, therefore, the greatest need to accelerate efforts to tackle poverty and advance human development.

Growth in Africa: encouraging but not enough

The welcome news is that most countries in sub-Saharan Africa[1] have been able to improve their economic

Too often democracy is understood as allowing the winner of an election to occupy all parts of the state

performance significantly in the first few years of the 21st century. As a result of the improvements in the policy environment and the favourable global economic conditions over the last few years, real GDP in Africa has grown from 2001 to 2005 at an annual average rate of 4.6 per cent, slightly above the growth of world GDP of 4.2 per cent[2]. The UN's Economic Commission for Africa reported an overall real GDP growth rate of 5.2 per cent in 2004, 5.3 per cent in 2005, and 5.7 per cent in 2006. For the first time since the late 1960s, the ratio of Africa's GDP per capita to that of high income countries is no longer falling. While growth has been particularly rapid in oil-exporting countries, it has been broadly based and shared by many non-oil exporting countries – though not by all in equal measure.

There is, therefore, a new sense of purpose and hope. Let us not underestimate the opportunity created by the recent acceleration of progress. Belief that a better future is possible is a foundation of progress. However, progress in Africa is constrained by continuing pockets of conflict, the devastating impact of HIV/AIDS, and a pattern of economic growth that is not sufficiently pro-poor. Africa remains the poorest developing region in the world, with about two-fifths of its people living on less than US$1 a day. The region lags behind in areas such as primary education: in 2004, primary school completion rates languished at 62 per cent, up from 51 per cent in 1991, but still far behind the MDG target of universal primary education. The infant mortality rate, at 103 per thousand live births in 2004, is the highest in the world. The incidence of undernourished population, at 30 per cent in 2003, has barely changed since 1990. The high prevalence rate of HIV and AIDS in Africa is also having a devastating impact on the continent's development prospects: in some African countries life expectancy at birth is now only 45 years on average – about 14 years less than would be the case without the epidemic.

Taking all this into account, it is clear that while the recent growth performance of sub-Saharan Africa is certainly encouraging, it is far from enough for decisive progress towards the MDGs. Both the speed and quality of growth would have to change drastically to get us close to achieving the MDGs in Africa as a whole by 2015.

Tackling the constraints

There is, therefore, an urgent need to tackle what we already know are some of the fundamental constraints hindering progress on achieving the MDGs in Africa.

First, there is the issue of conflict. We must strengthen efforts to address the economic and social factors that are at the root of most conflicts, as well as help to trigger and support economic recovery in post-conflict situations. Conflict prevention and resolution will, however, only be possible when African democracies can function without the 'winner-takes-all' syndrome. While democracy has spread to more countries than ever before, with many more African countries today holding regular multi-party elections, it is increasingly clear that what follows elections is vitally important for sustainable peace and development. Too often democracy is understood as allowing the winner of an election to occupy all parts of the state and the institutions regulating the economy with their political partisans or ethnic allies. Democracy is a form of government that requires compromise, the separation of legislative, executive and judiciary powers, and the functioning of competent regulatory institutions that are at the service of the economy as a whole, rather than at the service of a political clan or narrow economic interests – foreign or domestic. With the support of the international community, African countries must do much more than just organise elections. Decisive strengthening of the institutional capacities and networks that deliver legitimacy and results for all must be part of the building of young democracies.

Second, it's clear that without an improvement in the health status of the population, not only will the MDGs relating to child and maternal health not be met, but economic growth will remain severely constrained by low productivity. The effects of the HIV/AIDS epidemic on the labour force, for example, are dramatic. The majority of HIV infections are occurring among young

It is African and other low-income countries that will be hit the hardest by climate change

adults. Unless they receive treatment, those becoming infected today are likely to become ill and die within a decade. The costs in terms of lost productivity are staggering. At the micro level, the cumulative effects of absenteeism, higher labour turnover ratios, loss of experience and skills, and high costs of recruitment and training will significantly harm productivity. All these factors combine to affect the economic performance of countries with high prevalence of HIV/AIDS – adding to the disease burden imposed by other communicable diseases, such as malaria and tuberculosis. Affordable access to medicines and treatment is key. It will, however, be impossible to improve the health status of the population without improving the performance of the health sector, including retaining a much larger proportion of doctors and health workers in Africa. Imaginative solutions are needed to achieve this, including new forms of co-operation between the rich host countries that attract Africa's health professionals and African countries.

A third constraint is the insufficiently inclusive nature of growth in Africa. Central to the challenge of making growth more pro-poor in Africa is the pursuit of policies that encourage broad-based employment creation. The private sector has a crucial role to play given that it is a fundamental driver of employment creation, both through indigenous entrepreneurship and through foreign and domestic investment, and because of its central role in fostering innovation and economic vitality. It would, however, be naïve to think that unaided and weak markets could generate such growth. Markets will have to be complemented and guided by an enabling developmental state that ensures that markets function competitively, while at the same time promoting an equitable distribution of the benefits of growth in terms of income-generating and learning opportunities for the

Donor countries now need to fulfil the commitments they have made to increase aid to 0.7 per cent of GNI by 2015

poor, and facilitating new entrepreneurship. A thorough review of policies is needed so that broad-based employment creation becomes the central goal of macro-economic strategy. Employment generation policies will require accelerated skill-formation, including unconventional on-the-job training programmes, a massive employment-oriented IT programme throughout Africa, and the use of labour-intensive technology, including in the building of infrastructure.

An additional dimension to the challenge of achieving the MDGs in Africa is climate change. While the full impact of climate change may not be felt for another two or three decades, it is very likely to have wide-ranging economic, ecological and social effects, as underscored by this year's report of the UN's International Panel on Climate Change. African countries, alongside other developing countries, are likely to be disproportionately affected both because of geography and because of low income, making adaptation much more difficult. Climate change is likely to increase the prevalence of vector-borne diseases such as malaria and dengue fever; it will lead to an increase in water levels and serious flooding in some places, while at the same time making water scarcer in arid regions; and it will irreversibly damage some natural resources and eco-systems. While African countries have contributed almost nothing to the accumulated 'stock' of heat-trapping gases in the atmosphere due to the past economic activities of higher income countries, and while the current 'flows' of these gases are due overwhelmingly to high and middle-income countries, it is African and other low-income countries that will be hit the hardest by climate change. If it is not addressed, climate change will impart a further 'un-equalising' dimension to global development. Many countries that are already having difficulties benefiting from global growth will face substantial new costs and barriers to increased prosperity.

Achieving the MDGs in Africa

Addressing all these constraints is a tall order. Some countries, notably in Asia, have shown, however, that very rapid progress that takes full advantage of the global economy and, at the same time, is driven by strong domestically rooted leadership, is possible. The capacity and existing financial constraints in Africa mean that the international community must help by providing external resources to complement domestic efforts. Existing commitments made at the 2000 Millennium Summit, the 2002 Monterrey Conference on Financing for Development, the 2005 Paris Declaration on Aid Effectiveness, the G8 Gleneagles Summit and the World Summit in 2005 to increase both the quantity and quality of aid are sufficient to make decisive progress towards the MDGs. Donor countries now need to fulfil the commitments they have made to increase aid to 0.7 per cent of GNI by 2015, but also share country-by-country timetables for increasing ODA with every recipient country so that governments can adequately plan and most effectively use these additional resources. Support for a successful conclusion of the Doha trade round with a particular focus on opening up agricultural markets for imports from developing countries is also vital if rich countries are to demonstrate that they are committed to building a global partnership for development, as set out in the eighth MDG. While the ultimate responsibility for achieving the MDGs lies with developing countries themselves, the poorer ones face especially difficult policy decisions. The United Nations and International Financial Institutions have an important role to play in helping countries to make informed choices, including by assisting governments in preparing and implementing MDG-focused comprehensive national development strategies.

There is renewed hope based on some concrete early results. It has never been more critical, therefore, for rich and poor countries alike, to redouble efforts to put in place the policies and resources needed to tackle poverty and promote the inclusive growth that is vital to achieving the MDGs in Africa. ■

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[1]Referred to only as 'Africa', unless otherwise noted.
[2]With GDP expressed in purchasing power parities.

Demanding good governance in Africa

Ritva Reinikka, World Bank Country Director for Lesotho, Botswana, Madagascar, Mauritius, Namibia, South Africa, and Swaziland;
and Mary McNeil, Senior Operations Officer, World Bank Institute

Civil society involvement is essential for strengthening good governance in Africa. A new Africa-led organisation is helping NGOs to hold governments accountable

Government and civil society leaders from across Africa met in December 2006 in Pretoria, South Africa, to launch an innovative mechanism for supporting demand-side governance across the continent. The new initiative, the Affiliated Network for Social Accountability, or ANSA, is working to build capacity among the many civil society groups that strive for open and transparent governance across Africa.

Such regional initiatives demonstrate a growing recognition that engagement with governments is crucial to ensuring their equity and effectiveness. The World Bank's *World Development Report 2004 – Making Services Work for the Poor* first presented an accountability framework for service delivery that placed end-users front and centre in demanding efficient delivery of services. That theme was later taken up in *Building Effective States, Forging Engaged Societies* (2005), a high-visibility World Bank publication on capacity development in Africa. The report argued for strengthening the role of non-governmental actors (such as parent-teacher associations, user groups, and women's marketing co-ops) to demand positive change and push for more effective execution of state functions. A recent World Bank strategy paper makes

What are intangible assets in national wealth accounting?

Identifying and implementing incentives that strengthen accountability between service providers and beneficiaries is critical for better service delivery. How best to do this in practice – and whether it works – remain open questions. Systematic evaluation of service delivery innovations to increase accountability can show what works, what doesn't, and why – a first step in scaling up success.

One such attempt is a randomised evaluation of a citizen report card project in Ugandan primary healthcare. The project collected information on the quantity and quality of health services from citizens and public health care providers. That information, assembled in 'easy access' report cards and accompanied by guidance on how to use it, was disseminated in meetings of staff, community members, and local community organisations to enhance monitoring of health care providers. The evaluation results show that the project improved both the quantity and quality of health services. One year into the programme, average use of health facilities was 16 per cent higher, the weight of infants was higher, and deaths among children under five were markedly lower. Report card communities became more involved in monitoring service providers following the intervention, without any increase in government funding. The results suggest that the improvements resulted from stronger efforts by health care staff to serve the community.

the case even more strongly. "A free media, vibrant civil society, engaged communities and an independent citizenry are crucial components for good governance," states the report, which its authors intend as a blueprint for guiding World Bank initiatives in support of good governance initiatives.[1]

Such support for civil society involvement in ensuring good governance has led the World Bank to reach out more strongly to 'non-traditional' clients in its capacity development programmes. The World Bank Institute (WBI), which leads the Bank's capacity-building work, involves non-governmental participants in most of its 650 yearly learning activities and consistently seeks to expand its outreach not only to civil society groups, but also to members of the media, parliaments, trade associations, and communities in an effort to support demand-side approaches. Each year WBI develops new ways to broaden the reach of its training programmes. Recently it pioneered the delivery of radio and web-based courses through partnerships with local broadcasters and academic institutions. Its Global Development Learning Network (GDLN) now links more than 115 learning centres across the globe.

ANSA-Africa: a model for strengthening demand-side governance

ANSA-Africa is one such innovative WBI-led initiative. It partners with South Africa's Human Sciences Research Council (HSRC) in Pretoria to promote and support civil society actors in implementing initiatives in 'social accountability', broadly defined as an approach to building accountability that relies on civic engagement; that is, one in which ordinary citizens and civil society organisations participate directly or indirectly in demanding accountability.[2] Tools for implementing such approaches include citizen report cards, participatory budgeting, social audits, citizen charters, and participatory surveys to track public expenditures, among others. Their aim is to give greater voice to citizens who may be excluded from service delivery (often the poor), and who suffer the most from misallocation of funds and poor quality of services.

ANSA-Africa aims to build capacity for improved technical rigour in implementing social accountability initiatives among civil society organisations that may lack the technical skills and resources to deliver results that will be widely accepted. For example, in South Africa, ANSA-Africa will build on the results of a recently completed Consultative Citizen Report Card in the Tshwane metropolitan area. The report card used statistically representative sampling, GIS mapping, and innovative dissemination methods (wherein pictorial brochures were sent out with all utility billings) to conduct a household survey, or 'report card', to assess citizen satisfaction with service delivery. The results have been extremely well received by Tshwane metropolitan administrators, in large part owing to the technically sound approach to compiling the information.

ANSA-Africa will also play a lead role in evaluating current initiatives in, and the impact of, social accountability tools and methodologies. For example, in Uganda, citizen report cards were used to improve health care delivery. That intervention was carefully evaluated for impact. The evaluation revealed a rise in the use of health facilities, as well as greater weight of infants and markedly reduced child mortality in the project area (see above box).

ANSA-Africa aims to build capacity for improved technical rigour in implementing social accountability initiatives

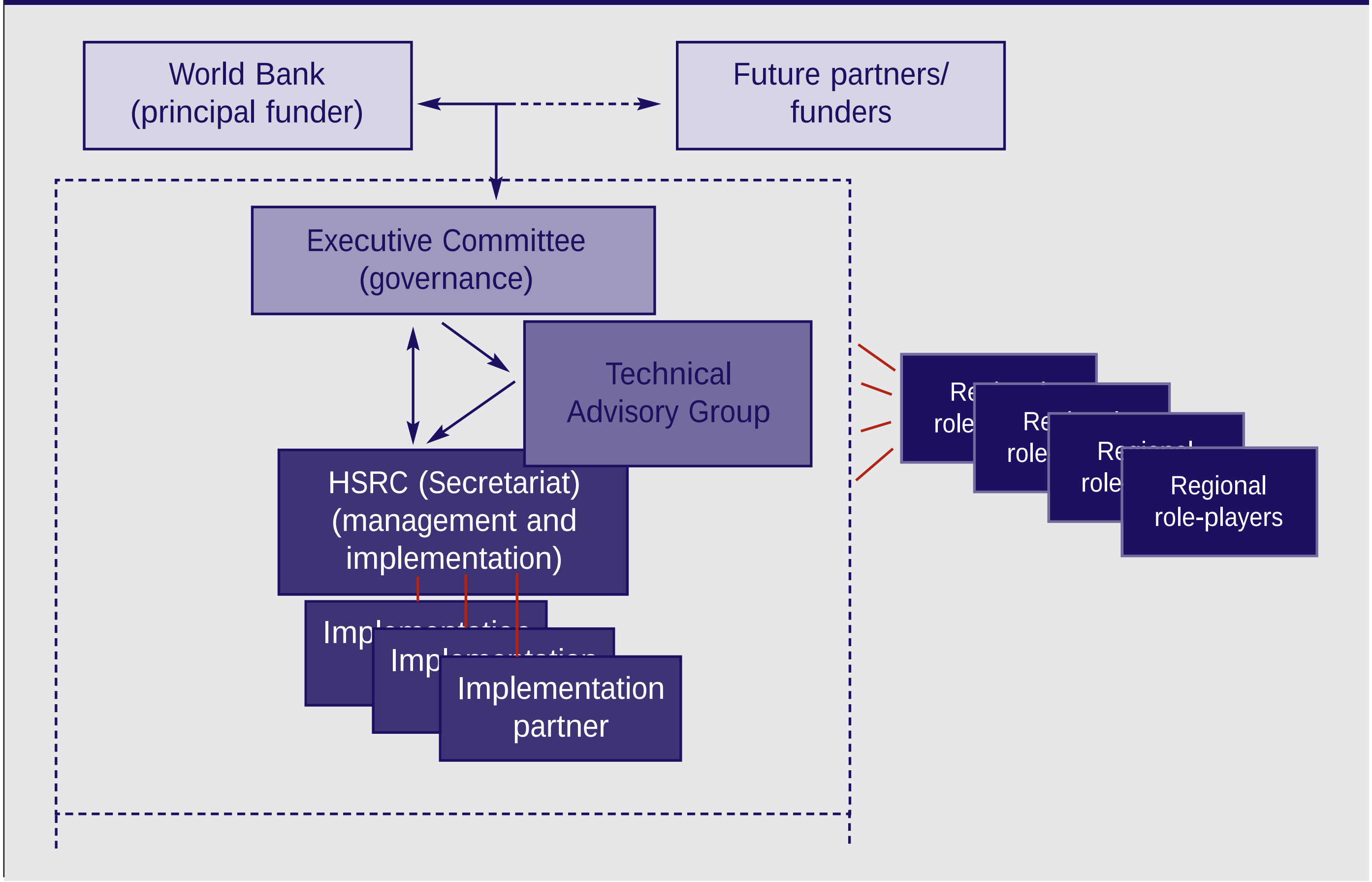
No social accountability approach will bring about change unless information is clearly and broadly communicated

Key to the success of ANSA-Africa will be its ability to network among practitioners across Africa and to deliver long-term, locally-driven capacity development efforts that build on existing capacities. HSRC has a long history of providing sound research and policy advice to governments in South Africa and elsewhere in southern Africa. As the host institution for ANSA-Africa, it supports a management unit that is responsible for developing strategic action plans and budgets for the initiative. To ensure broad ownership across the continent, final decision-making authority is vested in a five-member executive committee comprised of African representatives from Anglophone, Lusophone, and Francophone Africa.[3] A technical advisory board, whose members are experts in a wide range of related disciplines, provides input and advice. It also performs networking functions by reaching out to existing institutions and practitioners already involved in the field.

Communication is critical

No social accountability approach will bring about change unless information is clearly and broadly communicated from the inception of the initiative. The results of technical surveys that are not widely

How ANSA-Africa works



publicised – through newspapers, radio, television, and other mass communication means – often gather dust on shelves because officials may be reluctant to release unfavourable information. ANSA-Africa is staffed by a communication specialist whose role it is to ensure that the design, implementation and results of social accountability initiatives are communicated to the public throughout the entire accountability process. ANSA-Africa will also provide assistance to reformers working to bring about needed changes in the legal and regulatory framework of countries in which disclosure of information critical of the government and other elites is problematic.

"This initiative is well timed, considering the efforts of our political leaders and countries in bringing about the socio-economic development and reconstruction of our continent", acknowledged Temba Masilela, Executive Director of the HSRC Policy Analysis Unit and an adviser to the South African minister of social development at the ANSA-Africa launch. It also offers an opportunity for donors to rally around one model of regional assistance, rather than pursuing diverse forms of support that may not be complementary. ANSA-Africa will seek funding from a variety of development partners, with World Bank support scheduled to be withdrawn after three years. Thus, the Bank is serving as a catalyst in developing an African-owned and Africa-led regional entity that one day will become the lead agency in support of civil society's effort to improve governance on the continent.

Global stocktaking of initiatives to hold governments accountable

A global stocktaking of social accountability initiatives is under way at the World Bank Institute, with help from the Bank's Social Development Department and regional vice presidencies. The stocktaking identifies regional initiatives by civil society organisations to hold governments accountable using a range of tools and methodologies such as citizen report cards, budget analysis, social audits, citizens' charters and juries, integrity pacts, and procurement monitoring. To date, more than 175 initiatives have been identified in sub-Saharan Africa (francophone and anglophone), Asia, Eastern Europe, Central Asia, Latin America, and the countries of the OECD. A common template has been designed to capture information on each initiative that can then be compiled for regional and cross-regional analysis. The results of each regional stocktaking will be published in WBI's Working Paper Series (see footnote).

In Asia, a series of case studies have been completed, based on the initial findings of the stocktakings. The collection, *Empowering the Marginalized: Case Studies of Social Accountability Initiatives in Asia* (forthcoming), looks at budget advocacy, engaging and empowering communities for public service improvements, monitoring by public watchdogs, and other initiatives. A similar volume of case studies is underway for Africa, with emphasis on citizen monitoring of the flow of development funds, and the role of social accountability in bringing about improved local governance.

In each region, a network of practitioners has been identified, which is supported by a website and information exchange. Efforts are underway to develop ANSA-East Asia/Pacific to support fledging initiatives in the Asia region.

For more information see www.worldbank.org/wbi/accountability. Works in progress include *Demanding Good Governance: Stocktaking of Social Accountability Initiatives in Anglophone Africa* (Mary McNeil and Takawira Mumvuma); *Stocktaking of Social Accountability Initiatives in the Asia and Pacific Region* (Dennis Arroyo and Karen Sirker); and *Beyond Public Scrutiny: Stocktaking of Social Accountability Initiatives in OECD Countries* (Joanne Caddy, Tiago Peixoto, Mary McNeil). More reports are planned.

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Health in Africa: how partnerships can make the difference

Amir Dossal,
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Tangible evidence of success on the ground shows that public-private partnerships have a crucial role to play in helping the world to meet the Millennium Development Goals – not least in the health sector

This year's G8 Summit in Heiligendamm rightly focuses on the global economy, with special attention to Africa. For too long, Africa has remained a neglected continent, and although in recent years we have seen renewed interest in sustainable development in the region, converting commitment into action is now the imperative. At the same time, Africa's leadership in effecting lasting change – the NEPAD platform of transparency and good governance – is an essential ingredient for success. The international community, working with the private sector, has a unique opportunity to create educated and healthy citizens in the region, living in peace and harmony.

The G8's attention to the AIDS epidemic is essential and welcome. However, no single group can address this issue alone: state and non-state actors working together offer a much better chance of success. High level commitments need to be translated into national multi-sectoral AIDS strategies, harnessing the strengths of civil society and private sector – as UNAIDS has done under its Executive Director, Dr Peter Piot, moving the AIDS agenda from crisis management to strategic long-term response.

Globally, 50 countries today face a critical shortage of health workers, and 36 of these are in Sub-Saharan Africa

The scale of the challenge

Almost three quarters (72 per cent) of all adult and child deaths due to AIDS in 2006 occurred in Sub-Saharan Africa, which accounts for 2.1 million of the global total of 2.9 million. According to UNICEF estimates, the African continent is also home to about 91 per cent of the 2.3 million children living with HIV/AIDS globally and about 80 per cent of the children orphaned by AIDS. The number of children orphaned by AIDS in Sub-Saharan Africa will exceed 18 million by 2010.

Two of the major AIDS related diseases – tuberculosis and malaria – have a high incidence in Africa – 75 per cent of people with HIV also suffer from tuberculosis, which accounts for half a million deaths per year in the continent, and malaria is endemic in 42 of the 46 African states. More than 90 per cent of the estimated 300–500 million clinical cases of malaria that occur across the world every year are in Africans, primarily children under the age of five years.

Increasing demand for health care services is overwhelming the public health infrastructure in many developing countries. HIV/AIDS overburdens social systems and hinders educational development when a shortage of teachers leads to school closures. Globally, 50 countries today face a critical shortage of health workers, and 36 of these are in Sub-Saharan Africa. In some African countries it is estimated that AIDS causes up to one half of all deaths among employees in the public sector. A shortage of 4.3 million health workers – over a million in Africa alone – only underscores how urgent it is to tackle this problem.

Partnerships in action

Multi-stakeholder partnerships are necessary to address these challenges. Ted Turner's visionary support of United Nations causes has been a clear demonstration of how public-private partnerships can have a major impact on international development. His extra budgetary contributions have created opportunities for innovative programming and new forms of alliance-building. This has allowed for new partners to collaborate with the United Nations system for collective global action. Since its establishment in 1998, UNFIP's partnership with Ted Turner's UN Foundation has channelled over US$994 million into development programmes and activities, working with 39 UN entities in 123 countries.

Through the grant-making process, the UN Foundation and UNFIP have made it a priority to encourage inter-agency and multi-agency co-operation at the country level, making it possible for government ministries and civil society organisations in programme countries to collaborate in new ways and improve the outcome of many programmes and projects.

The following are just a few examples of effective health partnerships in Africa.

Integrated Child Health Campaign

In November 2006, Ghana embarked on its largest nationwide integrated child health campaign. Millions of children were immunised against measles and polio and given vitamin A supplements. From transporting bed nets to the communication campaign which entailed gong-beating and health worker visits, the partnerships facilitated a more efficient and acceptable method of delivery of cost-effective interventions. Partners included the *Government of Japan, UNICEF, WHO, Ghana Red Cross Society, World Bank, Global Measles Initiative, Rotary International, USAID* and other partners from the private sector.

Nothing but Nets

In an effort to create public awareness about malaria and leverage additional resources to prevent the disease, the UN Foundation in collaboration with the National Basketball Association's NBA Cares, the People of the United Methodist Church, Malaria No More, and *Sports Illustrated* created Nothing but Nets, a grassroots campaign to mobilise diverse constituencies such as schools, universities, churches, sports teams, civic groups, etc. with a clear and simple plan to help combat malaria in Africa. Other partners include VH-1, AOL Black Voices, and Rotarians' Action Group on Malaria. Inspired by *Sports Illustrated* columnist Rick Reilly, who challenged each of his readers to donate at least $10 for the purchase of an anti-malaria bed net, thousands of people are participating in the campaign. The UN Foundation co-

Through partnerships and alliances, and by pooling comparative advantages, we increase our chances of success

UN Secretary-General Ban Ki-moon

ordinates the Nothing but Nets campaign and works directly with the United Nations to purchase insecticide-treated bed nets, distribute them and explain their use.

The Measles Initiative

Launched in 2001, the Measles Initiative has strived to control measles deaths in Africa by vaccinating 200 million children through mass and follow-up campaigns in up to 36 Sub-Saharan African countries. The population at risk may vary from country to country, but in general the target population is children under the age of 15 years. Leading this effort are UNICEF, WHO, the UN Foundation, the American Red Cross, and the Center for Disease Control and Prevention. Other key partners include the Global Alliance for Vaccines and Immunization (GAVI), the Bill and Melinda Gates Foundation, Vodafone Group Foundation, Canadian International Development Agency, Department for International Development of the United Kingdom, the Japanese International Agency for Cooperation, the

Norwegian Agency for Development Cooperation, the International Federation of Red Cross and Red Crescent Societies, and governments of countries affected by measles. From 1999-2005, deaths caused by measles dropped by 75 per cent in Africa, from 506,000 to 126,000. This occurred largely as a result of the support provided by the Measles Initiative and the commitment of African governments.

Partnership for Maternal, Newborn and Child Health

This partnership represents an unprecedented collaboration of the world's leading maternal, newborn and child health advocates. The Partnership for Safe Motherhood and Newborn Health, hosted by WHO in Geneva; the Healthy Newborn Partnership, based at Save the Children USA; and the Child Survival Partnership, hosted by UNICEF in New York are together taking an integrated approach to maternal, newborn and child health, ensuring a 'continuum of care' from pregnancy through childhood, and recognising that maternal, newborn and child health are inseparable and inter-dependent. The partnership strives to reduce maternal, newborn and child mortality through strengthening and accelerating co-ordinated action at all levels; promoting rapid scaling-up of proven cost-effective interventions; and campaigning for increased resources.

The African Comprehensive HIV/AIDS Partnerships (ACHAP)

A country-led, public-private development partnership between the Government of Botswana, the Bill and Melinda Gates Foundation, and Merck Company Foundation/Merck & Co., Inc., committed to supporting and enhancing Botswana's national response to HIV/AIDS through 2009. Established in 2001, this initiative strives to develop and implement a national comprehensive HIV/AIDS strategy to reduce the spread and mitigate the impact of the disease in Botswana. The Bill and Melinda Gates foundation and the Merck Company Foundation have each dedicated US$56.5 million towards the project. The strength of this kind of a partnership is its alignment with government strategy as well as the ability to draw on private sector expertise to meet the challenges posed by HIV/AIDS.

Mobile technologies can play an important role in global health

Rwanda TRACnet

Mobile technologies can play an important role in global health surveillance by aiding health organisations and governments track the spread of diseases such as HIV/AIDS and Avian Flu. Voxiva, which is a leading healthcare software provider, the Government of Rwanda, the Treatment Research and AIDS Centre (TRAC) and the Center for Disease Control have drawn on Voxiva's information management system to facilitate

Today, partnerships represent a highly efficient use of global resources and expertise

real time data collection from field workers and health care staff. It also supports structured two-way communication to facilitate feedback and supervision. TRACnet, as it is known locally, employs a practical and sustainable approach to using information technologies – mobile phone networks, computers and underlying paper record systems – by leveraging existing infrastructure to connect health facilities. Indeed, the use of cell phones in Rwanda to store and relay information on HIV/AIDS has made a huge difference: today 75 per cent of the country's 340 clinics are connected, covering 32,000 patients.

Africa Alive

A multi-national network of nearly 100 public and private sector youth and AIDS organisations in Nigeria, Kenya, South Africa, Tanzania, Uganda, Zambia and Zimbabwe that use popular entertainment, both mass media and community-based media, to empower youth to get involved in HIV/AIDS prevention. Travelling rallies in Zambia, Tanzania and Nigeria and puppet shows in the slums of Nairobi, Kenya target the youth. Role model workshops reached disc jockeys, musicians and athletes in South Africa, Zambia and Kenya.

Sports for Life

Sport can be a powerful tool in bridging social and ethnic divides and in imparting information within communities. Sports for Life (SFL) is an international health programme using sports to involve youth and young adults in reproductive health, HIV/AIDS prevention and care activities. SFL brings together athletes, sports associations, youth organisations, schools, faith-based organisations, health facilities and public and private organisations including USAID, the Health Communication Partnership (HCP) based at Johns Hopkins University, Grassroot Soccer (GRS), the Family Planning Association of Kenya (FPAK), and several UN entities. Youth leaders and educators work as SFL coaches in their communities along with other local youth as peer role models, encouraging positive health behaviour.

What Would You Do?

A creative initiative by UNICEF and Voices of Youth is the online Swahili game that empowers young people to make better life choices and prevent HIV. The game called 'Ungefanyaje' or 'What Would You Do?' takes the player through different scenarios that emphasise the importance of HIV prevention and testing. This creative and innovative approach to the disease can be replicated in other languages and with more collaboration. Web boards, interactive games and chats provide young people with the opportunity to engage in debate with their peers and decision-makers, and to be better informed.

The next chapter

In the past, different organisations have worked independently on overlapping issues in the same countries, often competing for the same pool of funds. Today, partnerships represent a highly efficient use of global resources and expertise with public-private and multi-stakeholder partnerships increasingly seen as prerequisites to success. We need to present hybrid solutions, which draw on the best each domain has to offer, if we are to mitigate the impact of disease.

In recent years the United Nations has increased its efforts to foster multi-stakeholder partnerships in light of solid evidence that such partnerships encourage innovative thinking and provide a forum for delivering transformative solutions. The United Nations Office for Partnerships has supported over 450 projects in 122 countries and promoted new United Nations partnerships and alliances worldwide. It serves as a gateway for partnership opportunities with the UN family, working with companies, foundations and civil society organisations, to engage partners not only on a financial level, but also in strategic planning and in policy dialogue, transferring new technology, expertise, and innovative delivery systems.

Drawing on the skills of business, the flexible capital of philanthropy, the rigour of the marketplace and thus the power of partnerships, the United Nations has the expertise to develop and deliver system-changing solutions to eradicate disease and ease the plight of the most vulnerable groups in society. ■

Strengthening peace and security in Africa

Gareth Evans,
President, International Crisis Group

Africa needs the technical capacities of G8 members if it is to resolve its most pressing conflicts

In the last 35 years, more than 30 wars have been fought in Africa. Half of the continent's countries, and 25 per cent of its people, have in some way or another been affected by armed conflict, and there are currently six million refugees and internally displaced. Some significant gains have been made in recent years, especially in West and Central Africa, but across the continent peace and security remain much more dream than reality.

It is wholly laudable that the German presidency put this topic back on the agenda of the G8 summit in Heiligendamm, arguing rightly that development and security issues be tackled simultaneously. Although three-quarters of all war-related deaths occur in Africa, the world media's attention remains focused on conflicts elsewhere.

As Kofi Annan has succinctly put it: "Conflicts are most frequent in poor countries, especially in those that are ill-governed and where there are sharp inequalities between ethnic or religious groups. The best way to prevent them is to promote healthy and balanced economic development, combined with human rights, minority rights and political arrangements in which all groups are fairly represented." It is commonplace now that

Africa is the continent with the most war-related deaths, and the highest number of conflicts

development and security are inextricably connected: you cannot have one without the other.

With its focus on 'growth and responsibility' and Africa, the German presidency picks up an initiative that was formalised at the 2002 Kananaskis summit as the *Africa Action Plan*, in which the G8 committed to supporting African-led initiatives to curb armed conflict. Realising that "insecurity and violent conflict are among the biggest obstacles to development in Africa", the G8 decided to support the newly created African Union (AU) in building a common security structure. This has included the creation of an African Standby Force, and the support of the AU's Peace and Security Council, as well as the strengthening of the AU's post-conflict capacities.

These long-term efforts and other bilateral initiatives of G8 members to assist the African Union in establishing itself as the prime interlocutor on peace and security are important in terms of building the institutions and structure the AU needs to deal with conflict on the continent. Yet they lack the operational reality and immediacy that the current killing and dying in Africa demands. Angela Merkel poignantly argued at the Franco-African summit in Cannes earlier this year that: "None of us can afford to turn a blind eye to the conflict in Sudan, particularly in the Darfur region." Yet Darfur remains the best current example of the international community's inability to operationalise major peace and security schemes to confront mass violence and atrocities.

This is not to say Africa has not had some successes in conflict resolution – it has, most notably in recent years in the Democratic Republic of Congo, Burundi, Sierra Leone and Liberia. But in addition to the epic deterioration in Darfur, there are also new or renewed crises on the doorstep, such as Guinea and Chad, and other conflicts that resolutely resist solution, like Northern Uganda and Somalia. But the successes demonstrate that African conflicts are not inevitable; they can be prevented, contained and resolved through pro-active international engagement. And they must be.

Strengthening African peace and security has two main dimensions. First, there is the question of the capability of African states to solve their conflicts on their own, especially in the short- and medium-term. Second, is whether the international community, and the G8 in particular, is willing to muster sufficient political will to live up to its responsibility to protect the civilian populations under threat in Africa.

The capability gap

The G8 as a group, and its individual members, have invested considerably in regional efforts towards conflict resolution and peacebuilding. Recent achievements include the Democratic Republic of the Congo, where elections have concluded a three-year transition from a war that cost almost four million lives; and Burundi and Sierra Leone, which have become the first test cases of the UN's new Peacebuilding Commission.

By contrast, the situation on the ground in Darfur could hardly be more desperate, and it is spilling over and fuelling conflict in Chad and the Central African Republic. The small opening for peace offered by the Ethiopian/US intervention in Somalia in January has just about closed. And for months, Guinea has been just a step or two away from a disaster that could have serious consequences for the whole West African region, especially for states that are just emerging from war themselves, such as Liberia and Sierra Leone.

The challenge is how to support current regional peacekeeping operations (AMIS in Darfur, AMISOM in Somalia) in light of their demonstrated incapacity to alleviate the suffering of the civilian population. The experience of the current AU mission in Darfur is a classic example of the problem – too few troops, too poorly equipped, and too immobile to perform effectively even the limited civilian protection task required by their present mandate. The UN is currently feeling desperately overstretched, with over 80,000 military and 15,000 civilian personnel deployed worldwide. However, with the world's armed services currently comprised of some 20 million men and women in uniform, it hardly seems beyond the wit of man to work out a way of making some of that capacity available when and where it is needed to prevent and react to man-made catastrophe.

Security efforts so far lack operational reality and immediacy

In December 2006 the G8 countries were contributing 8.4 per cent of UN peacekeeping troops. But in Africa, where 68 per cent of peacekeeping forces are deployed, the G8 figure was only 1.1 per cent. By contrast, on the financial side, the G8 contribution has been very generous, with seven out of eight G8 members in the top ten providers of assessed contributions to United Nations peacekeeping operations.

But this is not only a numbers game. The quality and effectiveness of soldiers and equipment are key factors, and Africa simply must have the technical capacities of G8 members to resolve its most pressing conflicts. The developed world's contribution to African peacekeeping cannot be boiled down to just writing cheques.

Living up to the Responsibility to Protect

The second issue is the ever-recurring problem of generating the political will to act. We have to get to the point where, when the next conscience-shocking case of mass atrocities comes along, as it inexorably will, the reflex response of both governments and publics around the world will be to find effective ways to act to stop the violence, not excuses to pretend it is none of our business.

The core idea of the Responsibility to Protect doctrine (R2P), endorsed at last year's UN 60th Anniversary World Summit, is that state sovereignty carries with it responsibilities as well as rights, and that while the primary responsibility for protecting its own people from avoidable man-made catastrophe rests with the sovereign state itself, if that responsibility is abdicated, through incapacity or ill-will, it shifts to the wider international community. This international responsibility has three distinct dimensions: the responsibility to prevent such catastrophes by all available diplomatic, humanitarian and other means; the responsibility to react, including (but only as a last resort) by military intervention authorised by the UN Security Council; and the responsibility to rebuild shattered societies.

For all the rhetorical support R2P now generates, there is a long way to go in translating principle into effective operational reality. And the most conspicuous current failure by the international community in this respect is unquestionably Darfur, as terrible suffering and misery continues while the world stands by, reluctant to apply not only coercive military force – which may or may not be a defensible position – but even the tough economic

The international community needs simply to put into practice what it has already agreed

sanctions which have been repeatedly threatened, and which would have a strong chance of changing the Khartoum regime's cost-benefit calculations.

Much as governments are disturbed by what is happening in Darfur – and they genuinely are – almost without exception they are not prepared to commit their troops on the ground in Sudan, even for consensual civilian protection operations. Hence their enthusiastic support for 'African solutions to African problems'. As a senior UN official noted bitterly, the international community is "keeping people alive with our humanitarian assistance until they are massacred". The danger is that the international community will settle for a low-intensity conflict in Sudan, as we have so many other times in Africa, leaving it to humanitarian agencies to keep millions alive in Darfur at a subsistence level.

Getting serious about security

Africa breaks many records: it is the continent with the most war-related deaths, and it has the highest number of conflicts. Yet, perhaps out of necessity, it is also where the R2P concept was first seriously embraced in the doctrine of the newly emerging African Union. The G8 are right to support the long-term development of the AU's structures and peacebuilding capacities, but they should also increase their technical expertise to African peacekeeping missions, participate more fully in the UN stand-by arrangements and improve co-ordination as well as financial mechanisms. In the meantime, however, people are still dying in large numbers because the international community cannot muster the political will to become more engaged in African conflicts.

To strengthen peace and security on the African continent, our responses need to be more than reactive. Preventive strategies, both before and after conflict, are critical, deploying a full range of political, diplomatic, legal, economic and military tools. There is no shortage of existing promises, and no need for big new ones: the international community needs simply – yet urgently – to put into practice what it has already agreed.

How Heiligendamm can deliver

Jeffrey D. Sachs, Director,
Earth Institute, Columbia University

G8 leaders should set a specific timetable for promised aid increases, agree to open post-Kyoto talks, and launch new diplomatic and development initiatives in the world's hot-spots.

G8 Summits are in mortal peril: they risk proving beyond all else that the rich countries do not play their fair part in the global system. G8 Summit promises come and go without results. The Heiligendamm summit follows two years after the Gleneagles Summit, when bold initiatives on poverty reduction and climate change were featured. Almost nothing concrete has been achieved from those earlier promises. The real challenge of the G8 is to follow through on a plethora of rich-country commitments that have been made in the past – on poverty, the environment, and peace – but which are not being fulfilled.

We have several distinct, urgent challenges that should be at the top of the list. There are three dominant risks of our time.

The first is the challenge of a physical environment being overwhelmed by human activity. We live in an era which is dominated by human activity, where human beings control natural physical cycles – of carbon, water, nitrogen, species extinction and habitat loss – to an unprecedented and extraordinarily dangerous extent.

The second great challenge is that of an interconnected world, in which people in different regions face vastly

A successful G8 summit must follow through on promises already made

different prospects of economic well-being. Because we are all interconnected, our fates are interlinked in a unique way. There is no part of the world that cannot do profound damage to any other part of the world, or, conversely, contribute in some way to human well-being. Yet we have a planet that is divided along wealth lines as never before, and poverty so desperate that life is a daily struggle to stay alive.

One billion of us – represented by the G8 – live in the rich world, with an average income of about $30,000 per year. Many among us have annual incomes of millions of dollars, and around 1,000 have accumulated wealth of more than $1 billion – more money than anyone could conceivably spend in many lifetimes. At the same time, there are another billion people who do not have an assured meal on any given day. They live in places where a single mosquito bite can kill, because there are no insecticide-treated bed-nets or readily available one-dollar medicines decisively to end the malaria infection. Such are the vast differences between different parts of the world that can lead to such disarray, as in Afghanistan, Somalia and Darfur. Disaster struck in those places because of poverty, economics and ecology first, not politics.

The third challenge is peaceful coexistence on a crowded planet. It sounds like a quaint idea, from a bygone age. In 1963, John Kennedy said in a famous speech that: “The United States, as the world knows, will never start a war.” How distant are those words. And how sad. In much of the world, we have forgotten that coexisting means talking with each other. That is why summits can be so important. We cannot set preconditions to talk. The beginning of understanding is an interchange of ideas, with Iran, with a Hamas-led Palestinian government, with North Korea, with Sudan and with others.

A successful G8 Summit must focus on three things. First, it must work to help solve an ecological crisis of unprecedented proportions that is worsening dramatically. Second, it must address a crisis of planetary inequality: one billion of us on the planet are engaged in a fight for daily survival and ten million die every year because they are too poor to stay alive. Third, it has to be about honest discussion without preconditions and peaceful solutions to problems, rather than solutions that involve threats, sanctions and bombs. Most importantly, it must follow through on promises already made with regard to the environment, extreme poverty and peace. Here I describe how Heiligendamm can address these three core challenges.

The ecological crisis

We have already made promises regarding climate change, but we have not fulfilled them. We do not need new promises. We need to follow through on the promises we have already made. There already is a worldwide agreement on climate, the UN Framework Convention on Climate Change (UNFCCC), ratified in 1994. There are also agreements on biodiversity (the Convention on Biological Diversity), desertification (the UN Convention to Combat Desertification), and other environmental challenges. The time has come to take these agreements seriously.

Let us focus on climate change, a problem of staggering dimensions. The already agreed UNFCCC recognises the need to take measures to stabilise greenhouse gas concentrations in the atmosphere and to “avoid dangerous anthropogenic interference in the climate system”. The Kyoto Protocol was one small step forward, since the limits on emissions it set are too small to make a material difference towards stabilisation, and it applies to too few countries. Heiligendamm can accomplish a very basic and important task: setting the foundation for a post-Kyoto Protocol world, one that makes commitments in conformity with the objectives that we set for ourselves in 1992. The participants in this summit – the G8 plus the invited developing countries – should agree that the 13th meeting of the parties of the UN Framework Convention in Bali in December of 2007 will be committed to a Post-Kyoto agreement that will be sufficient to address seriously the challenge of climate change. That agreement should be truly global, with universal obligations for all countries; set bold, long-term goals to mid-century; agree that there needs to be a price on carbon; commit to the research, development and deployment (R&D&D) of new,

Heiligendamm can set the foundation for a post-Kyoto Protocol world

clean technologies; and ensure that there is adequate financing to help poor countries and vulnerable populations adapt to the effects of climate change.

Although Heiligendamm is not the appropriate venue for negotiating the details of such an agreement, the parties can agree on the principles that will guide the negotiations that will follow the summit.

Planetary inequality and extreme poverty

Seven years ago, the Millennium Development Goals (MDGs) were put forth to address extreme poverty in all its dimensions. The Heiligendamm Summit comes mid-way in the MDGs' 15-year schedule to halve hunger and poverty, and to cut child mortality by two thirds and maternal mortality by three quarters by the year 2015. Heiligendamm must not take this on grudgingly, but with energy, ingenuity, commitment, excitement and a sense of privilege. Germany has a chance to lead the fight against extreme poverty, one of the great challenges of decency and survival for millions who are dying every year.

As with climate, we must be practical and remember our commitments. The main one has been to partner with the poorest countries to help them meet the MDGs. In 2002, at the Monterrey Meeting on Financing for Development, achieving the MDGs was put in financial terms. The Monterrey Consensus, which was endorsed by world leaders at that meeting, says: “We urge developed countries that have not done so to make concrete efforts toward the international target of 0.7 per cent of gross national product as official development assistance.” At Gleneagles in 2005, those words were taken to heart by members of the European Union, although not by the United States. The G8 promised to double aid to Africa by 2010, from $25 billion in 2004 to $50 billion by 2010; and to increase overall official aid by $50 billion by 2010. Moreover, Europe promised to reach 0.51 per cent of GNP in development assistance by 2010 and 0.7 per cent by 2015. For Germany, reaching 0.51 per cent means essentially an increase of 0.16 per cent of GNP over the next three years. That is utterly manageable and should be accomplished with enthusiasm. That money will save lives, create livelihoods, and help bring peace.

The problem is that neither the Monterrey Consensus nor the Gleneagles commitments are being honoured. The aid situation is deeply troubling. The G8 has refused to set a year-by-year timetable on its scale-up, and aside from accounting for debt cancellation, aid flows have been stagnant since 2004. The IMF, in the meantime, is counselling African countries to keep a very tight budget, and not to rely on promised aid increases! The G8 aid system is incoherent, to say the least.

Here, then, is one very simple recommendation: we should set a proper timetable for G8 action, which allocates who is going to increase aid by what amounts and on what schedule up to the year 2010. There is no way for Africa usefully to use $50 billion per year without proper advance planning. If countries are told to make plans for the Millennium Development Goals without guarantees that the promised aid will come, we will continue to see the terrible self-fulfilling cycle by which donors withhold aid because they argue that there is “no capacity to absorb aid”.

If the rich countries simply made clear the specific timetables for the yearly increases in aid to 2010, well-governed countries in Africa could begin planning now and acting in the years ahead.

Honest dialogue

The last of the three great challenges of the G8 is peace and security. The world is at war, in Iraq, Afghanistan, Somalia, Sudan and elsewhere. The nuclear non-proliferation treaties are frayed, if not collapsing. The G8 has not displayed adequate wisdom on these great challenges, and the dangers of growing violence and conflict abound. There have been three huge mistakes.

The first is the failure of the G8 nuclear powers (US, UK France) to honour the provisions of the Nuclear Non-Proliferation Treaty (NPT) calling on the nuclear powers to pursue a path of nuclear disarmament. They have promoted the parts of the treaty that apply to others (with some notable exceptions there as well), but not to themselves. The double standard is not missed by the rest of the world.

The second big mistake is to confuse discussion with

appeasement. The US stance vis-à-vis Iran, North Korea, the Hamas-led government of Palestine, and Sudan has been to make demands as preconditions for negotiations, rather than to try to achieve goals through dialogue. The insistence on such preconditions has accomplished nothing of substance, and has hindered the search for the peaceful resolution of these crises.

The third big mistake is to view conflicts almost solely through the lenses of threats, sanctions and military actions, rather than through a perspective of development and deprivation. The crises in Somalia and Sudan, for example, have much more to do with extreme poverty than with the specifics of inter-tribal, inter-clan, or inter-ethnic violence. The violence in the Horn of Africa and parts of the Sahel is symptomatic of much deeper challenges in one of the most water-stressed, food-stressed, disease-ridden and impoverished parts of the entire world. Peace-keepers and sanctions will never bring peace to hungry and impoverished populations. Neither will the new US Military Command for Africa. Only development and environmental sustainability can resolve these crises – and, incidentally, at a much lower cost than the military-cum-sanctions approach.

Millennium promises

In the years leading up to our new millennium, the world made commitments regarding poverty (the Millennium Development Goals), environment, and security. Taken together, I call these solemn pledges our 'Millennium Promises', which alas remain unfulfilled today. The G8 countries alone cannot solve these great global challenges. Success will require global co-operation. A G8 summit, at best, enables the richest countries to take concrete actions to follow up on the bold promises that remain to be honoured. By setting a specific timetable for promised aid increases, agreeing to open post-Kyoto talks, and establishing diplomatic and development initiatives in today's global hot-spots, the G8 countries can improve the well-being of its own citizens and of the world. To do less will short-change the hopes and needs of our fragile world. ■

The global fight against AIDS, TB and malaria

Dr Michel Kazatchkine, Executive Director of the Global Fund to Fight AIDS, TB and Malaria

Cheaper drugs, improved health systems, preventive strategies and predictable financing are essential if recent improvements in health care are to be consolidated and extended

In July 2001, G8 leaders took the bold step of investing billions of dollars in the fight against three diseases that have been literally sucking the life out of much of the developing world. Combined, AIDS, tuberculosis (TB) and malaria are responsible for 6 million deaths annually. It is not only a humanitarian disaster: it is a tremendous brake on social and economic development. By deciding to invest in a Global Fund to Fight AIDS, Tuberculosis and Malaria, the G8 leaders undertook a commitment to put money behind the commitments to reduce the burden of these diseases.

Just five years later, some profound changes are taking place in developing countries around the world. Many countries that have suffered decades of decline and under-investment in health care – with the attendant rapid spread of diseases – are now seeing the signs of a reversal, often at stunning speed. In six short years, the number of people on antiretroviral (ARV) treatment for AIDS worldwide has increased tenfold, to more than two million. Global Fund investments alone have supported programmes that have brought treatment for TB to more than two million people and distributed more than 20

Searching questions for the G8 Summit

G8 leaders have yet to prove that they can overcome conflicting agendas and deliver on their existing commitments.

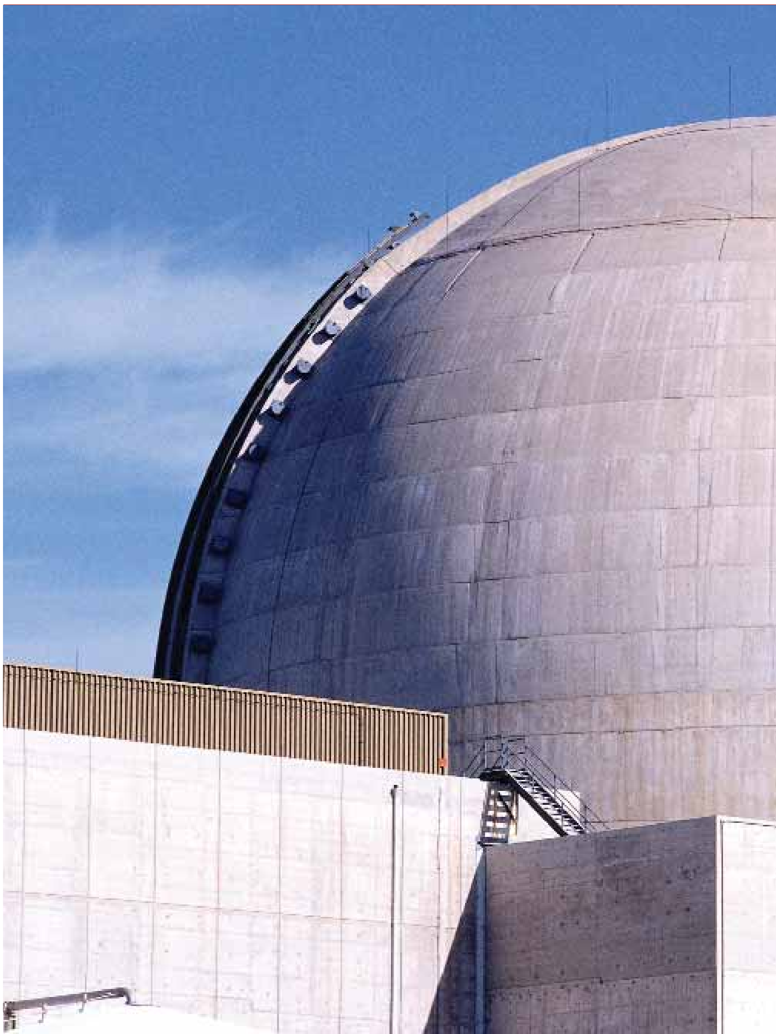
Robin Oakley, European Political Editor, CNN

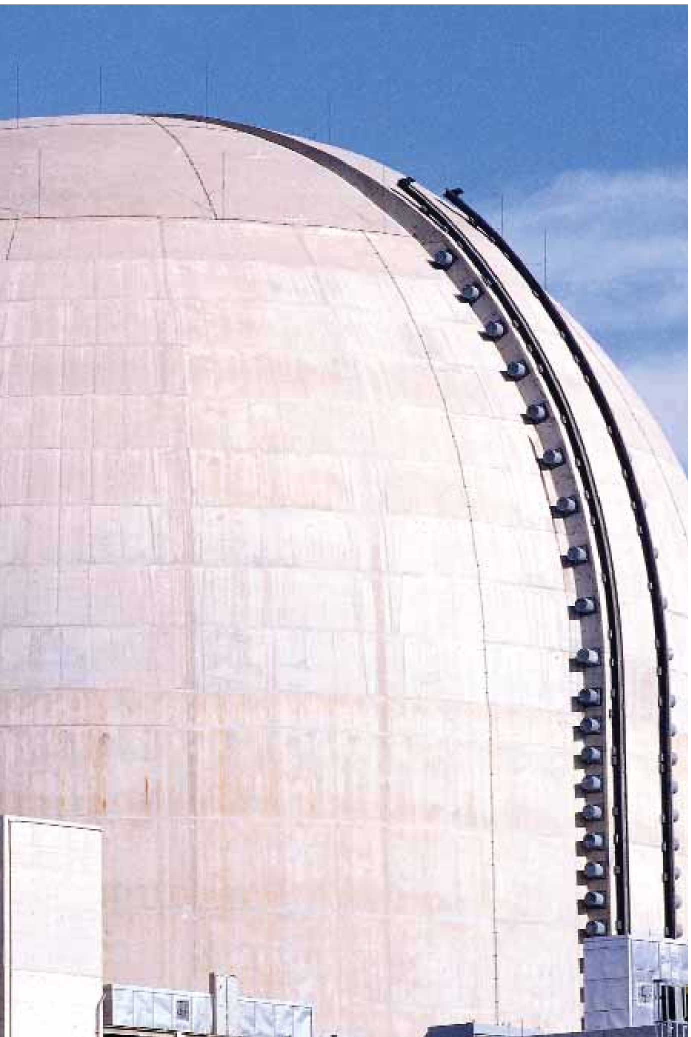
Is their journey to Heiligendamm strictly necessary? Is the world going to be safer, healthier, more prosperous or more peaceful as a result of the latest G8 gathering?

The original purpose of what began as the so-called 'Library Group' in the 1970s was to iron out the bumps in the international economy and to boost co-operation between the leading industrial powers in fiscal, monetary and commercial matters. As the fireside chat summits became huge media circuses and leaders needed some 'meat' to put into their final communiqués, they became more political. But what reassurance will the Eight be able to offer the world this year on the most glaring political problems across the world?

Is this self-perpetuating oligarchy anyway the right group to be trying? They are not the eight most populous countries in the world or the eight richest or the eight most powerful in military terms. How can they realistically play at running the world when neither China nor India is on the membership list, when there is no representation from South America or from the continent of Africa?

The G8 should be about risk reduction, reassurance, the underpinning of economic and political stability. But as they meet this year the world is confronted by a whole series of potential destabilising elements: climate change, international terrorism, the proliferation of weapons of mass destruction (WMD), continued instability in the Middle East, the fall in the dollar, increased





indebtedness, the impact of the Chinese and Indian economies, the insecurity of energy supplies, and humanitarian crises like Darfur and Zimbabwe.

Security

So what is the hope of progress? Last year's G8 communiqué, for example, “expressed concern” about the proliferation of weapons of mass destruction. It “made clear” to Iran and North Korea that their pursuit of WMDs “would not be tolerated”. But in 2006, North Korea, even if it has changed tone since, tested a nuclear device, and Iran, while continuing to deny any nuclear weapons ambitions, has not deviated one jot from its chosen programme of uranium enrichment. Will this G8 help? Not likely, with Russia one of those reluctant to intensify UN sanctions against Iran.

The atmosphere for discussion has hardly been improved by the United Kingdom announcing that it intends to renew its Trident nuclear missile system and by the US planning a missile shield development, which includes installations in Poland and the Czech Republic. Russia, which refuses to accept the insistence of Condoleezza Rice and others that this is a purely defensive action, is threatening to retaliate by pulling out of the treaty on conventional forces in Europe and sparking a new arms race. It hardly augurs well for the success of this year's G8 summit that relations between the US and Russia are the worst they have been for years. Condoleezza Rice says: “I don't throw around terms like ‘a new Cold war’” but she admits “it is a time for intensive diplomacy”.

Trade

Last year's G8 communiqué also called for a new World Trade Agreement. Since then, free trade has been in retreat with progress on the Doha Round somewhat less than minimal. Will any G8 muscle be exerted on the European Union, for example, to prove a little more compliant? Perhaps we should temper our expectations, with the new French President Nicolas Sarkozy insisting: “I am going to fight for a Europe that protects, because the meaning of the European ideal is to protect the citizens of Europe.”

There will be words, no doubt, about the privations of the people in Darfur and in failed states like Zimbabwe. But on the evidence of past G8 summits there is unlikely to be anything more decisive. And is the G8 in a position to do anything more practical about the Middle East peace process? Tony Blair, who has long insisted that progress between Israel and the Palestinians is the essential ingredient before any other Middle East tensions can be calmed, has tried to chivvy President George W Bush into a greater commitment. Indeed, Mr Bush once declared that he would put as much effort into the Middle East as Tony Blair had put into the Northern Ireland peace process. But with Mr Blair now attending his final G8 Summit there has been no evidence that the President has lived up to that commitment. With the Palestinians now fighting among themselves, progress looks unlikely.

Terrorism

As for containing terrorism, the growing chaos in Iraq can only increase the fears of the G8 participants, two of whom were the major players in instigating the war. Opinion polls confirm the belief across Europe that the invasion to topple Saddam Hussein has increased, not diminished, the danger from terrorism. Eliza Manningham-Buller, the former Director General of Britain's security service MI5, warned last year that her officers had thwarted five major conspiracies and were aware of 30 more. They were, she said, contending with some 200 groups, involving 1,600 individuals. And that was in Britain alone. The G8 leaders need to think seriously about how to lessen the tensions within their own societies among minority communities who feel targeted by anti-terrorist measures.

Climate change

The leaders assembling for the G8 summit are confronted annually by an ever-growing mountain of scientific evidence about the dangers of global warming. This year's summit host, German Chancellor Angela Merkel, has been determined to step up international action on climate change. She has strong support from Tony Blair, and Nicholas Sarkozy pledged in his inaugural speech as France's new president that human rights and global warming would be his top international priorities.

But the G8 works by consensus, not majority voting, and all the evidence is that once again the United States sherpas have been working to weaken the summit communiqué, removing the

original draft reference that "beyond a temperature increase of 2 degrees centigrade, risks from climate change will be largely unmanageable". "Deep concern" about what has been going on in our warming-up world is to disappear. Instead the US wants the leaders merely to take note of the "recent assessment of the Intergovernmental Panel on Climate Change that warming of the climate system is occurring". What is left is hardly going to be a call to arms.

Energy

Energy security should be a common concern. But what prospect is there of common cause here when Russia, last year's G8 host, is increasingly using its power as an energy supplier to boost its political clout? The European Union, which will soon be dependent on Russia for 40 per cent of its supplies, fears that Moscow is seeking a sort of OPEC in gas supplies. Russian observers, like Sergei Karaganov of the Moscow State University School of International Economics, say that Russia sees the EU's (so far unavailing) attempts to forge a common energy policy as an attempt at a consumer cartel.

It hardly suggests a meeting of minds on the crucial G8 issue of energy security when the US-EU attempt to start up a pipeline under the Caspian Sea, taking gas from Turkmenistan to Azerbaijan and Turkey and avoiding Russia, was promptly trumped by Mr Putin announcing a deal to install a pipeline taking gas from Turkmenistan to Western markets via Russia, thus intensifying his country's stranglehold.

EU-Russia

The President of the EU Commission attends G8 summits as a kind of non-playing team member and it does not bode well for the G8 that EU-Russia relations are currently so problematic. Energy spats, rows over Russia's ban on farm imports from Poland, Estonia's moving of a Soviet war memorial, and the EU's involvement with politics in Ukraine and Belarus, plus Russia's obstruction of a plan for an EU-administered independence for Kosovo, have seen Peter Mandelson, the EU Trade Commissioner, warn that the level of misunderstanding between the two sides is the worst it has been since the Cold War.

The EU, like the US, is growing ever more vocal in its criticisms of the quality of democracy in Russia (democratic ideals are supposed to be a key qualification for G8 membership). Meanwhile, many Russians resent what they see as the EU meddling in their sphere of influence and the way in which ex-communist EU states in eastern Europe, such as Poland and Estonia, are allowed, as they see it, to drive the EU into an anti-Russian agenda. "Most of the outside world," argues Mr Karaganov, "believes that Europe is bound to lose in the competition for economic power because its common foreign policy allows small states to dictate to Berlin, Paris or Rome".

Africa

It is perhaps its efforts to alleviate world poverty, disease and infectious diseases, especially in Africa, which are most associated with the G8 in the minds of ordinary people across the world. The Gleneagles commitments two years ago raised hopes and there has been progress in some fields, such as the curbing of infectious diseases. But promises come easy, cash takes longer.

Now Data, an organisation set up by the rock star anti-poverty campaigners Bono and Bob Geldof, has charted foot-dragging by all except Britain and Japan. Italy and Russia in particular are failing to live up to the Gleneagles promises and Bono wants an emergency session on Africa at the summit. Ominously he warns: "It's not just the credibility of the G8 that is at stake. It's the credibility of the largest non-violent protest in 30 years. Nobody wants to go back to what we saw in Genoa (when there were deaths amid the street violence) but I do feel a real sense of jeopardy."

It may be a fearsome agenda for the G8 leaders, but this time bland won't do. ■

The Global Fund's financing alone has ensured that 1.8 million lives have been saved

million insecticide-treated bed nets (ITNs) to protect families from malaria. In all, the Global Fund's financing alone has ensured that 1.8 million lives have been saved. These are people who are walking the earth today, working, caring for their children and leading meaningful lives, who would have been dead today had it not been for a life-saving treatment financed partly or wholly through Global Fund grants. In addition, investments in prevention efforts are preventing millions of new infections each year.

These numbers are powerful and momentous. They signal the beginnings of change in the battle against the diseases. It is important to note, however, that to win this fight, it is necessary to change tactics from time to time, so as not to become complacent in the face of diseases that adapt quickly to variations in their environments and become rigidly resistant to actions aimed at stemming their spread. I believe there are four challenges that must be addressed immediately to continue the momentum of our early successes.

First challenge: the cost of drugs

Reduced prices were a necessary prerequisite for the scaling-up of AIDS treatment to the levels we see today. Thanks to differentiated pricing policies authorised by industry and the introduction of generic drugs, the cost

In many countries, adequate treatment is only available in large cities

of treating an adult patient for one year with ARV combination therapy today is less than US$140. These drugs are generally very effective in controlling the disease, but they are only the first phase of a life-long course of treatment. Most patients on ARV treatment need to change medicines as time passes, resistance is built, or adverse reactions to the drugs develop.

The next battery of drugs are known as 'second line'. These currently cost considerably more than those that are being used at the beginning of therapy. The impact of these costs on the financial sustainability of AIDS programmes will become a major challenge in the future if we do not begin work to reduce the costs of the drugs now. Even if countries can secure the average best price for the drugs, programme costs have been estimated potentially to increase tenfold in least developed countries and up to 40 times in middle-income countries. This problem is further exacerbated by the rise in multi-drug resistant TB (MDR-TB) and extensively drug resistant TB (XDR-TB) in some countries, which threaten to wipe out the progress made in both the control of HIV and of TB worldwide, since these two diseases often appear together. Recently, however, the Clinton Foundation in the United States and the international initiative for drug procurement, UNITAID, announced that they had negotiated lower prices for state-of-the-art once-a-day combination ARVs, and lower prices for second-line treatments. This is a welcome first step on a road to lower prices for second-line drugs. Simply speaking, lower prices mean that more people will be treated in developing countries, ensuring that more lives will be saved.

Second challenge: health systems and human resources

The rapid growth in services and availability of drugs to treat AIDS, TB and malaria, as well as new funding for vaccines, has led to impressive results, but has also caused tremendous strain on weak health systems. We need to invest substantial sums in strengthening health systems, training adequate numbers of health professionals to deal with the crisis, and making sure their pay is sufficient to keep them on the job. In many countries, adequate treatment is only available in large cities. For those who live in more rural areas, access to treatment can be difficult, if not impossible. While the recent focus on medicines and services has been important to invigorate health systems in countries and create a belief that results can be achieved, these substantial investments in health systems will be necessary if we are to make such gains sustainable over time.

In the short term, a redeployment of some services currently provided by doctors and nurses to social workers and health professionals in non-governmental organisations may be needed to continue the expansion of access to treatment and prevention services. Structural reforms to health systems and a decentralisation of health care in many countries will also be required to ensure that those in rural communities also have access to care.

Third challenge: prevention

Contrary to many pessimistic forecasts, the availability of effective treatments encourages access to testing and increases prevention behaviours among those infected with and affected by the diseases. However, as long as the number of new infections exceeds the number of people being treated, and as long as a large majority of infected people either do not know they are infected or are afraid to acknowledge and get treated for their infection because of fears of stigma, we will continue to play 'catch-up' with the AIDS pandemic. Prevention will, obviously, profit from new instruments introduced into the fight, such as the development of new or more powerful vaccines. But its effectiveness also depends on the capacity of treatment programmes to break the transmission chain of HIV, TB and malaria, by targeting infected individuals and their families and friends with strong prevention messages and effective tools for retarding the spread of the pandemics. Overall, there is one universal lesson from the past decades of only partly successful prevention work: unless there is genuine political will and support from the leadership of a country, no prevention efforts will have much effect in the long run.

The German government is playing a significant role in securing additional financial commitments

Fourth challenge: money

The world urgently needs a long-term source of predictable financing for the fight against the pandemics. Today, programmes aimed at halting the spread of these diseases in developing countries depend on international assistance. In the majority of the countries in Africa, for example, more than half of expenditures related to AIDS are drawn from international financial sources. As domestic health spending will increase in pace with economic growth, it is unrealistic to believe that the majority of low-income countries will be able to take on a substantial part of the burden to fight disease in the coming two decades or more. Substantial increases in international funding are needed over the coming five to ten years if we are to turn around the growth of these diseases and eventually see large-scale savings in saved lives and averted infections. The Global Fund's needs alone will reach US$6-8 billion per year by 2010. Other funding initiatives will also need resources, in addition to a much-needed strengthening of the capacities of technical assistance agencies to ensure that countries spend the money effectively.

New mechanisms of financing are necessary for achieving these goals, and European governments are leading the way. Innovative ideas, such as UNITAID, introduced by France and backed by several other countries around the world, to collect levies on international airline tickets and use the funds to purchase drugs to fight the three diseases are beginning to have a real impact.

Through its G8 Presidency this year, the German government is playing a significant role in securing additional financial commitments to the fight against AIDS and other diseases. Germany has also been a leader in developing debt-cancellation and debt-conversion initiatives that free additional resources for development-fostering activities. We need to continue to find novel ideas for financing this fight. It is a battle that the world cannot afford to lose. ■

Canada

Leader

Name	Stephen Harper
Birthdate	30 April 1959
Education	BA University of Calgary 1985, MA University of Calgary 1991
Profession/previous occupation	Economist
Political party	Conservative
Date elected	23 January 2006
Previous summits	2006
G8 sherpa	David Mulroney

Polity

Government	Minority
Next election	Variable
Political system	Parliamentary
Legislature	Bicameral: elected House of Commons, Appointed Senate
Capital city	Ottawa
Official languages	English, French

Demography

Population	33.4m (2007 est.)
Population growth	1.00% (average annual, 2000-05)
Population density	3.2 (population per sq km)
Age profile	0-14 years: 17.6% (male 2,992,811/female 2,848,388), 15-64 years: 69% (male 11,482,452/female 11,368,286), 65 years and over: 13.3% (male 1,883,008/female 2,523,987) (2006 est.)
Language profile	English (official) 59.3%, French (official) 23.2%, other 17.5%
Religious profile	Roman Catholic 42.6%, Protestant 23.3% (including United Church 9.5%, Anglican 6.8%, Baptist 2.4%, Lutheran 2%), other Christian 4.4%, Muslim 1.9%, other and unspecified 11.8%, none 16%

Geography

Size of territory	9,970,610 sq km
Coastlines	202,080 km (North Atlantic, North Pacific, Arctic Oceans)
Freshwater	891,163 sq km
Forests	(% of land area) 45.3
Arable land	4.57%
CO_2 emissions	550.86 (m tonnes)

Economy

Currency	Canadian dollar
GDP	CAD 1,200bn, USD 857 bn
Government budget	total, amount of deficit or surplus
Structure of economy (% of GDP)	68.7% Services, 29.0% Industry, 2.3% Agriculture
Energy production	385.4 (m TOE)
Energy consumption	250.0 (m TOE)
ODA	2.03 ($ bn)
ODA as share of GDP	0.24%

TOE = tonnes of oil equivalent

France

Leader

Name	Nicolas Sarkozy
Birthdate	28 January 1955
Education	Degree in Law, University of Paris
Profession/previous occupation	Lawyer
Political party	UMP
Date elected	6 May 2007
Previous summits	none
G8 sherpa	Jean-David Levitte

Polity

Government	Majority
Next election	10 and 17 June 2007 (legislative elections)
Political system	Semi-Presidential
Legislature	Bicameral
Capital city	Paris
Official languages	French

Demography

Population	60.9m (metropolitan France, 2007 est.)
Population growth	0.41% (average annual, 2000-05)
Population density	110.5 (population per sq km)
Age profile	under 15 years: 18.2% over 60 years: 21.1%
Language profile	French 100%. Regional languages and dialects include Breton, Alsatian, Corsican, Catalan, Basque, Flemish, Provencal
Religious profile	Roman Catholic 83%-88%, Protestant 2%, Jewish 1%, Muslim 5%-10%, unaffiliated 4%

Geography

Size of territory	543,965 sq km
Coastlines	3,427 km (Bay of Biscay, the English Channel/Manche and the Mediterranean)
Freshwater	3,374 sq km (including French Guiana, Guadeloupe, Martinique and Reunion); 1,400 sq km (metropolitan France)
Forests	(% of land area) 31.6
Arable land	33.46%
CO_2 emissions	386.92 (m tonnes)

Economy

Currency	Euro
GDP	€1,557bn, USD 1,758bn
Structure of economy (% of GDP)	Agriculture: 2.8% Industry:25.8% Services: 71.4%
Energy production	134.4 (m TOE)
Energy consumption	265.9 (m TOE)
ODA	7.25 ($ bn), including aid to overseas French territories
ODA as share of GDP	0.41%

Germany

Leader

Name	Angela Merkel
Birthdate	17 July 1956
Education	Degree in Physics, Karl Marx University, Leipzig 1978, PhD in Physical Chemistry, East Berlin Academy of Sciences 1986
Profession/previous occupation	Researcher in the quantum chemistry department of the Central Institute for Physical Chemistry, East Berlin Academy of Sciences
Political party	Christian Democratic Union (CDU-CSU)
Date elected	22 November 2005
Previous summits	2006
G8 sherpa	Bernd Pfaffenbach

Polity

Government	Majority (coalition)
Next election	Autumn 2009
Political system	Parliamentary
Legislature	Bicameral
Capital city	Berlin
Official languages	German

Demography

Population	82.4m (2007 est.)
Population growth	0.08% (average annual, 2000-05)
Population profile	230.5 (population per sq km)
Age profile	under 15 years: 4.3%, over 60 years: 25.1%
Religious profile	Protestant 34%, Roman Catholic 34%, Muslim 3.7%, unaffiliated or other 28.3%

Geography

Size of territory	357, 868 sq km
Coastlines	2,389 km (Baltic Sea and the North Sea)
Freshwater	7,798 sq km
Forests	(% of land area) 30.2
Arable land	33.13%
CO_2 emissions	848.6 (m tonnes)

Economy

Currency	Euro
GDP	€2,129bn, USD 2,403bn
Structure of economy (% of GDP)	Agriculture: 1.1% Industry: 28.6% Services: 70.3%
Energy production	134.8 (m TOE)
Energy consumption	346.4 (m TOE)
ODA	6.78 ($ bn)
ODA as share of GDP	0.28%

Italy

Leader

Name	Romano Prodi
Birthdate	9 August 1939
Education	Degree in Law, Catholic University, Milan 1961; London School of Economics 1963
Profession/previous occupation	Chairman of the Mulino publishing house, editor-in-chief for *Industria Magazine*, Professor
Political party	Olive Tree (coalition of parties)
Date elected	1996-1998, 9-10 April 2006
Previous summits	1996, 1997, 1998, 2006 (2000, 2001, 2002, 2003, 2004 as President of the European Commission)
G8 sherpa	Stefano Sannino

Polity

Government	Majority (coalition)
Next election	Variable
Political system	Parliamentary
Legislature	Bicameral
Capital city	Rome
Official languages	Italian

Demography

Population	58.1m (2007 est.)
Population growth	0.13% (average annual, 2000-05)
Population density	190.5 (population per sq km)
Age profile	0-14 years: 13.8% (male 4,147,149/female 3,899,980), 15-64 years: 66.5% (male 19,530,512/female 19,105,841), 65 years and over: 19.7% (male 4,771,858/female 6,678,169) (2006 est.)
Language profile	Italian (official), German (parts of Trentino-Alto Adige region are predominantly German speaking), French (small French-speaking minority in Valle d'Aosta region), Slovene (Slovene-speaking minority in the Trieste-Gorizia area)
Religious profile	Roman Catholic 90%, other 10%

Geography

Size of territory	301,245 sq km
Coastlines	7,600 km (Mediterranean Sea)
Freshwater	7,210 sq km
Forests	(% of land area) 23.3
Arable land	26.41%
CO_2 emissions	462.32 (m tonnes)

Economy

Currency	Euro
GDP	€1,301bn, USD 1,486bn
Structure of economy (% of GDP)	Agriculture: 2.3% Industry: 28.9% Services: 68.9%
Energy production	26.6 (m TOE)
Energy consumption	172.7 (m TOE)
ODA	2.43 ($ bn)
ODA as share of GDP	0.17%

Japan

Leader

Name	Shinzo Abe
Birthdate	21 September 1954
Education	Degree in political science, Seikei University 1977, University of Southern California
Profession/previous occupation	Business (Kobe Steel)
Political party	Liberal Democratic Party
Date elected	Assumed office on 26 September 2006
Previous summits	none
G8 sherpa	Masaharu Kohno

Polity

Government	Majority
Next election	Variable
Political system	Parliamentary
Legislature	Bicameral
Capital city	Tokyo
Official languages	Japanese

Demography

Population	127.4m (2007 est.)
Population growth	0.17% (average annual, 2000-05)
Population density	338.0 (population per sq km)
Age profile	0-14 years: 14.2% (male 9,309,524/female 8,849,476), 15-64 years: 65.7% (male 42,158,122/female 41,611,754) 65 years and over: 20% (male 10,762,585/female 14,772,150) (2006 est.)
Religious profile	Observe both Shinto and Buddhist 84%, other 16% (including Christian 0.7%)

Geography

Size of territory	377,727 sq km
Coastlines	29,751 km (North Pacific Ocean and the Sea of Japan)
Freshwater	3,091 sq km (includes Bonin Islands (Ogasawara-gunto), Daito shoto, Minami-jima, Okino-tori-shima, Ryukyu Islands (Nansei shoto), and Volcano Islands (Kazan-retto))
Forests	(% of land area) 68.9
Arable land	11.64%
CO_2 emissions	1,214.99 (m tonnes)

Economy

Currency	Yen
GDP	¥499trn, USD 4,301bn
Structure of economy (% of GDP)	Agriculture: 1.3%, Industry: 30.4 %, Services: 68.3%
Energy production	98.1 (m TOE)
Energy consumption	516.9 (m TOE)
ODA	8.88 ($ bn):
ODA as share of GDP	0.20%

Russia

Leader

Name	Vladimir Putin
Birthdate	7 October 1952
Education	Degree in Law, Leningrad University 1975
Profession/previous occupation	State security bodies, Assistant Rector of Leningrad State University on International Affairs, Advisor to the Chairman of the Leningrad City Countil
Political party	United Russia
Date elected	Appointed acting President on 31 December 1999, elected 26 March 2000
Previous summits:	2000, 2001, 2002, 2003, 2004, 2005, 2006
G8 sherpa	Igor Shuvalov

Polity

Government	Majority
Next election	Presidential election 2008
Political system	Semi-Presidential
Legislature	Bicameral
Capital city	Moscow
Official languages	Russian

Demography

Population	141.4m (2007 est.)
Population growth	-0.46% (average annual, 2000-05)
Population density	8.4 (population per sq km)
Age profile	0-14 years: 14.2% (male 10,441,151/female 9,921,102), 15-64 years: 71.3% (male 49,271,698/female 52,679,463), 65 years and over: 14.4% (male 6,500,814/female 14,079,312) (2006 est.)
Language profile	Russian, many minority languages
Religious profile	Russian Orthodox 15-20%, Muslim 10-15%, other Christian 2% (2006 estimates of practicing worshipers)

Geography

Size of territory	17,075,400 sq km
Coastlines	37,653 km (Arctic Ocean, Pacific Ocean, Baltic Sea, Black Sea, Caspian Sea)
Freshwater	79,400 sq km
Forests	n/a
Arable land	7.17%
CO_2 emissions	n/a

Economy

Currency	Rouble
GDP	Rb13,285bn, USD 432.9bn
Structure of economy (% of GDP)	Agriculture: 5.2% Industry: 35.2% Services: 59.6%
Energy production	1,034.5 (m TOE)
Energy consumption	617.8 (m TOE)
ODA	n/a
ODA as share of GDP	n/a

United Kingdom

Leader

Name	Tony Blair
Birthdate	6 May 1956
Education	Degree in Law, St. John's College, Oxford University, 1976
Profession/previous occupation	Lawyer
Political party	Labour
Date elected	1997 elected in 2001, 2005
Previous summits	1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006
G8 sherpa	Oliver Robbins

Polity

Government	Majority
Next election	Variable
Political system	Parliamentary
Legislature	Bicameral
Capital city	London
Official languages	English

Demography

Population	60.8m (2007 est.)
Population growth	0.34% (average annual, 2000-05)
Population density	244.5 (population per sq km)
Age profile	under 15 years: 17.9% over 60 years: 21.2%
Language profile	English, Welsh (about 26% of the population of Wales), Scottish form of Gaelic (about 60,000 speakers)
Religious profile	Christian (Anglican, Roman Catholic, Presbyterian, Methodist) 71.6%, Muslim 2.7%, Hindu 1%, other 1.6%, unspecified or none 23.1% (2001 census)

Geography

Size of territory	242,534 sq km
Coastlines	12,429 km (North Sea and the North Atlantic Ocean)
Freshwater	3,230 sq km (includes Rockall and Shetland Islands)
Forests	(% of land area) 11.6
Arable land	23.23%
CO_2 emissions	537.05 (m tonnes)

Economy

Currency	Pound Sterling
GDP	£1,099bn, USD 1,795bn
Structure of economy (% of GDP)	Agriculture: 1.0% Industry 26.3% Services: 72.7%
Energy production	257.5 (m TOE)
Energy consumption	226.5 (m TOE)
ODA	6.28 ($ bn)
ODA as share of GDP	0.34%

United States of America

Leader

Name	George W Bush
Birthdate	6 July 1946
Education	BA in History, Yale University 1968, MA in Business Administration, Harvard Business School 1975
Profession/previous occupation	Business
Political party	Republican
Date elected	November 2001
Previous summits	2002, 2003, 2004, 2005, 2006
G8 sherpa	David McCormick

Polity

Government	Minority
Next election	2008 (Presidential)
Political system	Presidential
Legislature	Bicameral
Capital city	Washington, DC
Official languages	English

Demography

Population	301.1m (2007 est.)
Population growth	0.97% (average annual, 2000-05)
Population density	31.4 (population per sq km)
Age profile	0-14 years: 20.4% (male 31,095,847/female 29,715,872), 15-64 years: 67.2% (male 100,022,845/female 100,413,484), 65 years and over: 12.5% (male 15,542,288/female 21,653,879) (2006 est.)
Language profile	English 82.1%, Spanish 10.7%, other Indo-European 3.8%, Asian and Pacific island 2.7%, other 0.7% (2000 census) note: Hawaiian is an official language in the state of Hawaii
Religious profile	Protestant 52%, Roman Catholic 24%, Mormon 2%, Jewish 1%, Muslim 1%, other 10%, none 10% (2002 est.)

Geography

Size of territory	9,372,610 sq km
Coastlines	19,924 km (North Atlantic Ocean, the North Pacific Ocean)
Freshwater	664,707 sq km
Forests	(% of land area) 32.6
Arable land	18.01%
CO_2 emissions	5,799.97 (m tonnes)

Economy

Currency	US Dollar
GDP	USD 10,949bn
Structure of economy (% of GDP)	Agriculture: 1% Industry: 23 % Services: 76%
Energy production	1,666.1 (m TOE)
Energy consumption	2,290.4 (m TOE)
ODA	16.25 ($ bn)
ODA as share of GDP	0.15%

Brazil

Leader

Name	Luiz Inacio Lula da Silva
Birthdate	27 October 1945
Education	n/a
Profession/previous occupation	Trade union leader
Political party	Workers' Party
Date elected	27 October 2002, re-elected on 29 October 2006
Previous summits	2003, 2005, 2006

Polity

Next election	October 2010
Political system	Presidential
Legislature	Bicameral, National Congress consists of the Federal Senate (3 members from each state and federal district elected according to the principle of majority) and Chamber of Deputies (elected by proportional representation)
Capital city	Brasilia
Official languages	Portuguese

Demography

Population	178.5m
Population growth	1.39% (average annual, 2000-05)
Population density	21.0 (population per sq km)
Age profile	25.8% 0-14 years, 68.1% 15-64 years, 6.1% 65 years and over
Language profile	Portuguese (official), Spanish, English, French
Religious profile	Roman Catholic 73.6%, Protestant 15.4%, Spiritualist 1.3%, Bantu/voodoo 0.3%, other 1.8%, unspecified 0.2%, none 7.4%

Geography

Size of territory	8,511,965 sq km
Coastlines	7,491 km (Atlantic Ocean)
Freshwater	55,455 sq km
Arable land	6.93%

Economy

Currency	Real
GDP	USD 492bn (R 1,515bn)
Government budget	$244 billion (revenues), $219.9 billion (expenditures)
Current account balance	4.0 ($ bn)
Exports	16.4 (% of GDP)
Structure of economy (% of GDP)	51.3% Services 38.8% Industry 9.9% Agriculture
Energy production	161.7 (m TOE)
Energy consumption	190.7 (m TOE)

TOE = tonnes of oil equivalent

China

Leader

Name	Hu Jintao
Birthdate	25 December 1942
Education	Degree in Hydraulic Engineering, Tsinghua University (1964)
Profession/previous occupation	Engineer
Political party	Communist Party of China
Date elected	15 March 2003
Previous summits	2003, 2005, 2006

Polity

Next election	New government will be approved at the NPC meeting in March 2008
Political system	One-party rule
Legislature	Unicameral, National People's Congress (elected municipal, regional, and provincial people's congresses)
Capital city	Beijing
Official languages	Mandarin

Demography

Population	1,304.2m
Population growth	0.65% (average annual, 2000-05)
Population density	136.4 (population per sq km)
Age profile	20.8% 0-14 years, 71.4% 15-64 years, 7.7% 65 years and over
Language profile	Standard Chinese or Mandarin (Putonghua, based on the Beijing dialect), Yue (Cantonese), Wu (Shanghaiese), Minbei (Fuzhou), Minnan (Hokkien-Taiwanese), Xiang, Gan, Hakka dialects, minority languages
Religious profile	Daoist (Taoist), Buddhist, Christian 3%-4%, Muslim 1%-2%

Geography

Size of territory	9,560,900 sq km
Coastlines	14,500 km (East China Sea, Korea Bay, Yellow Sea and the South China Sea)
Freshwater	270,550 sq km
Arable land	14.86%

Economy

Currency	Yuan
GDP	USD 1,417bn (Yuan11,729bn)
Government budget	$446.6 billion (revenues), $489.6 billion (expenditures)
Current account balance	49.5 ($ bn)
Exports	34 (% of GDP)
Structure of economy (% of GDP)	52% Industry 33% Services 15% Agriculture
Energy production	1,220.8 (m TOE)
Energy consumption	1,228.6 (m TOE)

India

Leader

Name	Manmohan Singh
Birthdate	26 September 1932
Education	BA (1952), MA (1954), Punjab University, Chandigarh (1957) MA Cambridge University PhD (1962) Oxford University
Profession/previous occupation	Economist
Political party	Indian National Congress
Date elected	assumed office on 22 May 2004
Previous summits	2005, 2006

Polity

Next election	by May 2009
Political system	Parliamentary
Legislature	Bicameral, Council of States (250 members, up to 12 of whom are appointed by the president, the remainder are chosen by the elected members of the state and territorial assemblies), People's Assembly (543 elected by popular vote, 2 appointed by the president)
Capital city	New Delhi
Official languages	Hindi

Demography

Population	1,065.5m
Population growth	1.55% (average annual, 2000-05)
Population density	324.0 (population per sq km)
Age profile	30.8% 0-14 years, 64.3% 15-24 years, 4.9% 65 years and over
Language profile	Hindi 30%; minority Bengali, Telugu, Marathi, Tamil, Urdu, Gujarati, Malayalam, Kannada, Oriya, Punjabi, Assamese, Kashmiri, Sindhi, and Sanskrit; Hindustani
Religious profile	Hindu 80.5%, Muslim 13.4%, Christian 2.3%, Sikh 1.9%, other 1.8%, unspecified 0.1%

Geography

Size of territory	3,287,263 sq km
Coastlines	7,000 km (Arabian Sea, Indian Ocean and the Bay of Bengal)
Freshwater	314,400 sq km
Arable land	48.83%

Economy

Currency	Indian rupee
GDP	USD 600.6bn (Rs27,600bn)
Government budget	$109.4 billion (revenues), $143.8 billion (expenditures)
Current account balance	4.5 ($ bn)
Exports	19.1 (% of GDP)
Structure of economy (% of GDP)	51% Services 27% Industry 22% Agriculture
Energy production	438.8 (m TOE)
Energy consumption	538.3 (m TOE)

Mexico

Leader

Name	Felipe de Jesús Calderón Hinojosa
Birthdate	18 August 1962
Education	BA in Law, Escuela Libre de Derecho, MA in Economics Instituto Tecnológico Autónomo de México, MPA John F. Kennedy School of Government, Harvard University
Profession/previous occupation	Politician, active in the National Action Party from a young age
Political party	National Action Party
Date elected	Assumed office 1 December 2006
Previous summits	None

Polity

Next election	July 2009
Political system	Presidential
Legislature	Bicameral, National Congress consists of Senate (elected by popular vote) and Federal Chamber of Deputies (elected by popular)
Capital city	Mexico City
Official languages	Spanish

Demography

Population	103.5 m
Population growth	1.34% (average annual, 2000-05)
Population density	52.5 (population per sq km)
Age profile	30.1% 0-14 years, 64% 15-64 years, 5.9% 65 years and over
Language profile	Spanish, Mayan, Nahuatl, and other indigenous languages
Religious profile	Roman Catholic 89%, Protestant 6%, other 5%

Geography

Size of territory	1,972,545 sq km
Coastlines	9,330 km (Caribbean Sea, Gulf of Mexico and North Pacific Ocean)
Freshwater	664,707 sq km
Arable land	12.66%

Economy

Currency	Mexican peso
GDP	USD 626.1bn (6,755bn pesos)
Government budget	$196.5 billion (revenues), $196.2 billion (expenditures)
Current account balance	-9.0 ($ bn)
Exports	28.4 (% of GDP)
Structure of economy (% of GDP)	69.6% Services 26.4% Industry 4.0% Agriculture
Energy production	229.9 (m TOE)
Energy consumption	157.3 (m TOE)

South Africa

Leader

Name	Thabo Mbeki
Birthdate	18 June 1942
Education	Master of Economics, University of Sussex
Profession/previous occupation	Politician, youngest member of the National Executive of the African National Congress
Political party	African National Congress
Date elected	Assumed office 14 June 1999
Previous summits	2003, 2004, 2005, 2006

Polity

Next election	2009
Political system	Parliamentary
Legislature	Bicameral, National Assembly (elected by popular vote under a system of proportional representation), National Council of Provinces (elected by provincial legislatures)
Capital city	Pretoria
Official languages	Sesotho sa Leboa, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa and isiZulu

Demography

Population	45.0 m
Population growth	0.78% (average annual, 2000-05)
Population density	36.7 (population per sq km)
Age profile	29.1% 0-14 years, 65.5% 15-64 years, 5.4% 65 years and over
Language profile	isiZulu 23.8%, isiXhosa 17.6%, Afrikaans 13.3%, Sepedi 9.4%, English 8.2%, Setswana 8.2%, Sesotho 7.9%, Xitsonga 4.4%, other 7.2%
Religious profile	Zion Christian 11.1%, Pentecostal/Charismatic 8.2%, Catholic 7.1%, Methodist 6.8%, Dutch Reformed 6.7%, Anglican 3.8%, Muslim 1.5%, other Christian 36%, other 2.3%, unspecified 1.4%, none 15.1%

Geography

Size of territory	1,225,815 sq km
Coastlines	2,798 km (South Atlantic and Indian Oceans)
Freshwater	0 sq km
Arable land	12.1%

Economy

Currency	Rand
GDP	USD 159.9bn (R 1,209bn)
Government budget	$72.15 billion (revenues), $75.93 billion (expenditures)
Current account balance	-1.6 ($ bn)
Exports	27.2 (% of GDP)
Structure of economy (% of GDP)	65% Services 31% Industry 4% Agriculture
Energy production	146.5 (m TOE)
Energy consumption	113.5 (m TOE)

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China and India: the new global players

Robyn Meredith
Senior Editor, Asia, Forbes Magazine
and author of 'The Elephant and the Dragon: the rise of India and China, and what it means for all of us' [1]

The dramatic re-entry of China and India into the international trading system is good news for the world economy and underlines the need for constructive engagement between nations

There is a room in the Metropolitan Museum in New York that houses Louis XV's desk. The room is decorated in ornate 18th century French style – complete with Asian accents. Blue and white porcelain bowls from China adorn a fireplace, and the writing table the king used at Versailles is replete with painted pagodas. This decoration was not unique to royalty; as a result of vigorous global trade in the 16th century through to the 19th, Europe developed a taste for Asian design. From India, Europeans imported textiles along with wooden boxes and furniture intricately inlaid with ivory. From China, the Dutch East India Company imported 45,000 pieces of blue and white porcelain in 1664 alone. The dishes were originally carried as ballast for ships bringing tea to Europe, but grew so popular that they came to be known as 'China'.

The museum display is a reminder that India and China were the world's two largest economies until the late 19th century. In 1600, for instance, they together accounted for more than half the globe's economic output, sending everything from porcelain, silk, tea, furniture, spices and wallpaper – a Chinese invention – overland via the Silk Road or via ship on the Spice

Both nations are taking their rightful places at the table of international diplomacy

Route, according to economic historian Angus Maddison. But today, despite their huge populations, territory and resources, China and India combined account for merely 20 per cent of the global economy.

Not for long. The recent sizzling economic growth in India and China is propelling the two nations back towards their historically mammoth roles in the world economy, and that is producing tectonic political shifts. The global rebalancing of political and economic power means both nations are also taking their rightful places at the table of international diplomacy, and marks a new post-Cold War era, one that has decisively moved past the ideological battle of communism versus capitalism. As India and China rejoin the global economy, the challenge for all is to negotiate the new terrain of a globe that once again contains the powerful Asian giants.

During this historic shift, all the nations of the world – not just India and China – must reconsider their roles as responsible stakeholders while striving to move the world economy forward.

India and China have mixed records so far when it comes to practising responsible geopolitics. The developed world has plenty of shortcomings too and must rethink its responsibilities as it adjusts to the rise of India and China.

The energy imperative…

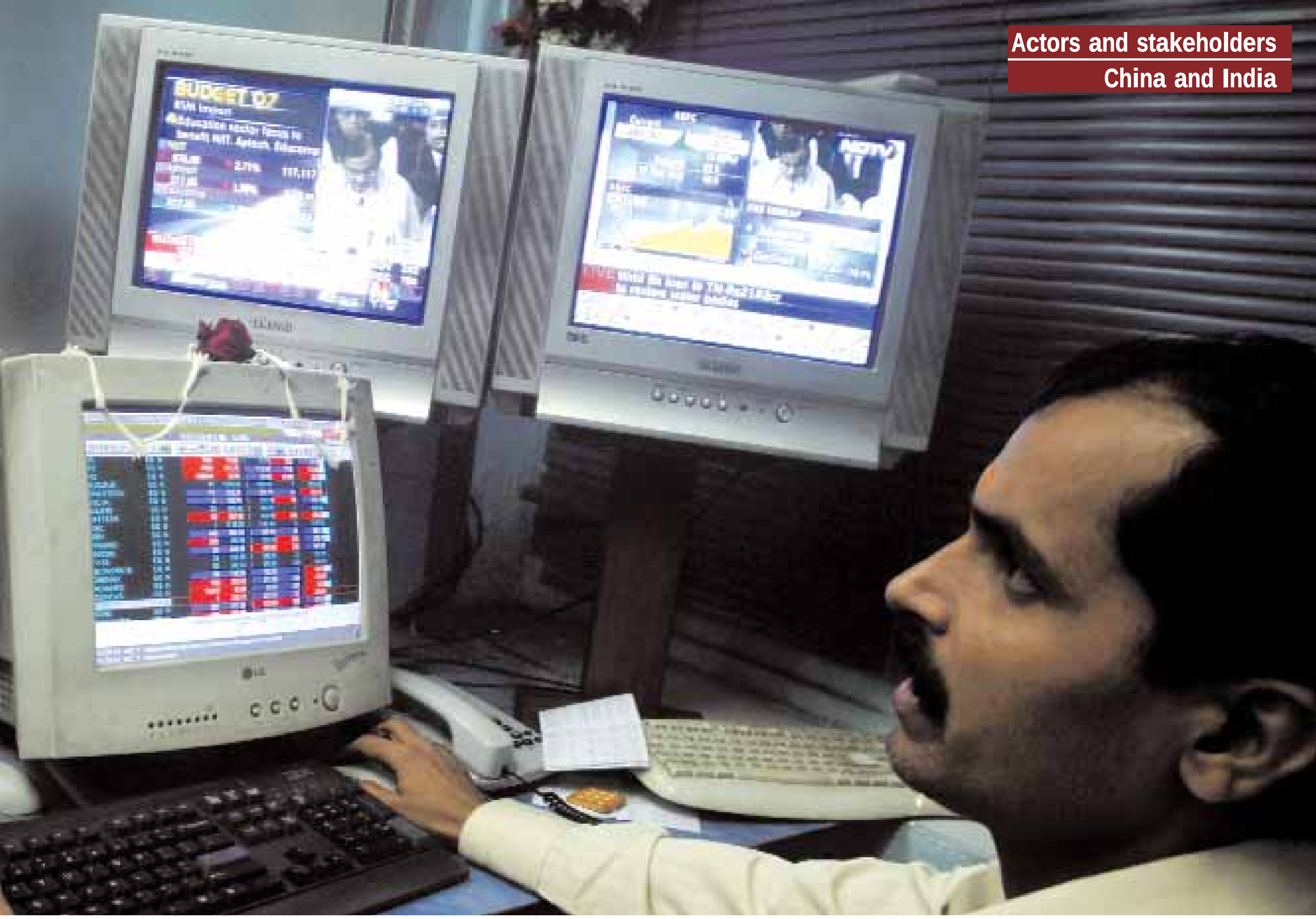
As India and China race back towards their former important roles in the global economy, their economic successes are straining resources already stretched thin by developed nations. The rise in the consumption of natural resources in Asia is significant because of the sheer number of people involved: there are a combined 600 million Americans and Europeans, but more than a billion Chinese and a billion Indians.

Consider petroleum. India's oil consumption has doubled since 1992, and China's has doubled since 1994. Already, both oil prices and pollution have increased as a result. Yet if India and China used as much oil per person as Japan does today – and Japan is regarded as a model of energy conservation – the two nations would use more oil than is currently sold worldwide each year, according to the Worldwatch Institute. China currently imports 3 million barrels a day, but that should rise to the current American level – 10 million barrels a day – by 2020, McKinsey & Co. predicts. Already, oil prices and pollution have spiked as a result. If the two Asian nations used as much oil as the United States, there wouldn't be enough oil for the world.

This illustrates why both East and West must adjust as India and China re-enter the global economy: the world's biggest consumer of oil by far remains the United States. The US uses 20.6 million barrels of oil each day, while second-place China – even with a billion more people – uses 6.9 million barrels daily. India uses about the same as Germany – 2.6 million barrels a day. Even as developed nations fret about India and China's growing thirst for oil, they must look in the mirror. For instance, the US not only gulps far more oil than any other nation, but its oil demand is also increasing fast. Between 1980 and 2005, China increased its oil usage by 5.1 million barrels, but the US increased its use by 3.6 million barrels.

…is carrying all before it

As the two giant nations go through industrial revolutions, their appetites for oil and other natural



resources are skyrocketing, and both have been making deals with pariah states – from Sudan to Iran to Myanmar – to secure the supplies they desperately need to ensure continued growth.

India and China have both stepped up ties to Myanmar (formerly Burma), the nation sandwiched between India to the west and China to the east. Myanmar has been a pariah state since the 1988 military crackdown on the nation's pro-democracy movement that led to Myanmar's long-term house arrest of opposition leader Aung San Suu Kyi, the daughter of independent Burma's founding father.

China has frequently put its need to secure energy supplies ahead of other concerns. Chinese leaders have raced across Africa inking deals with Nigeria, Angola, even Equatorial Guinea. Indeed, Angola was China's largest oil supplier during the first half of 2006, followed by Saudi Arabia, Iran and Russia. China already buys much of its oil from Iran: 13 per cent in 2003. But in 2004, China's state-owned Sinopec signed a $70 billion, 30-year deal to buy liquefied natural gas from Iran and to develop an oil field there, bringing China's total deals for Iranian petroleum to nearly $100 billion. Two years later, Iran was in the midst of a nuclear standoff with the West, which accused Tehran of violating nuclear non-proliferation agreements. China, a permanent member of

Increased trade under globalisation has drawn nations closer together

the UN Security Council, initially joined Russia to block the UN from considering imposing sanctions against Iran. Only later, after much behind-the-scenes diplomacy, did China and Russia agree to join the West in imposing limited sanctions on Iran.

Perhaps the most egregious example of irresponsibility in world affairs comes in Sudan. While there is plenty of blame to go around, China is indirectly facilitating the genocide in Darfur, Sudan. Sixty per cent of Sudan's oil is exported to China. Not only has China, with Russia, until recently blocked any UN action to stop a genocide that has killed 300,000 Sudanese, China has built arms factories in Sudan and sold the war-torn nation guns, rocket-propelled grenades, tanks, helicopters and ammunition. "Chinese oil purchases have financed Sudan's pillage of Darfur, Chinese-made AK-47s have

been the main weapons used to slaughter several hundred thousand people in Darfur so far, and China has protected Sudan in the UN Security Council," according to *New York Times* columnist Nicholas D. Kristof.

An opportunity – not a threat

Despite the diplomatic shortcomings, the world must recognise the vast achievement of India and China as they have rushed headlong into the modern world, embracing not just capitalism but globalisation. During the 1990s alone, 200 million Indians and Chinese have been lifted out of abject poverty as globalisation has brought jobs their way, according to the International Monetary Fund. Tens of millions more have been catapulted far ahead into the middle class.

As recently as the 1990s, activists worried that globalisation would hurt the poor. They have been proven resoundingly wrong when it comes to India and China. For both, the movement of jobs overseas has proven more powerful than decades of 'pro-poor', anti-business policies.

While globalisation has proven good for the poor, it is now worrying the developed countries of the world. Indians and Chinese are increasingly making what Westerners buy, answering their customer service phone calls, or themselves buying Western-branded goods. With both India and China now open for business, more than 1 billion workers earning dramatically less than Westerners have suddenly been added to the world's labour pool – including 6.8 million new college graduates annually. This is alarming Westerners, who previously were sheltered from a truly global labour market. Already, there are increasing calls for protectionism. They pose a test for whether the developed world can act responsibly on the world stage, and resist calls unfairly to block progress in India and China, both rising so breathtakingly fast that they cause alarm.

For now, as the Indian and Chinese economies grow and take hold of a larger slice of the global economic pie, the increased trade under globalisation has helped many of the world's poorest people and drawn nations closer together – even to the point of answering each other's emails and phone calls. The whole world has a stake in keeping worldwide trade buoyant and in engaging responsibly with other members of the global community, as India and China propel themselves into the 21st century.

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Civil society's long road to Heiligendamm

Professor Peter I. Hajnal, University of Toronto

From informal and rudimentary origins in the 1970s, civil society's engagement with the G8 process has developed into a structured and substantive dialogue

As the 2007 Heiligendamm G8 summit approaches, German and international civil society is fully engaged in G8-related activities of various kinds. This article reviews the history and characteristics of the G8-civil society nexus and discusses civil society action in 2007, Germany's year of G8 presidency.

Non-governmental organisations (NGOs) and civil society movements and coalitions have long been conscious of the influence and role of the G8, whose leaders met for their first annual summit in 1975 as G6 (France, Germany, Italy, Japan, the UK and the US), to be joined the following year by Canada (turning the group into G7) and, after many years of gradually increasing involvement, by Russia in 1998, thus forming the G8. Because the G8 is not based on an intergovernmental agreement setting out its procedures and has no permanent secretariat, there is no established institutional mechanism to govern its interaction with other actors including civil society. Nevertheless, for most of its 32-year history, the G8 has encountered steadily broadening and deepening civil society interest and involvement.

In the early years of summitry, 1975 to 1980, civil society interaction with the G7 was by-and-large limited to

Ella Pamfilova, co-ordinator of the Civil G8-2006, presents a miniature globe to Ulrich Benterbusch, head of the German G8 Sherpa Office in the Federal Ministry of Economics and Technology

occasional representations by trade union groups and discussions in some think tanks. The period 1981-1994 witnessed increasing civil society recognition of the fact that the G7 was an important, powerful institution of global governance and that issues discussed by the leaders were relevant to civil society concerns. NGO groups began lobbying the G7, pressing their areas of concern. It was during those years that the phenomenon of alternative summits arose; the movement known as The Other Economic Summit (TOES) was especially active, meeting for the first time in 1984.

Civil society gains formal status

In 1995 came the G7's turn to recognise civil society explicitly. It was the Halifax summit that year that first mentioned civil society in its communiqué, calling for involvement of NGOs in development issues, in co-ordination with other actors. Most subsequent summits acknowledged and encouraged an even greater role for civil society in global affairs.

Beginning with 1998, civil society has become stronger and more sophisticated in its interaction with the G8. That year, at the Birmingham summit, the mass movement Jubilee 2000 staged an impressive peaceful demonstration for debt relief for developing countries. The host leader, UK Prime Minister Tony Blair, praised the dignified and persuasive manner in which the demonstrators advocated their cause.

The 2000 Okinawa summit was another highlight in civil society interaction with the G8. Before the summit, the Japanese host government sponsored an international symposium on the role of NGOs in conflict prevention. Moreover, a dialogue took place between the Japanese government and civil society leaders in Europe prior to the summit, and in Japan on the opening day of the summit. Yet it should be pointed out that while Okinawa reconfirmed the validity of civil society consultation and dialogue, G8 governments other than the Japanese host did not reach out to civil society sufficiently that year. The following year, the Genoa summit saw a more ominous milestone: although there was much constructive engagement between civil society and the G8, Genoa was characterised by massive protests and violence, resulting in many injuries and the tragic death of a demonstrator.

The Kananaskis summit, the first gathering of the leaders after the 9/11 terrorist attacks, took place in a secluded location (a model followed by subsequent summits), but there was good interaction between the G8 and civil society. The Canadian host government promoted dialogue with civil society representatives and other citizen groups. A high-level dialogue under the aegis of the Forum international de Montréal, a civil society think tank, took place in Montreal and Ottawa, bringing together civil society representatives from almost a dozen countries (including the South), and addressing a variety of issues of mutual interest. In addition, the host government provided funding for the G6B ('Group of 6 Billion') People's Summit, held in Calgary. G6B held an open session with the Canadian foreign minister, who accepted their recommendations and later transmitted them to the summit host, Prime Minister Jean Chrétien.

The 2003 Evian summit continued the process of dialogue with civil society and the pattern of demonstrations and alternative summits. But the 2004 Sea Island summit proved to be a hiatus in the relationship with civil society. The US host government was not interested in engaging civil society, provided no appropriate facilities and did not even permit major NGOs such as Oxfam and Greenpeace to distribute their

The civil society dialogue reached a new level in 2006 at St Petersburg

A group of youth representatives from the G8 countries – the J8 – plans to meet on 3-9 June in Wismar, Germany

literature in the media centre in Savannah, Georgia. Despite this, some civil society groups succeeded in communicating their views through the good offices of friendly journalists.

Normal service resumed: the Gleneagles Summit

Before and during the 2005 Gleneagles summit normal interaction resumed. Chatham House organised a series of stakeholder consultations involving NGO and business representatives and government officials, including the British and Russian sherpas. A huge, peaceful mass demonstration took place in Edinburgh just before the summit under the umbrella of the Make Poverty History movement, calling for debt cancellation for poor countries, and improvement of development assistance and of trade rules affecting the developing world. The two centrepieces of the British agenda, Africa and climate change, resonated well with civil society which, however, was (not unusually) somewhat critical of actual summit results.

For the first time in summit history, the Russian government hosted a G8 summit in 2006 in St Petersburg, placing energy security, health/infectious diseases and education at the centre of the agenda – again, topics of concern to civil society as well. The civil society dialogue reached a new level here, with the Civil G8 group co-ordinating a year-long series of roundtable discussions, large forums and, most important, consultations – again for the first time – with all nine sherpas of the G8 governments and the European Union, providing an opportunity for NGO groups to meet extensively and several times with the host leader. At St Petersburg, as has been the case at previous G8 summits, summit documents acknowledged the significant role of civil society and of multi-stakeholder approaches in global governance.

The German G8 Presidency: taking civil society seriously

The 2007 Heiligendamm summit is set to continue the tradition of consultations with civil society. The first important event was the 25-26 April NGO consultation with G8 sherpas taking place in Bonn to discuss issues of globalisation, particularly the global economy, Africa and climate change (the latter two issues are of particular concern to civil society). The German NGO Forum on Environment and Development (Forum Umwelt und Entwicklung) was the German host government's main partner in this endeavour, but a number of other German and international NGOs participated as well. Taking up a trend which now has many years of history, G8 ministerial fora remain engaged with civil society; one example is the 30 March meeting of German Development Minister Heidemarie Wieczorek-Zeul with representatives of some 30 development and environment NGOs from Germany and Europe, for a dialogue on the priority items on Germany's agendas for the EU and the G8. At the meeting, the minister stressed the importance of a continuous exchange of views with civil society.

The German government's official G8 website for the Heiligendamm summit, (www.g-8.de/Webs/G8/EN/CivilSociety/civil-society.html) stresses the importance of the G8-civil society relationship. It traces the history of that relationship, and sets out diverse forms of co-operation in the areas of development, environment and consumer protection.

The G8 NGO Platform, a coalition of about 40 organisations (www.g8-germany.info/english/index.htm), is an umbrella group for many diverse civil society activities: demonstrations, a series of conferences and an alternative summit, among others. The counter-summit is planned to take place on 5-7 June, coinciding with the G8 summit, in Rostock, not far from Heiligendamm, and will follow the 'altremondiste' tradition ("another world is possible"). At the time of writing, it was not clear whether or to what extent this counter-summit would wish to engage with the 'official' G8 (www.europe-solidaire.org/ spip.php?article5260). A large international protest rally against the G8 is planned for 2 June, to take place in the city centre of Rostock, also with the theme "another world is possible".

For the third year in a row, a group of youth representatives from the G8 countries called J8, or Junior 8, plans to meet – this time, on 3-9 June in Wismar, Germany, to discuss items on the official G8 agenda and to develop their own recommendations to be presented to the G8 leaders (www.junior8.org and www.j8summit.com/uk/pages/5/83).

In addition to the dialogue process, demonstrations and the counter-summit (and the occasional multi-stakeholder partnership such as the Global Fund to Fight AIDS, Tuberculosis and Malaria), another important aspect of civil society involvement with the G8 has been the preparation of policy papers. An example of such a paper in 2007 is *Testing the Credibility of the Powerful: Concrete Action for Environment and Development!*, prepared by the civil society group Germanwatch (www.germanwatch.org/pubdiv/g8ngo07e.pdf). A number of major German and international NGOs have put their signatures to this document, among them Greenpeace, Oxfam and Care.

This brief account of the history, highlights and forms of G8-civil society interaction with the G8 indicates the evolution of this crucial relationship. It is encouraging that both the German host government and the majority of civil society groups look forward to full participation in this process.

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www.unctad.org

United Nations Department of Economic and Social Affairs Division for Sustainable Development
www.un.org/esa/sustdev/partnerships

United Nations Development Fund for Women (UNIFEM)
www.unifem.undp.org/

United Nations Development Group (UNDG)
www.undg.org/

United Nations Development Programme (UNDP)
www.undp.org/

United Nations Economic Commission for Africa (UNECA)
www.uneca.org/

United Nations Environment Programme (UNEP)
www.unep.org/

United Nations Educational, Scientific and Cultural Organisation (UNESCO)
www.unesco.org/

United Nations Foundation
www.unfoundation.org

United Nations Framework Convention on Climate Change
http://unfccc.int/

United Nations Fund for International Partnerships (UNFIP)
www.un.org/unfip/

UN Global Compact
www.unglobalcompact.com

UNICT Task Force
www.unicttaskforce.org

United Nations Millennium Project
http://unmillenniumproject.org

United Nations Population Fund (UNFPA)
www.unfpa.org/

United Nations Research Institute for Social Development (UNRISD)
www.unrisd.org/

United Nations University
www.unu.edu/

Women's Development Network
www.redmujeres.org/

World Bank
http://worldbank.org

World Bank Institute
www.worldbank.org/wbi

World Business Council for Sustainable Development
www.wbcsd.org

World Conservation Union (IUCN)
www.iucn.org/

World Economic Forum
www.weforum.org/

World Health Organization
www.who.int/en/

World Institute for Development Economics Research (WIDER), UN University
www.wider.unu.edu/

World Meteorological Organization
www.meteo.org/wmo.htm

World Resources Institute
www.wri.org/wri/

World Trade Organization
www.wto.org/

Worldwatch Institute
www.worldwatch.org/

World Water Council
www.worldwatercouncil.org/

Wuppertal Institute for Climate, Environment, Energy
www.wupperinst.org

JUNE 2007

3rd European Hydrogen Energy Conference, Maastricht, 18–22 June
www.ehec2007.com

EuroNanoForum 2007, Düsseldorf, 19–21 June
www.euronanoforum2007.de

European Council, Brussels, 21–22 June
http://ue.eu.int

OECD World Forum on Statistics, Knowledge and Policy, Istanbul, 27–30 June
www.oecd.org

5th World Investment Conference, La Baule, 28–29 June
www.world-investment-conference.com

JULY 2007

Portugal assumes Presidency of the European Union, 1 July (to 31 December)

AUGUST 2007

UNESCO International Conference on the Consequences of the Abolition of the Slave Trade by the UK, Accra, 1–30 August
www.unesco.org

World Water Week, Stockholm, 12–18 August
www.worldwaterweek.org

SEPTEMBER 2007

3rd International Conference on Climate and Water, Helsinki, 3–6 September
www.environment.fi/26839&lan=EN

From Davos to Dalian: Annual Meeting of the New Champions, Dalian, 6–8 September
www.weforum.org

Southern Engines of Global Growth: China, India, Brazil, and South Africa (CIBS), Helsinki, 7–8 September
www.wider.unu.edu/conference/conference-2007-2/conference-2007-2.htm

African Union Day, 9 September
www.africa-union.org

145th OPEC Ordinary Meeting, Vienna, 11 September
www.opec.org/home

Opening of the 62nd Session of the UN General Assembly, New York, 18 September
www.un.org

G8 Foreign Ministers Meeting, New York 20 September 2007
www.g-8.de <http://www.g-8.de/>

OCTOBER 2007

World Habitat Day, 1 October
www.unhabitat.org

Council of Europe, fourth part of Parliamentary Assembly, Strasbourg, 1–5 October
www.coe.int

3rd Annual European Energy Policy Conference, Brussels, 9–10 October
www.euenergypolicy.com

World Food Day, 16 October
www.fao.org

World Poverty Day, 17 October
www.un.org/esa/socdev/poverty

2007 Annual Meetings of the World Bank Group and the International Monetary Fund, Washington, D.C., 21 October
www.worldbank.org

Berne Union Annual General Meeting 2007, New Delhi, October (date tbc)
www.berneunion.org.uk

ITU 2007 World Radiocommunication Conference, Geneva, 22 October–16 November
www.itu.int/ITU-R/index.asp?category=conferences&link=wrc-07&lang=en

2007 Business for Social Responsibility Conference: 'Designing a Sustainable Future', San Francisco, 23-26 October
www.bsr.org

NOVEMBER 2007

20th World Energy Congress, Rome, 11–15 November
www.rome2007.it

27th Session of the Intergovernmental Panel on Climate Change (IPCC), Valencia, 12–16 November
www.ipcc.ch

1st Annual European Climate Change Conference, Brussels, 13–14 November
www.climate-policy.eu

World Water Sustainability – Renewable Energy Congress, Maastricht, 25–28 November
www.wrenuk.co.uk

Corporate Social Responsibility EUROPE: CSR Europe Marketplace, Brussels, 29 November
www.csreurope.org

DECEMBER 2007

World AIDS Day, 1 December
www.worldaidscampaign.info

ITU Telecom Europe 2007, Sofia, 3–6 December
www.itu.int/EUROPE2007

Conference of the Parties to the Kyoto Protocol, Bali, 3-14 December
http://unfccc.int

UNESCO Conference of International NGOs, Paris, 4–20 December
www.unesco.org

JANUARY 2008

Japan assumes Presidency of the G8, 1 January (to 31 December)

Slovenia assumes Presidency of the European Union, 1 January (to 30 June)

Interim Compliance Report 2006-7

Matto Mildenberger, Brian Kolenda and Janet Chow, G8 Research Group

Six months after Russia hosted its first regular G8 summit at St Petersburg on 15-17 July 2006, G8 members' compliance with their priority commitments was +33 per cent, on a scale where +100 per cent is high or full compliance, 0 is partial compliance or work in progress, and -100 per cent is no, or minimal, compliance. These results come from the fifth annual Interim Compliance report of the G8 Research Group headquartered at the University of Toronto. It assessed G8 members' implementation with 20 of the 317 commitments they made at St Petersburg, at the time the responsibility for hosting the G8 passed to Germany on 1 January 2007 (Table A). The St Petersburg score of +33 per cent is the lowest for the G8 summit since Kananaskis in 2002, when compliance came in at +27 per cent at the six month mark (Table B). It is a sharp contrast with the +48 per cent of Evian in 2003, +39 per cent of Sea Island in 2004, and +47 of Gleneagles in 2005.

Compliance by country

Nearly all members have registered a decrease in compliance in the St Petersburg Interim Report. For six of the eight member countries and the European Union (EU), the interim compliance score is down relative to Gleneagles the previous year. The declines range from 34 per cent decline for Italy to 8 per cent for Canada. Only Germany (the host of the 2007 Heiligendamm Summit) and Russia (the host of the 2006 St Petersburg Summit) increased their compliance, by 9 per cent and 18 per cent respectively.

Nearly all members have registered a decrease in compliance

Historically highly-compliant United Kingdom stood first with a score of 55 per cent, compared to its Gleneagles score of 67 per cent. The EU came in second place with 53 per cent, a significant decrease from its first place score of 75 per cent for 2005. Germany came third with 45 per cent, an appreciably better position than its seventh place ranking at the Gleneagles interim period. Canada followed in fourth place, with a score of 40 per cent, maintaining its historically high compliance position, though marking a decline from previous interim compliance rankings that placed Canada at or ahead of the average level of compliance. The United States, with a score of 35 per cent, ranked fifth, a return to historical averages after an unusually high interim score (71 per cent) for Gleneagles. Tied for sixth place are Japan, France and Russia, all with compliance scores of 25 per cent. For Japan, this represents its lowest interim score since 2002, when it received only 10 per cent compliance. For France, this is its lowest interim score on record. In contrast, Russia's score is a marked improvement from its Gleneagles interim score of -14 per cent. Italy has the lowest interim score and is the only G8 country to fall in the negative range, with –5 per cent – its lowest interim score on record.

The gap between the highest and lowest scoring countries for the 2006 Interim Report was 60 compliance points (the difference between +55 per cent for the United

Table A: 2006 St Petersburg Interim Compliance Scores

No.	Issue Area	CAD	FRA	GER	ITA	JAP	RUS	UK	USA	EU	Issue Average
1	Health (Global Fund)	0	1	0	0	0	0	0	0	0	0.11
2	Health (Tuberculosis)	0	0	0	0	0	0	0	0	0	0.00
3	Health (Polio)	1	0	1	-1	0	1	1	1	0	0.44
4	Energy (Oil and Energy Reserve Data Collection)	1	1	1	1	1	1	1		1	1.11
5	Energy Intensity	0	0	0	0	0	1	1	0	1	0.33
6	Surface Transport	0	0	0	0	0	0	0	1	1	0.22
7	Renewable Energy	1	0	1	0	1	1	1	0	1	0.67
8	Climate Change	-1	1	1	0	1	0	1	1	1	0.56
9	Education (Academic Mobility)	0	0	0	0	0	0	0	0	1	0.11
10	Education (Qualification Systems)	0	0	1	-1	-1	-1	0	1	1	0.00
11	Education (Gender Disparities)	1	1	0	0	0	0	1	0	0	0.33
12	Africa (Security)	1	0	0	0	0	0	0	1	0	0.22
13	Africa (Debt Relief)	1	0	1	0	0	0	1	0	0	0.33
14	Transnational Crime and Corruption	0	0	0	0	0	0	0	0	0	0.00
15	Intellectual Property Rights	0	0	0	0	0	0	1	0	N/A	0.13
16	Trade (Export Subsidies, Agriculture)	1	-1	1	-1	1	0	1	0	0	0.22
17	Counter-terrorism (Energy)	0	0	0	0	0	0	0	0	1	0.11
18	Stabilisation and Reconstruction (UN)	0	0	0	0	0	0	0	0	0	0.00
19	Global Partnership (Non-Proliferation)	1	1	1	0	1	1	1	0	1	0.78
20	Middle East (Lebanon)	1	1	1	1	1	1	1	1	1	1.00
	Country Average:	**0.40**	**0.25**	**0.45**	**-0.05**	**0.25**	**0.25**	**0.55**	**0.35**	**0.53**	
	All Country Average:										**0.33**
	All Issue Average:										**0.33**
	2006 Interim Compliance Average:										**0.33**
	2005 Final Compliance:	**0.81**	**0.57**	**0.88**	**0.29**	**0.52**	**0.14**	**0.81**	**0.95**	**0.89**	**0.65**
	2005 Interim Compliance:	**0.52**	**0.48**	**0.33**	**0.43**	**0.52**	**-0.14**	**0.71**	**0.67**	**0.75**	**0.47**

Note: The HSE and Toronto Teams disagree on the final scores for Russia on commitments 7, 12 and 19. The HSE scores are presented. Toronto analysts' score were 0, -1 and 0, respectively.

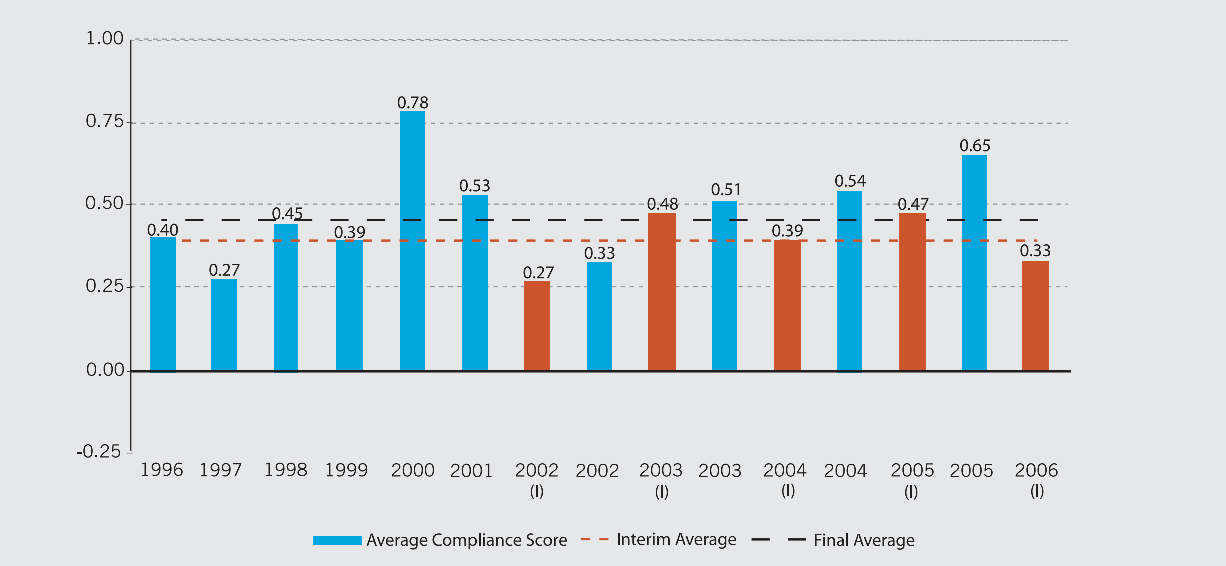
Kingdom and -5 per cent for Italy). After reaching a gap of 90 compliance points for the Gleneagles interim period, the 60 point St Petersburg gap is comparable to the Sea Island (2004) and Kananaskis (2002) interim period, but significantly higher than the 25 point gap for the Evian (2003) interim period.

Compliance by issue area

Compliance by issue area varied considerably. The commitment to enhance the collecting and reporting of market data on oil and other energy sources and the commitment to provide economic and humanitarian support to the Lebanese people were alone in reaching full compliance (100 per cent).

Three other commitments attained scores above 50 per cent. A commitment to support the Global Partnership against non-proliferation attained a score of 78 per cent – above the interim average since 2002 (of 75 per cent) for that issue area, but below the final average of 89 per cent. A commitment to facilitate renewable energy development in developing countries attained a score of 67 per cent, above both the interim average for energy since 2002 (61 per cent), and the final energy average of 64 per cent. A commitment to reaffirm climate change-related commitments made at Gleneagles followed close behind with a score of 56 per cent, well above the final average since 1996 for environment

Table B: Average Compliance Scores by year, 1996-2006



(36 per cent), but well below the perfect compliance score for climate change (100 per cent) that the G8 achieved by the interim point following the Gleneagles Summit in 2005, which focused explicitly on the issue.

A commitment to supporting the eradication of polio came next, with a score of 44 per cent. Commitments for debt relief in Africa, economic goals, energy intensity, and the elimination of gender disparities in education attained scores equal to the 2006 interim average of 33 per cent.

The commitments that fall below the 2006 interim average are those regarding the development of sustainable methods of surface transportation, one relating to the development of the African Standby Force and one on the elimination of trade-distorting subsidies to agriculture (each scoring 22 per cent). A commitment to create websites in each G8 country providing information on intellectual property rights ranks next, with a low interim compliance score of 13 per cent, closely followed by three commitments that registered a similarly depressed score of 11 per cent: one to improve academic mobility, one relating to the Global Fund, and one relating to the protection of global energy infrastructure from terrorism.

Four commitments saw compliance scores of 0 – one relating to the fight against transnational crime and corruption, one supporting the Global Plan to Stop TB, one regarding United Nations reforms for stabilisation and reconstruction, and one on sharing information about academic qualification systems. In all except the last of these, all G8 countries and the EU received a score of 0, indicating a unanimous 'work in progress'. The latter academic qualification systems commitment is also notable in that individual country compliance scores were highly polarised, with three scores of +100 per cent, three scores of 0, and three scores of –100 per cent.

Compliance in summit priority issue areas

In the three areas of priority at the St Petersburg Summit – energy security, health and education – the G8 registered 56 per cent, 19 per cent, and 15 per cent compliance respectively. On energy, five representative commitments were drawn from the energy security summit document, covering oil and energy reserve data collection, energy intensity, surface transport, renewable energy and climate change. The average compliance score of 56 per cent was substantially higher than the overall interim compliance average of 33 per cent, but below G8 historical compliance averages with energy and environment commitments (64 per cent and 48 per cent respectively). Compliance with the infectious disease commitments on the Global Fund, tuberculosis and polio averaged 19 per cent, well below both the interim compliance average for 2006 and the overall health compliance average since 1996 (34 per cent). Performance on education commitments (academic mobility, qualification systems and gender disparities) was even more depressed, with the G8 averaging a compliance score of only 15 per cent, significantly lower than the average level of compliance for education since 1996 (35 per cent).

Conclusion

Despite the apparent modest performance by the G8 at the interim point, there is still much potential for the G8 to improve compliance with St Petersburg commitments. Since 2002, the final score has consistently been higher than the interim score by an average of 11 compliance points. If the G8 countries continue this trend of increasing compliance significantly in the second half of the Summit year (from January 2007 to June 2007) and achieve a final score approaching 44 per cent, this would place the 2006 St Petersburg Summit only slightly below the average final score of 46 per cent since 1996 and well above the final compliance scores reached at Lyon (1996), Denver (1997), Cologne (1999) and Kananaskis (2002).

For the full Interim Compliance Report, see www.g8.utoronto.ca/evaluations/2006compliance_interim