

No more hot air

The leaders meeting at this year's G8 summit must grasp the opportunity to assert themselves and commit to real action on climate change.

When the world's most powerful political leaders convene at the G8 summit next week in the German spa town of Heiligendamm, they will bring with them pre-prepared communiqués on most of the topics to be discussed, from the financial risks of globalization to the need for development aid in Africa.

But the eight heads of states will also carry with them responsibility for most of the world's annual greenhouse-gas emissions. Angela Merkel, the German Chancellor, who hosts this G8, wants the leaders at Heiligendamm to agree a concrete plan on how to substantially lighten this load in the next couple of decades.

The Bush administration, however, seems once again to be working to foil any meaningful progress by the G8 on climate issues. Merkel should learn lessons from what happened to UK prime minister Tony Blair when he sought to pursue the same agenda at the G8 at Gleneagles, Scotland, two years ago: by accommodating US resistance and talking compromise, he achieved precisely nothing.

This time, Merkel should hold her ground, refuse to include inadequate climate-change language in the final communiqué and, if necessary, dismiss G8 protocol and break publicly on the issue with Bush and any allies he can muster. She should be encouraged in such a stance by the presence of US House speaker Nancy Pelosi (Democrat, California), who is visiting Europe this week. Pelosi's trip, in effect, aims to remind both Europeans and her supporters at home that the Bush administration no longer speaks for America on the climate-change issue.

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warming. Negotiations at the United Nations' upcoming climate summit in Bali will be led by environment ministers, diplomats and subordinate government delegations. They are doomed to failure in the absence of a clear and unambiguous political mandate from above.

The G8 summit can best achieve that by stating unequivocally that the negotiations in Bali must achieve a robust and effective follow-up to the 1997 Kyoto Protocol, which required countries to reduce their greenhouse-gas emissions by an average 5% relative to 1990 levels in the 2008–12 commitment period.

Such a follow-up agreement needs to include the active participation of the United States and timelines for the involvement of India and China. It will probably involve fresh, mandatory caps on emissions and an expanded cap-and-trade scheme modelled on Europe's emerging carbon market, modified to incorporate tax-based incentives to reduce emissions. Kyoto may have been a flawed agreement but there is no going back on the concept of an international treaty, led by the developed countries but involving developing ones too, as a central component of a global strategy to curtail emissions.

Participants in the G8 summits have built these gatherings up, over many years and in the face of considerable public scepticism, as the very pinnacle of global democratic leadership in the developed world. Failure to lead on the climate issue next week can suggest only that the scepticism was justified. ■

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Time for a medical

The pharmaceutical industry is struggling to adapt to a harsher political environment.

Last week was an acutely difficult one for the pharmaceutical industry. On 20 May, Pfizer, the world's biggest drug company, announced the departure of both its research director, John LaMattina, and its chief financial officer. The following day, a study in the *New England Journal of Medicine* cast doubt on the safety of GlaxoSmithKline's blockbuster diabetes drug Avandia (see page 512). And that same day, Amgen received an unwelcome subpoena from the New York State attorney general, apparently related to questions about its marketing activities that have so far this year knocked one-fifth off the immense market capitalization of one of the world's top two biotechnology companies.

If these were just three isolated incidents, they might be of no great concern to the thousands of researchers who work for major drug manufacturers around the world. But the nature of the events them-

selves, and the way they've been received in the industry's largest and most lucrative market — the United States — carry important warning signs for the industry as a whole.

The barrage of bad news comes as the industry is trying to grapple with a new and more problematic environment for its business in the United States. Trouble over regulation, in particular, has been brewing for a few years now. But it is the change in control in Congress after last November's election that challenges the industry most directly.

Action is already pending in Congress to strengthen the regulator, the Food and Drug Administration, to make provision for the approval of biogenerics and, perhaps most ominously of all, to shift the entire patent regime in a direction that will please the information-technology industry (which likes patent sharing) at the expense of the drug industry (which does not). On top of that, there is the prospect of a new push towards general healthcare reform after the next presidential election, and the associated prospect of

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price controls, akin to those in force in most nations outside the United States.

In heading off these challenges, the industry has several ingrained advantages. It is widely and rightly seen as an important engine for innovation, and therefore for US economic strength, and it can muster a formidable coalition of allies, ranging from doctors and patient groups to medical schools and the cities that host them.

But it also has some disadvantages — most notably its track record of aligning itself more closely than any other major industry, save oil, with the Republican Party. According to the *Wall Street Journal*, 69% of the industry's political contributions in last year's midterm election went to Republican candidates. It was seen as a necessary bet, given the industry's fear of tighter regulation, but it turns out not to have been a prudent one.

That, coupled with continuing public discontent about healthcare costs in the United States, has put the industry firmly on the back foot this spring. It is underperforming in the stock market, where there is a sense that the heady growth that the pharmaceutical sector

enjoyed in the 1990s is not going to be revisited.

The industry's response to all of this has yet to take shape. It is trying to align its public image more closely with that of its biotechnology component (innovative, science-based, responsive to patient needs) and it has tried to introduce some self-regulation, in areas such as direct-to-consumer advertising. At the same time, the changes at Pfizer and similar developments elsewhere point to at least the possibility of a major consolidation of research and development activity to fit straightened circumstances (see *Nature* **445**, 13; 2007).

In terms of science and innovation, the pharmaceutical industry's best days ought to be ahead of it. The sequencing of the human genome and parallel developments in cell biology and immunology should greatly increase the potential for developing effective therapeutics, including ones matched to individuals' genetic make-ups. But the industry has some tricky terrain to navigate before these days arrive — and it is by no means clear that today's big-name companies will be around to enjoy them. ■

The safety catch

The United States' domestic security agency has yet to make best use of science and technology.

The US Department of Homeland Security (DHS) came into being in less than auspicious circumstances, as President Bush and Congress each sought to appear responsive to the terrorist attacks of 11 September 2001 by establishing a government department charged with securing the homeland.

When the department finally emerged in the spring of 2003, its composition reflected a series of unsatisfactory political compromises. The crown jewels of the state's security apparatus — the FBI and the CIA — were left alone, and the DHS emerged as a hodgepodge of the rest, ranging from the coast guard to the president's own security detail.

In an effort to ensure that the new department would channel the best of science and technology into its homeland-security mission, it was equipped with its very own science and technology directorate. It was hoped that the directorate would lend an up-to-date, cutting-edge flavour to the new department, reflecting the hope, widespread in the United States, that science and technology could be effectively harnessed to fend off terrorist attacks.

But relatively little of the counterterrorism work done by the department involves high technology. Although opportunities exist to use technology to improve performance at the margins, much of the work is about the efficient application of simple techniques. Patrolling the borders requires little more than a pick-up truck and a pair of binoculars; managing immigration paperwork plays to the skills of adept clerical staff, not turtlenecked hackers; and patrolling a coastline can be done as well in a 1950s-era cutter as it can in a hovercraft.

Add to the mix the fact that the new department's 'gang of seven' independent agencies often don't get along, and it is no surprise that the directorate has struggled to establish direction. As reported on

page 516, it has always lacked a clear mission and, in the absence of one, has instead undertaken a variety of odd jobs for these component agencies, such as monitoring cities for biological agents and developing an anti-missile system for commercial aircraft. It has never been effectively managed, delivering reports to Congress late or not at all, and failing to account adequately for its spending.

Jay Cohen, who was appointed as undersecretary for science and technology at the DHS last August, is charged with reversing this track record. Cohen's vision for the directorate is a pragmatic one, concentrating on the development or acquisition of the technologies that the department needs to do its job. He accepts nonetheless that basic scientific research has a role in the directorate.

Cohen's first nine months on the job have shown some promise. He has succeeded in bringing to the table representatives from the gang of seven to talk about what technologies they could actually use. Their needs are fairly basic — the immigration service, for example, would like better database software to manage its files — but they provide a framework that can lend some badly needed direction to the staff and grantees of the science and technology directorate.

It remains to be seen whether the directorate can deliver. The DHS is deeply fragmented, some would say dysfunctional, as its notoriously weak response to 2005's Hurricane Katrina demonstrated. And the science and technology directorate's performance has so failed to impress Congress that its budget was slashed by a quarter, to \$848 million, this year. Morale has been low, and the directorate has failed, in its first years of existence, to forge strong staff leadership or a clear identity.

Cohen seems to be full of ideas and verve — but the fact remains that he is running a small appendage on an unwieldy department. As long as the DHS itself remains adrift, it is hard to envisage how its science and technology directorate can excel. ■

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